Framing a Protest: Determinants and Effects of Visual Frames

Michelle Torres
Rice University

Abstract

The information that media provides to citizens fuels their attitudes and opinions towards social movements. Although scholars have extensively studied the ways in which media portrays protests, existing analyses have mostly focused on the verbal component of news and have overlooked a crucial element of the communication process: the visual material. Therefore, in this article, I focus on visual frames of protests. First, I analyze the differences in the framing of the mood and environment that liberal and conservative outlets use when they talk about protests. Results show that in the pictures that media outlets publish about protests, conservative newspapers tend to show a higher proportion of nocturnal and dark elements than liberal outlets. Second, using two experiments, I study how the framing of the level of violence in a protest, using either verbal or visual material, affects attitudes towards the movement. The results show that violent depictions of protests negatively affect evaluations of and engagement with social movements when the protesters are the perpetrators. This effect is larger when the violence is depicted through images instead of text. These results allow us to have a better understanding of the effects of visual framing on political attitudes and participation, and the variables associated with the generation of these visual frames.
Social movements are key drivers of change and tools for democratic actions (Barnes et al. 1979; Dalton 1988). However, their success depends on their ability to recruit and mobilize potential supporters, and raise sympathies among the population. The perceptions and opinions that the public forms about a social movement, and the evaluations that individuals make when deciding to join a movement are influenced by the information that media provides about the activities, composition, and objectives of a social movement's members. Media outlets offer details on the size of a protest, location and conditions of the place where the protest takes places, police presence, disturbances, and even testimonies and opinions from authorities and participants.

However, the ways in which journalists communicate stories differ depending on several considerations such as the characteristics of the audience, the ideology of the news outlet, idiosyncrasies of editors, reporters and photographers, context, resources, and others (McCarthy et al. 1999; Meyers 1996; Oliver and Maney 2000). Further, journalists and editors have a wide variety of tools to tell stories in a way that satisfies their ideologies and market demands. Among these tools, visual material is an important and powerful element of the communication process that reveals information about a particular event, enhances the assimilation of information, and that also illustrates the vision and perception of the sender of a particular message. In contrast to text, images provide authors with a tool less subject to “fact checking” and scrutiny for objectiveness. These factors turn images into useful tools that help framing a story. Parry (2011) indicates that in general, media frames are patterns in which certain aspects of reality are promoted over alternatives, but visuals, and in particular press photographs, are even more selective in nature given that a single image is chosen as “emblematic” and “representative” of a particular news story.

A visual frame is an element that an actor uses to relay information, and that reveals what she sees as relevant to the topic at hand (Chong 1996; Chong and Druckman 2007; Druckman 2003; Druckman and Nelson 2003; Gamson 1989; Gamson and Modigliani 1989). Visual frames convey powerful information with the potential of triggering emotional and cognitive
reactions beyond language. They are useful communicators of moods and vibes, and also im-
pactful means of highlighting facets of a particular event. Pictures of protests can show the
anger of their participants, as well as the pain of the victims they represent. They can show a
large and active crowd illustrating the broad scope of a movement, or they can focus on spe-
cific individuals. Pictures can say a lot about the intensity of the actions of the protesters, and
also provide information about the reaction of the authorities. Altogether, the elements and
messages that images portray are crucial in shaping attitudes and behavior.

For example, visual frames can provide information about practical facts of a protest
like time and space, and also other abstract characteristics like the mood of the event. They
can illustrate the interactions between the participants and the opposition, and also provide
details regarding the unfolding and impact of the episodes of the event. In particular, visual
material can provide information about the level of violence and conflict in a protest. The use
of violence in media as a marketing and communications strategy is well known. The depictions
of violence in media not only “sell” and attract attention (Howe 2002) but also have the potential
of triggering emotions, alter risk calculations, shape levels of identification with the actors, and
“prove” facts. Further, the illustration of violent events have the potential of drawing attention
to the event itself and away from the protests issues (Smith et al. 2001). These elements will
inform and shape the formation process of attitudes and opinions about social movements,
and can drive or undermine mobilization and support (Muñoz and Anduiza 2019). Analyzing
the political variables behind the generation of visual frames and their effect on opinions allows
a better understanding of the dynamics of social movements.

In this article, I dissect some of the factors impacting the generation of visual frames and
the effect of these frames on political attitudes and behavior. In the first part of this project, I
implement computer vision and image retrieval techniques to measure and understand mes-
sages conveyed in pictures. I use a “visual” structural topic model to identify and measure how
media outlets frame the mood and environment of a protest. Results show that in comparison
to liberal outlets, conservative newspapers use a higher proportion of nocturnal and dark ele-
ments in the pictures they post in their Facebook profiles regarding protests of the Black Lives Matter movement.

In the second part of the project, I study the effect that visual frames of violence have on political attitudes towards protests and social movements, regardless of the textual content that might accompany an image. In order to do this, I conduct a set of experiments in which I vary the type and level of visual violence in photos of a protest. The results show that, on average, depictions of violent actions conducted by the protesters but not by the police decrease the perceptions of likelihood of success of the movement, weakens the identification with the movement and its members, and negatively affects the involvement with groups supporting similar causes.

In the following sections, I will first provide a brief overview of the factors impacting mobilization and success of social movements to highlight the aspects that can be affected by visual frames of protests. Second, I discuss the characteristics and potential impact of visual frames of mood and environment of a protest, especially with violent content, on attitudes and opinions towards social movements. Then, I introduce the methodology, data and results from the analysis of the generation of frames and its relationship to the political ideology of newspapers. Fourth, I present the design and findings of an experiment in which I vary the framing of violence of a hypothetical protest (level and source of violence), as well as the type of frame (verbal vs. visual). Finally, I present a discussion of the implications of these findings.

1 Shaping attitudes towards social movements

Social movements are key elements in the study of social and political change (Killian 1964). The emergence of groups typically unaligned with major political parties and with demands that respond to inequality and perceived unfairness have the potential to alter the political and social tissue. These movements and protest actions have become a permanent component of democracies (Barnes et al. 1979; Dalton 1988; Della Porta and Diani 2009) and an increasingly
efficient tool for change in non-democracies. Taking part in social movements and protests is not only a strong feature of politically active citizens and an essential ingredient of healthy democracies, but also represents the development of collective political identities (Polletta and Jasper 2001). They raise awareness about issues that society faces, promote cooperation and action, and ultimately are able to change policies and the status quo (Costain and Majstorovic 1994).

However, an important determinant of a social movement’s survival and success is its ability to make citizens identify with the movement (for mobilization purposes), promote empathy with its members and causes, gather positive evaluations among the public (Kitschelt 1986) and send signals that its demands will be fulfilled as the ultimate symbol of success. These elements not only help to awake sympathy for the movement and increase the connection between its members and the public, but also help to build expectations of costs and utilities that form the basis of participation. The literature identifies multiple determinants of people's participation at in social movements at both the individual and group levels. However, in this article I will focus on three factors that affect mobilization and participation and that can be shaped with visual cues: 1) the perception that there is indeed a problem for which it is worth to protest for (fairness), 2) the belief that the members of the movement are not outsiders but citizens like one who are able to integrate to society (Rohrschneider 1990) and with whom they can identify (empathy), and 3) the perception that the movement is likely to succeed (likelihood of success, Campbell (2005)). As in most decisions, embedded in these elements is the notion that the utility and benefits from protesting and joining a movement will outweigh both individual and social costs. For example, the perceived likelihood that the government will be responsive to the movement's demands should be high enough to overcome the risks and costs of participating in a protest. Therefore, in order to understand the success, development, and evolution of social movements it is important to revisit the process by which society forms perceptions and evaluations of such movements, and eventually grants support.

Although the process of opinion and perception formation of social movements involves
multiple factors interacting with each other at both individual and group levels, a central input of the process is information. The way in which the demands, actions, and composition of a movement are framed to the public plays a central role in the strength of the support it receives (Benford and Snow 2000) and its ability to mobilize (Noakes and Johnston 2005). The framing of the mood of a protest and the activities occurring in these events inform potential attendees about the risks of getting hurt or arrested, the reactions of the police, or even the plausibility of bringing other participants like children.

Therefore, the flow of information about protests and social movements’ activities matter not only for the consolidation of the movement itself but also for shaping public attitudes about more general issues supported by the movement. Media plays a central role in providing and framing this information. Although the job of providing the public with facts of a particular event could seem straightforward, in practice journalists and communicators can use very different tools and elements to tell the same story based on their own needs, ideologies and markets (Fiske and Hancock 2016; Oliver and Myers 1999). The toolkit to frame a story not only includes basic communication elements such as text, images, videos, or interviews, but also involves communication strategies like symbolisms, rhetoric, and social media use.

The impact of some of these elements has been widely explored (Downing 2000; Gans and Wolfsfeld 1993; Giugni 1998; Nelson, Clawson and Oxley 1997). More recently, some studies have even focused on the role of social media in the evolution of social movements (Anastasopoulos and Williams 2016; Valenzuela 2013). However, with some exceptions (Domke, Perlmutter and Spratt 2002; Griffin 2012; Linfield 2011; Zhang and Pan 2019), most of the literature on this issue focuses on the textual messages that media send and does not consider the visual material that accompanies the text. This is concerning given the important role that visual stimuli play in the process of perception and opinion formation.
2 The role of visual frames: mood, environment and violence

The literature on social movements and political geography identifies mood, time and place as crucial elements in the analysis of the evolution and success of movements and demonstrations. Multiple authors have highlighted the importance of place and context in shaping protest actions, and highlight the need for a “spatio-temporal strategy” for mobilization purposes (Massey 1995; Pickerill and Chatterton 2006). In other words, the time and place in which the activities of a movement take place provide information to the public and impact their evaluations of costs when deciding to join a movement. Time and place also affect expectations regarding the activities and dynamics of a movement, and therefore might also impact the government’s reactions towards these activities.

Within the dimension of mood and environment we can identify “violence” as a shaping factor. The use of conflict to frame an event affects the evaluations of costs, perceptions of tension between protesters and authorities, and identification with the movement. Illustrations of social movement activities and protests are likely to contain elements that can build perceptions of legitimacy, easily activate emotional responses, and motivate unconscious reactions of anxiety, opposition, empathy or denial, to just name a few (Corrigall-Brown and Wilkes 2012; Huesmann 2007; Wolfsfeld 1991). Thus, the answers regarding the magnitude and direction of the effect of visual violence on political opinions and attitudes regarding social movements are not definite.

Some authors suggest that the large loadings of violence to which people are exposed for most of their lives have led them to be more indifferent to pain, disgust, and brutality (Moeller 2018; Taylor 1998). Other scholars pose that violence generates feelings of discomfort, anxiety, and negativity that cause the audience to disengage, increase awareness of the risks of taking part in an activity perceived as violent, and can even distort the perceptions of fairness and empathy. Along the emotional dimensional, other authors find that visual violence might not only activate compassion through arousal and indignation, but also provide proof of atrocities and injustices that lead people to participate (Campbell 2004). Similarly, Chong (1991, p. 137) sug-
gests that overreaction or unnecessary use of violence and repression against protesters may “motivate participation even when most people would rather abstain from action.” Thus, the analysis of visual violence has multiple aspects that are worth examining such as intensity, direction, object, and even previous dispositions of the viewer.

Among these predispositions are attitudes towards equality, hierarchical structures and need for order that are strongly related to the dynamics of social movements and protests. For example, studies find that participation in and affinity to anti-globalization protests is associated with opposition to social hierarchies (Cameron and Nickerson 2009). In contrast, subjects with “hierarchy-enhancing” attitudes will tend to justify discrimination, attribute negative values to the “subordinate” or disadvantaged groups that are generally on the side of the protesters and will tend to have lower empathy, communality, and altruism: key drivers of support for and participation in social movements and collective action (Pratto et al. 1994; Sidanius et al. 1994). Thus, we expect subjects with higher levels of hierarchy-enhancing attitudes to be less susceptible to visual frames of violence in protests given the nature of these events, and to overall report negative perceptions towards protests, regardless of the visual stimuli.

3 Framing the mood of a protest

As explained above, the way in which the mood and environment of a protest are framed provides important information about the movement’s events. There are multiple elements that can shape the mood including the type and development of activities in the protest, the interaction between actors, and the time and place of the event.

A classic “time-space” setting is the night. Although, “night” is clearly a time of the day, its characteristics outline the context and environment of an event. For example, the night is considered a politically dangerous and impractical “time-space” for mobilization and political activities (Massey 1995; Shaw 2017). On the one hand, it poses logistic challenges to actual mobility: transportation is limited, service provision is unfrequent if not inexistent, and social
networks are less accessible (they are already resting or taking care of their families, Shaw 2017). On the other hand, the characteristics of the night such as darkness and quietness negatively affect perceptions of safety, security and confidence; beyond the diminished sensorial capacity, night tends to be linked with crime (Edensor 2013, 2015; Morris 2011; Shaw 2015). In summary, the perception that a movement holds its events during the night has the potential of diminishing participation and engagement.

Therefore, the portrayal of protests or political events in nocturnal settings might be used as a visual frame to depict movements in more negative ways. Thus, we should expect those who are less supportive of social movements to have more incentives to depict protests and demonstrations in darker, riskier and more dangerous conditions. More specifically, we should expect conservative outlets to be more likely than liberal outlets to subscribe to the protest paradigm, in which protesters are portrayed as deviant, threatening and impotent (Lee 2014). The reasoning is that in general, social movements and protest activity do not align with principles typically considered conservative: preservation of status quo, law and order, and patriotism (Di Cicco 2010). This is especially true for those movements, like the Black Lives Matter, which do not rally around conservative issues or values. Thus, we can pose the question of whether the use of this nocturnal frame is associated to this ideological dimension.

3.1 Research design

To explore this question I analyze the pictures accompanying Facebook posts that the top 100 newspapers in the U.S. published in their respective newsfeeds. I collected 221 posts that mentioned the phrases “Black Lives Matter”, “Black Lives”, “Lives Matter” or “Ferguson” in any of their sections. I searched for those terms in each of their Facebook feeds and then kept the corresponding posts. Several newspapers did not publish any posts with these words and therefore were dropped from the analysis. At the end, the sample includes around 60 newspapers with an average of three pictures/posts per newspaper. Each post has accompanying data including date, newspaper, caption, text, etc.
In order to identify frames in the corpus of images, I conduct an analysis of the categories underlying the pool of Facebook images (Monay et al. 2009). The expectations are that some of the latent topics describing the content of the images provide information about 1) the characteristics of the protest, and 2) the elements that the author or publisher of a picture use to frame a story. More specifically, I aim to identify topics providing information about the time and place in which the protests occurred (e.g. night). In order to uncover these topics and test these expectations, I implement a Structural Topic Model Roberts et al. (2014) based on an Image-Visual Word matrix that I obtained using a Bag of Visual Words approach as described in Torres (2018).

First, I build a codebook of 2,000 “visual words” based on the clustering of features of 15,000 Getty images of protests from the Black Lives Matter movement. The idea behind this is to get the most comprehensive pool of images capturing as many angles and perspectives possible of a particular event (Getty has multiple photographers and contributors so the variety of perspectives ameliorates concerns for bias). Then, I extract an Image-Visual Word matrix that includes the number of times that each visual word in the codebook appears in the images under analysis. Subsequently, I feed this matrix to a structural topic model (STM) initialized with 12 topics. This STM specification includes ideological slant as a prevalence covariance as defined by Gentzkow and Shapiro (2010), where higher numbers indicate more conservative outlets.

3.2 Results

The STM was mostly consistent with some of the theoretical expectations discussed in previous sections. A topic of “Night activity” emerged from the image corpus. The most exclusive and frequent words in this topic mostly include cluster of “patches” of dark backgrounds with splashes of light (corresponding to night skies with lights and lamp posts glowing), and clusters

1The most exclusive and frequent words, as well as most representative images for the rest of the topics can be found in the Appendix.
of patches of dark uniforms and helmets (mainly from police and armed forces). Figure 1 show five examples of the most frequent and exclusive visual words. Further, Figure 2 shows six of the most representative images of the topic, all illustrating nocturnal settings.

Figure 1: Most Frequent and exclusive visual words for the topic “Night activity”

![Visual words examples](image)

The findings indicate that there is variation in the proportion of the “Night activity” frame that the newspapers decide to include in the images accompanying their posts. In Figure 3 we see the newspapers along the x-axis, and the mean proportions of the “night activity” topic by newspaper \(^2\) on the y-axis. As we can observe, newspapers can decide to use images with 0 to almost 100% of the “night activity” topic.

We can also observe variation in the topic that dominates each of the images that newspapers choose to publish by date. Figure 4 shows a timeline of the Black Lives Matter movement, with red lines indicating important events such as protests, indictment announcements or shootings. Each point represents the mean proportion of the “night activity” topic in images posted by newspaper and by date. Visual inspection suggests that there is a wide variation in the use of the “night activity” topic even for protests happening in the same day.

\(^2\)The Top 8 newspapers plus The *Boston Globe* and the *St. Louis-Post Dispatch* are highlighted in the plot.
Finally, to test the expectation that conservative newspapers are more likely to use nocturnal frames to depict protests, I extracted the coefficient from the STM indicated the impact of “ideological slant” on the prevalence of the “Night activity” topic. The results presented in Figure 5 suggest that in contrast to liberal counterparts, more conservative outlets use higher proportions of the “night activity” topic in the pictures they use when they talk about the BLM protests. This is in line with the theoretical expectations.
4 Analyzing the effect of violence as a frame

The second study includes the analysis of whether the use of violence as a frame affects opinions on social movements. More specifically, I focus on the peaceful vs. violent frame of a protest, and also on the frame of the actors behind violent acts: authority vs. protester. The expectations are that the identity of whoever is framed as the perpetrator of violence shapes the way in which individuals process visual violence and information. In other words, the frame of who originates the violence matters: a violent act of a protester is not evaluated and digested in the same way as a violent act by the police.

First, it is important to have in mind that the government has the monopoly and right over the use of force to keep order and control. Thus, authority figures like the police enjoy a baseline level of legitimacy (especially strong among some prominent groups) that is considerably higher than protesters. Furthermore, they tend to be portrayed in the media as more credible and powerful. A study by Corrigall-Brown and Wilkes (2012) shows that news articles
about protests not only tend to show authorities in dominant positions, but also tend to cite them more than protesters. Therefore, subjects are more likely to receive the authority’s version of the story magnified with pictures showing officials in a position of power.

Although this could seem to be in contrast with the expectations of Chong (1991) and King Jr’s (1986) in which the “aggressive non-violence” model leads to heightened public demands and legislative reform, we can still reconcile the theoretical expectations outlined above with the claim that depictions of violence by the authority have a lower effect on perceptions. The model involves three stages: 1) protesters exercise their constitutional rights and assemble, 2) authorities (protesters’ counterparts) incur in violent acts without provocation from the protesters, and 3) media covers the violent event and elicits compassion and sympathy towards the movement members. While intuitive, this last point is problematic. Media generally focuses
on snap shots of a full event to show its evolution but without a specific order. How can we know what happened before a violent act? How do we know whether the protester provoked the violent reaction of the police? Take for example the iconic picture of Edward Crawford, a protester in Ferguson, throwing what seemed to be an object in flames. The action could be interpreted as a violent act in which the protester is actively attacking others. However, more context and information shows that he was simply returning a tear gas canister fired by the police seconds before. In other words, capturing and portraying a moment that fully fulfills point 2 (a violent act by the authorities without provocation) is a hard task that interacts with other cognitive and attitudinal filters as explained above.

The main implication of these positive pre-conceptions of the police and lack of the “full picture” is that subjects will tend to 1) be more forgiving of violent acts by the police in exchange for order and safety, and 2) perceive that a violent act by the police is likely to come as a reaction to a violent act by the protesters, and not as an instigating action. Further, the depiction of the violent act is expected to have a negative effect on the cost-benefit evaluations: more violence
from the police is a clear sign of repression and therefore lower incentives to engage with the
group's activities or to mobilize. Therefore, regardless of the actual evaluation of the police, the
depictions of tension between activists and officials will ultimately result in greater pessimism
with respect to the achievement of the movement's objectives (Earl 2003, 2006; Soule and Earl
2005).

Moreover, the portrayal of the protesters' actions, and especially the violent ones, pro-
vide information that can impact several considerations and evaluations of a subject. These
actions talk about the characteristics, motives, modes of action, and even personality of the
protester that generally tends to be projected in viewers' minds as the “representative member”
or “average member” of the movement. Therefore, a violent depiction of a member of a social
movement can affect the perceived ideological and social distance between them and a subject,
and might lead to less engagement with activities and movements similar to the ones to which
they belong. Beyond the decrease in identification and empathy levels, a violent depiction of a
protester increases the costs associated with participation given the means depicted in pictures
(e.g. violent protesters suggest a higher probability of being arrested), and also weakens the per-
ceptions of success by the anticipation of repression (Chenoweth and Stephan 2011; Franklin
2015).

Further, these effects are going to be reliable or stronger when the violent acts are por-
trayed using visuals rather than text.

To test the expectations outlined above, I conduct two sets of experiments in which I
provide respondents with a news article about the Occupy movement protest. The news paper
articles that the subjects received did not have any identifying information of the newspaper.
The news pieces vary the visual and textual content of the news piece as described below.

The reason I chose this movement is that it keeps a good balance of desirable features: it is not as salient as
other movements like the Black Lives Matter movement given that it became popular several years ago, its core
theme is less polarizing and controversial (income equality and better economic conditions), and the occurrence
of protests in multiple cities and contexts allowed for the formulation of a neutral text, and for the identification of
contrasting visual stimuli along the dimensions of violence and directionality of the violence.
4.1 Experiment 1: the effects of visual violence

4.1.1 Research design

In the first experiment, the text of the news article talks about multiple protests in different cities of the U.S. that have become violent despite the original intentions of the movement. This control condition does not include any picture. Each of the treatment conditions consist of a picture accompanying the article with the exact same caption but different content: the Peaceful condition shows a group of people (mostly white) marching and holding signs. The Protesting Violence treatment shows a white protester throwing an object next to a car in flames, and the Police Violence condition presents a white policeman pepper spraying a row of students sitting on the floor without offering any resistance. All of these images were taken from actual articles talking about the Occupy movement. Figure 11 presents the images used for the treatments.

![Figure 6: Pictures included in the treatment conditions (Study 2)](image)

(a) Peaceful  
(b) Violent protester  
(c) Violent police

The study was conducted among 2,056 subjects from Fulcrum Lucid, a platform that recruits respondents from multiple commercial sources to build a representative sample.4 The survey included some pre-treatment questions aiming to measure tolerance to protests, So-

---

4While the sampling process does not guarantee national representativity, the demographic composition of the sample resembles national parameters.
cial Dominance Orientation (SDO) attitudes, and political variables like party identification, followed by the presentation of the experimental vignettes. Respondents were then asked to answer several outcome variables related to perceptions and evaluations of the protest and the movement, likelihood to engage with the movement, and questions related to social order and tolerance.

In order to identify the average treatment effects, I conducted several tests of differences of means between the different treatment groups. The analysis also includes comparisons with different baselines. For instance, the tests of differences of means were not conducted only with respect to the “no picture” condition, but also with respect to the “peaceful picture.”

4.1.2 Results

Figure 7 shows the mean responses by treatment group (y-axis) for the following outcomes: perceptions of effectiveness of the protest, whether respondents share views with the protesters, their propensity to getting involved with other movements with similar objectives, and their evaluation of the police’s reaction to the protesters.\footnote{All outcomes were measured on a 5-point agreement scale with each of the statements in the titles of the plot.} We can observe that the means of the “No picture” and “Peaceful” groups are very similar, suggesting that the peaceful illustration of the protest does not provide information that generate a more positive or active attitude towards the protesters. However, even without a more detailed test we can observe that respondents that received the picture of the violent protester report less favorable attitudes towards the movement: they are less optimistic about the success of the movement, show less affinity to the protesters’ viewpoints, a lower desire for participation, and report lower levels of agreement with the statement that the police’s response to the protest (which the text stated was aggressive) went too far.

Further, the panels of Figure 8 show the results from multiple tests of means to determine whether the differences in each of the outcome means between the treatment groups (the average treatment effects) are statistically distinguishable from zero. Each subfigure shows
Figure 7: Means of attitudes towards the Occupy movement, by treatment group

- **Effective way to achieve the Occupy movement’s objectives**
- **I share some of the protesters' viewpoints**
- **Getting involved with a group who supports similar causes**
- **The police’s response to the protesters went too far**

The difference in means (points) and their respective 95% confidence interval (bold gray lines). Each panel in the plot indicates the baseline for the comparisons (indicated in the y-axis). For example, the bottom panel in light blue shows the differences in means between the “Peaceful”, “Violent protester” and “Violent police” conditions, and the “No picture” condition. Similarly, the top panel in green shows the differences in means of the “Violent police” and “Protester” groups. In this way we can assess whether all the possible differences between treatment groups.
are distinguishable from zero (red dashed line).

Figure 8: The effects of directionality of visual violence on attitudes towards protests

As we could infer from the previous figure, the analysis indicate that receiving the “Violent protester” condition has a negative effect in all outcomes regardless of the baseline category with which we compare this group. This is in line with the expectations that violence committed by protesters will decrease empathy and identification with the movement. Further, we observe mixed results with respect to the effect of the “Violent police” treatment. Its effect is re-
liable on the perceptions of success, participation, and evaluation of the police's response, when compared to the “No picture” condition, and only for success and evaluation when compared to the “Peaceful” condition. Further, instead of supporting the theory regarding the “awakening” and mobilization of participants when unnecessary violence is implemented by authorities, the results indicate mostly negative effects on opinions about the protests even in the case where the authority engages in aggressive actions. The image provides information about the consequences of getting involved with the movement and has a deterring effect possibly associated with the difficulty of attributing blame for violence only to the police. This is also supported by the positive and reliable effects of the “Violent police” condition with respect to the “Violent protester”: violent actions committed by protesters have a bigger and negative impact on the evaluations and attitudes of citizens.

4.2 Experiment 2: comparing visual and textual stimuli

4.2.1 Research design

In the second experiment, subjects were randomized into nine potential group combinations determined by the combination of three visual treatments, and three textual treatments. Once again, the treatment was about levels of violence and actors originating it (if any): no violence (peaceful frame), violent protester, or violent police. The pictures and paragraphs for these experiments are presented in the Appendix.

This experiment involves 2,011 respondents from Lucid. The characteristics of the sample are similar to those of experiment 1. Further, the survey was fielded almost with an identical structure and content to that of the first experiment.

In this section I conduct different tests of means as in the previous example in order to register the different treatment effects of visual violence within the text and visual stimuli groups. However, I also execute a series of linear regressions and tests of differences in coefficients. This last analysis with the intention of discerning whether the effects of visuals are indeed different from those of text even if they fulfill the expectations with respect to their ori-
4.2.2 Results

First, Figure 9 presents the means for different outcome variables. After repeating the exercise of comparing means between treatment categories for each of the two types of stimuli (e.g. text vs. images), I find that almost all of the results from the first experiment hold: the “Violent police” treatment increases the perceptions that the police went too far, the “Violent protester” condition decreases the identification with the group and the likelihood of engaging with similar groups, in a significantly higher degree than the “Violent police condition”, and both violent frames decreases the perception that the movement will achieve its objectives. However, these reliable differences are mostly observable when the stimulus is visual and not when is textual, although the direction of the treatment is very similar between the two types of violent frames. However, notice that this is not true for two outcome variables: sharing the protesters views, and achieving the movement’s objectives. For both outcomes, we can observe that the effect of textual violence has a negative direction regardless of the actor originating it. This contrasts with the visual frames where only the “Violent protester” condition evidences a negative effect, but not the “Violent police”.

Further, I conduct a series of regressions that allow me to test whether the differences between textual and visual coefficients are distinct from zero. Table 1 show the results. Each column shows an outcome variable. The baseline category is “Peaceful text” and “Peaceful picture”. The coefficients confirm the discussion in the previous paragraph. First, we can observe that in line with theoretical expectations, the visual frame of the “Violent protester” is reliable for most of the models presented. Further, it has a negative effect suggesting less engagement with the movement, and more negative evaluations of success. This does not hold for the textual stimuli in two cases: sharing the views and willing to participate with other similar group.

---

6The main differences between experiment 1 and 2 are the difference in treatment effects between the police and protester conditions. This could be attributed to the intensity of the violence in the vignettes used in the second experiment. Purposefully, I increased the intensity of the violence perpetrated by the police, and decreased the violence by the protester. Substantively, this does not differ from the results above.
Figure 9: Means of attitudes towards the Occupy movement, by textual and visual groups
For the perceptions of violence, evaluations of success and whether they should be allowed to hold a rally, we see similar effects of textual violence to those of visual content. However, the test of coefficients indicate that for columns (1) and (5), the coefficients of visual stimuli are significantly higher than those of text. Further, it is interesting to observe that there is one instance, the evaluations of whether the police went too far, where we see that the textual frame of the “Violent police” has a significantly stronger effect than the visual one. Respondents seem to trust text more when it comes to explaining police violence rather than images. This, again, could be related to the thoughts that a violent police might be reacting to protesters’ provocation given the chaotic environment that the image portrays. Further research should address these issues, as well as the mechanisms in which respondents are using different sources and type of information to build perceptions and opinions about a political event.

Table 1: Effects of textual and visual violence

<table>
<thead>
<tr>
<th></th>
<th>Violence too far views</th>
<th>Participate objectives</th>
<th>Achieve objectives</th>
<th>Hold a rally</th>
</tr>
</thead>
<tbody>
<tr>
<td>Violent protester (Text)</td>
<td>0.612</td>
<td>0.038</td>
<td>−0.071</td>
<td>−0.108</td>
</tr>
<tr>
<td></td>
<td>(0.060)</td>
<td>(0.058)</td>
<td>(0.056)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Violent police (Text)</td>
<td>0.245</td>
<td>0.414</td>
<td>−0.076</td>
<td>−0.003</td>
</tr>
<tr>
<td></td>
<td>(0.061)</td>
<td>(0.059)</td>
<td>(0.057)</td>
<td>(0.063)</td>
</tr>
<tr>
<td>Violent protester (Image)</td>
<td>0.820</td>
<td>−0.058</td>
<td>−0.118</td>
<td>−0.155</td>
</tr>
<tr>
<td></td>
<td>(0.061)</td>
<td>(0.059)</td>
<td>(0.057)</td>
<td>(0.063)</td>
</tr>
<tr>
<td>Violent police (Image)</td>
<td>0.375</td>
<td>0.193</td>
<td>0.011</td>
<td>−0.106</td>
</tr>
<tr>
<td></td>
<td>(0.060)</td>
<td>(0.059)</td>
<td>(0.056)</td>
<td>(0.062)</td>
</tr>
<tr>
<td>Constant</td>
<td>2.317</td>
<td>3.010</td>
<td>3.505</td>
<td>2.978</td>
</tr>
<tr>
<td></td>
<td>(0.055)</td>
<td>(0.054)</td>
<td>(0.051)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>N</td>
<td>2,009</td>
<td>2,009</td>
<td>2,010</td>
<td>2,010</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.123</td>
<td>0.038</td>
<td>0.004</td>
<td>0.005</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.121</td>
<td>0.036</td>
<td>0.002</td>
<td>0.003</td>
</tr>
</tbody>
</table>

**Bolded** coefficients indicate $p \leq 0.05$
5 Conclusion

Social movements are a crucial part of the political and social dynamics in which we live. While the existing literature has focused on carefully explaining the motivations and factors behind people's attitudes, opinions, and decisions to get involved with a social movement, less has been said about the information that predates those factors and that feeds the attitude formation process itself. Media outlets have means of communication that go beyond language and text. Images are part of the toolkit that allows them to frame stories, and change the evaluations and perceptions of the people consuming them with regards to the event they depict.

In this project, I analyzed the origins and consequences of two visual frames of protests: 1) the use of nocturnal elements to frame a protest's mood, and 2) the framing of violence in a protest in terms of intensity and directionality.

The results suggest that political ideology is associated with the generation of darker and more negative depictions of protests. Results show that conservative newspapers use a higher proportion of these elements in images of protests than liberal newspapers. Also, I find that visual violence shapes perceptions about protests and social movements. More specifically, depictions of violent protesters have a negative and significant effect on areas like evaluations of success, identification with the members of the movement, evaluations of police response, and feelings of empathy. In contrast, while the depictions of violent authorities also affect some of these outcomes, in general we observe that the public is more likely to react to protester violence than to police violence. Perceptions of legitimacy and expectations of the use of violence are factors that could explain this pattern. Further, these effects exist or are stronger when the violence is visual rather than textual.

While the findings of this paper are suggestive of important effects triggered by visuals, I acknowledge that “violence” is a treatment that is difficult to isolate, especially in the context of images. While the photos might be introducing extra information about other dimensions of the protest or the participants, there are a number of ways in which I have tried to minimize such potentially confounding effects (Dafoe, Zhang and Caughey 2018). First, the experimen-
nal set-up was carefully designed to control for as many relevant cleavages and dimensions as possible. For example, the pictures do not differ along racial or gender dimensions. Second, the research design was devised to include real pictures that were published in articles talking about these protests. The original captions accompanying these pictures described and highlighted the presence of violent actions as the main object of the picture under analysis. Third, while this setting could still raise questions about the validity of the effects of violence on attitudes, the findings about the impact of visual framing stand: differences in visual depictions of protests have an effect on attitudes even when holding text constant.

Further research should focus on the way in which respondents assimilate both visual and textual stimuli, as well as on the differences in cognitive and political filters that respondents use when processing information from media outlets. The findings and implications of this research are crucial to understanding the different information flows that people consume and the way in which they eventually translate it into attitudes. A closer analysis of these dynamics may aid in developing strategies to provide objective information, close information gaps, motivate participation, and eventually decrease polarization.
References


Torres, Michelle. 2018. “Give me the full picture: Using computer vision to understand visual frames and political communication.” Working Paper.


6 Appendix

6.1 Other topics

6.1.1 Most frequent and exclusive words

**Topic 1**: Large crowds

**Topic 2**: Signs

**Topic 3**: Police

6.1.2 Most representative images

Large Crowds

Signs

Night activity
6.2 Descriptive statistics

Table 2: Descriptive statistics (full sample)

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Mean/%</th>
<th>St. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1,084</td>
<td>0.534</td>
<td>0.499</td>
</tr>
<tr>
<td>Age</td>
<td>2,031</td>
<td>45.287</td>
<td>16.613</td>
</tr>
<tr>
<td>White</td>
<td>1,382</td>
<td>0.681</td>
<td>0.466</td>
</tr>
<tr>
<td>African American</td>
<td>205</td>
<td>0.101</td>
<td>0.301</td>
</tr>
<tr>
<td>Hispanic</td>
<td>218</td>
<td>0.107</td>
<td>0.310</td>
</tr>
<tr>
<td>College or more</td>
<td>892</td>
<td>0.440</td>
<td>0.496</td>
</tr>
<tr>
<td>Democrat</td>
<td>732</td>
<td>0.360</td>
<td>0.480</td>
</tr>
<tr>
<td>Republican</td>
<td>603</td>
<td>0.297</td>
<td>0.457</td>
</tr>
<tr>
<td>Independent/Other</td>
<td>696</td>
<td>0.343</td>
<td>0.475</td>
</tr>
<tr>
<td>Ideology</td>
<td>2,028</td>
<td>3.755</td>
<td>1.838</td>
</tr>
<tr>
<td>SDO</td>
<td>2,018</td>
<td>34.469</td>
<td>12.217</td>
</tr>
</tbody>
</table>
Thousands protest poor economic conditions in U.S. marches

By THE EDITORS

In the past week, several demonstrations were held in dozens of cities including Washington, Boston, Chicago, Los Angeles, Miami and Toronto as part of the Occupy movement.

The protests are part of a series of international demonstrations that started in Asia and Europe and rippled around to the United States and Canada.

The Occupy movement has attracted thousands of people from multiple backgrounds denouncing inequality, and demanding better social and economic conditions.

The movement began with a commitment to peaceful demonstrations, and protesters behaved calm and orderly. The tone of the protests has been peaceful and subdued. Only a small number of minor disruptive events have been reported.

“The great thing about Occupy Wall Street is that they have brought the focus of the entire country on the middle-class majority,” said George Aldro, 62. “We’re in it together, and we’re in it for the long haul.”

The protesters have varied causes, but have spoken largely about unemployment and economic inequality, reserving most of their criticism for Wall Street. “We are the 99 percent,” they chanted, contrasting themselves with the wealthiest 1 percent of Americans.

See OCCUPY, page 5A

Protests demanding economic equality erupted throughout the country this past week.

Source: AP Images
### 6.4 Wording

<table>
<thead>
<tr>
<th>Name</th>
<th>Options</th>
<th>Values</th>
<th>Wording</th>
</tr>
</thead>
<tbody>
<tr>
<td>TREAT</td>
<td>0= No picture 1= Peaceful protest 2= Violent protester 3= Violent police</td>
<td></td>
<td>For each of the following groups, please indicate to which degree you agree or disagree with the statement: “This group should be allowed to hold public rallies and demonstrations.”</td>
</tr>
<tr>
<td>tol_*</td>
<td>blm = Black lives Matter whitesup = White supremacists occupy = Occupy movement bluelm = Blue Lives Matter</td>
<td>1= Strongly disagree 2= Disagree 3= Neither 4= Agree 5= Strongly agree</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0-100</td>
<td>Rate each group or individual using the scale shown below, where 0 is the worst grade possible and 100 the best grade possible.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Strongly disagree 2= Disagree 3= Neither 4= Agree 5= Strongly agree</td>
<td>To what degree do you agree or disagree with the following statements: “This protest is an effective way to achieve the Occupy movement’s objectives.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>To what degree do you agree or disagree with the following statements: “These protesters brought new issues to my attention.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Strongly disagree 2= Disagree 3= Neither 4= Agree 5= Strongly agree</td>
<td>To what degree do you agree or disagree with the following statements: “I share some of the protesters’ viewpoints.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Strongly disagree 2= Disagree 3= Neither 4= Agree 5= Strongly agree</td>
<td>To what degree do you agree or disagree with the following statements: “I would consider getting involved with a group who supported causes similar to those of the protesters.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1= Strongly disagree 2= Disagree 3= Neither 4= Agree 5= Strongly agree</td>
<td>To what degree do you agree or disagree with the following statements: “The protesters were violent.”</td>
</tr>
</tbody>
</table>
To what degree do you agree or disagree with the following statements: “The police's response to the protesters went too far.”

To what degree do you agree or disagree with the following statements: “The Occupy Movement should be allowed to hold public rallies and demonstrations.”

To what degree do you agree or disagree with the following statements: “There should be a policy requiring everyone to carry a national identity card at all times to show to a police officer on request.”

To what degree do you agree or disagree with the following statements: “There should be a policy allowing law enforcement officials to investigate people who participate in non-violent protests against the U.S. government.”
6.5 Means of outcome variables, by race group

Figure 10: The effects of directionality of visual violence on attitudes towards protests: White and African American respondents
The protesters were violent

The police's response to the protesters went too far

The movement should be allowed to hold public rallies

- Whites
- African Americans
6.6 Vignettes for Experiment 2

Figure 11: Visual treatment conditions (Experiment 2)

(a) Peaceful

(b) Violent protester

(c) Violent police

Table 4: Textual treatment conditions (Experiment 2)

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peaceful</td>
<td>The movement began with a commitment to peaceful demonstrations, and protesters behaved calm and orderly. The tone of the protests has been peaceful and subdued. Only a small number of minor disruptive events have been reported.</td>
</tr>
<tr>
<td>Violent protester</td>
<td>The movement began with a commitment to peaceful demonstrations. However, some of the events turned violent when police clashed with attendants. Several protesters were arrested for violating city ordinances, unlawful occupation, attacks to the police, public disturbances and substance abuse.</td>
</tr>
<tr>
<td>Violent police</td>
<td>The movement began with a commitment to peaceful demonstrations. However, some of the events turned violent when police clashed with attendants. Police officers in riot gear met the mostly peaceful crowds with escalating force. There were several reports that the police officers attacked protesters with tear gas, rubber bullets and physical force.</td>
</tr>
</tbody>
</table>