

Intergroup emotions and political aggression: The ANCODI hypothesis

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Abstract

This paper examines the role of anger, contempt, and disgust in intergroup political aggression through what we have called the ANCODI hypothesis (Matsumoto, Hwang, & Frank, 2012, 2013). The ANCODI hypothesis argues that anger, contempt and disgust are a volatile emotional mix that contributes to intergroup aggression and violence through the ability of anger to motivate, of contempt to devalue others, and disgust to eliminate. We tested this by examining the emotional content of the words and nonverbal actions in the speeches given by leaders of political groups prior to events that turned violent (e.g., Hitler and Kristallnacht in 1938) and events that did not turn violent (e.g., Gandhi and the ‘salt march’ in 1930). We found that the content of anger, contempt, and disgust in their speeches in reference to their opponent outgroups elevated prior to political events that broke violent. In contrast, only the content of anger in their speeches in reference to opponent outgroups elevated prior to the political events that did not break violent. Although these studies are correlational, our recent laboratory work has attempted to establish a causal link at the individual level of violence and find support for the ANCODI hypothesis. Taken together, this volatile mix seems an essential part of intergroup violence and may help account for the ‘dehumanization’ process usually present with political violence.

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One crucial aspect of human behavior that is often overlooked by researchers, operators, and policy makers is that of human emotion. Although emotion is often viewed as too soft for serious consideration or research, an understanding of emotion is central to an understanding of any individual or group behavior. On the individual level, emotions are evolutionarily evolved information processing systems that aid in survival (Cosmides & Tooby, 2000; Darwin, 1872/1998). They are transient, fleeting reactions to events that have implications for our welfare, and require immediate response (Ekman, 2003; Lazarus, 1991). They prime behaviors by initiating unique physiological signatures and mental structures (Levenson, 1999, 2003). They aid in bonding memories and cognitions (Bower, 1981; Forgas & Bower, 1987). And most importantly, they are a major source of motivation for behavior (Tomkins, 1962, 1963).

Emotions also exist on the group level, and serve similar functions. Group emotions are *emotions shared by individual members of groups, often about their own groups or other groups*. Group emotions occur when a sufficient proportion of individual members of a group have similar emotions about their group (the ‘ingroup’) or about other groups (the ‘outgroup’), although there is no definition or consensus in the field about what that proportion may be. Like individual-level emotions, groups have emotional reactions to events that have consequences to their perceived welfare and survival. Group level emotions serve as motivations for group behaviors. They are woven into the group’s overarching narratives of life, and thus provide guidelines and bases for making attributions about ingroups and outgroups. And they aid in regulating social behavior and preventing social chaos (Matsumoto et al., 2008). Thus, a complete understanding of behavior starts with the recognition of the importance of emotion, because emotion *is* motivation (Tomkins, 1962, 1963). This is true on the level of individuals as well as groups. Importantly for this article, it is true for the understanding of the behavior of individuals and groups in predicting acts of hostility.

Theoretical Framework

Understanding emotions as discrete constructs

There are many ways to understand and categorize emotions. A simple way, for instance, is to classify emotions simply by their valence (positive or negative) or intensity (strong v. weak). Indeed, this way of understanding emotions is very popular not only among laypersons but also in academic psychology (Feldman Barrett, 2004; Russell & Feldman Barrett, 1999), and its simplicity merits attention. But there is a large body of literature that demonstrates convincingly that not all emotions are the same, nor should they be reduced to simple dimensions such as valence or intensity (Ekman, 1999; Izard, 2007; Panksepp, 2007). This framework is known as a *discrete emotions* perspective, and in this perspective, different categories of emotion are qualitatively and uniquely distinct from each other; that is, emotions are discrete entities.

Take the emotions of anger and fear. Most people have heard the terms ‘fight or flight’ to describe these emotions, respectively. These emotions activate different areas of the brain, produce very different patterns of body reactions (sweat, surface vasoconstriction vs. dilation, etc.) and nonverbal expressions, and laypeople simply do not confuse the subjective sensations associated with them. Whether one expresses fear versus anger has major implications for a person’s wellbeing; individuals who express fear when walking are selected by inmates as being the person they will assault, whereas the person expressing anger is left alone (Book, Costello, & Camilleri, 2013; Grayson & Stein, 1981). Yet a valence/intensity model would label both anger and fear similarly as ‘negative’ and ‘intense’.

Now compare anger, contempt, and disgust, all of which can be considered negative emotions in the valence view above. There are important differences among these emotions that make it clear that they are not alike, and these have major practical implications. Anger, contempt, and disgust are very different emotions, with different physiological reactions, different associated mental states, and different nonverbal expressions (Ekman, 1999), all of which prepare us for different behaviors. Anger, for instance, is elicited by appraisals related to goal obstruction, injustice, or norm violations (Matsumoto & Hwang, 2013). When we are angry, for instance, our heart rate increases, and the blood flows differentially to our arms and hands, preparing us to fight (Levenson, 2003); the function of anger, therefore, is to remove obstacles. The function of disgust, however, is to eliminate or repulse contaminated objects, while a primary function of contempt is to make a statement about one’s evaluations of another’s actions vis-à-vis status and hierarchy. Anger, therefore, is an emotion about what someone or a group did. Contempt and disgust, however, are emotions about who the person or group is.

Although laypersons often do not make such distinctions among emotions, those distinctions are important. In particular, there is a special place for disgust in understanding terrorism and political violence, for several reasons. First, studies of emotions in interpersonal conflicts indicate that it is disgust (but also contempt), not anger, that is associated with the breakdown of a relationship (which could be seen as a component of hostile acts between groups; see Gottman & Levenson, 2002; Gottman, Levenson, & Woodin, 2001). Second, as mentioned above, disgust is a basic, primary emotion, elicited by perceptions of agents of contamination or disease. It is universal, not only in its signal properties (Ekman, 1993), but also in terms of its elicitors (Rozin, Haidt, & McCauley, 1999; Rozin, Lowery, Imada, & Haidt, 1999). Third, disgust is a moral emotion, and it is often used to sanction our moral beliefs and behaviors (Chapman, Kim, Susskind, & Anderson, 2009). Fourth, our anecdotal observations of the videos of terrorists such as Osama Bin Laden or the Virginia Tech University shooter Cho Seung Hyi, as well as the speeches and writing of world leaders who incited wars (e.g., Hitler, Milosevic, etc.) indicated an escalation of disgust (in facial expressions) leading up to violent acts (Matsumoto, Hwang, & Frank, 2012a). Disgust leads individuals to kill cockroaches, and it doesn’t matter whether the cockroaches are male, female, or infants; they are cockroaches and must be eliminated. Likewise, political violence such as a

terrorist act does not differentiate between men, women, or children; all must be eliminated because they are vermin (or infidel dogs or other ‘unclean’ animal metaphors).

Thus, although much research on aggression has focused on anger, in today’s context of terrorism as a global phenomenon, disgust must be considered a central emotion to study on the group level, as there it represents a shift toward making an assessment of the inherent characteristics of the other group, rather than a temporary judgment about an act committed by that group. Disgust transforms aggression, which sometimes can be constructive, into hostility, which is almost always not, and anger into hatred. The transformation of anger to contempt and then disgust is akin to a transformation of a situational attribution about an act to a dispositional attribution about the person (e.g., Frank & Gilovich, 1989). Consequently, if a person or group does something bad, anger is focused on the act, but the person or group may or may not be bad, and in fact may be rehabilitated in some way in the future. Evaluations resulting in contempt and disgust, however, mean that the person or group is inherently bad and there is no chance for rehabilitation; thus the logical recourse is to eliminate them. Elimination can occur in various manners: from the extreme form of violently eliminating them, to shunning, to avoidance, to divorce in marriage, to simply dissociating them from one’s consciousness (Matsumoto, et al., 2012a).

Intergroup emotions

Although the scientific study of emotion has traditionally focused on the individual, in recent years group level emotions have increasingly become an object of scientific research. Most studies have examined the types of emotions felt by members of groups toward outgroups. Studies of intergroup anxiety, for instance, suggest that anxiety toward outgroups may occur because of fear of embarrassment about not knowing what to do with the outgroup, fear of negative behavioral consequence, fear of negative evaluations, a history of negative intergroup relations and minimal previous contact with the outgroup, large status differences between the ingroup and outgroup, or higher ratios of outgroup members compared to ingroup (i.e., more of “them” than “us”) (Niedenthal, Krauth-Gruber, & Ric, 2006; Stephan & Stephan, 1985). Studies on the *Stereotype Content Model* suggest that group members have different emotions toward outgroups based on the dimensions of perceived warmth and competence (Cuddy, Fiske, & Glick, 2007). *Intergroup Emotions Theory* suggests that group members feel anger toward outgroups when the ingroup is in conflict with the outgroup and the ingroup view is the majority; this anger will lead groups to confront, oppose, or attack the outgroup (Mackie, Devos, & Smith, 2000).

Some studies have also examined the emotions that are attributed to ingroup and outgroup members. *Infrahumanization Theory*, for instance, suggests that ingroup favoritism and outgroup derogation leads to the attribution of more human characteristics, including emotions, toward ingroup members compared to outgroups (Cortes, Demoulin, Rodriguez, Rodrigues, & Leyens, 2005; Demoulin et al., 2004; Rodriguez Torres et al., 2005). Thus ingroups are more likely to attribute the more “human” emotions of

compassion, shame, serenity, bitterness, or contempt to ingroups. At the same times, ingroups attribute more “basic” or “primary” emotions such as surprise, anger, pleasure, fear, attraction, or disgust to outgroups. Interestingly, these emotions are those considered to be shared between humans and non-human primates (LeDoux & Phelps, 2008).

Thus, the dehumanization of outgroups involves emotional attributions about those outgroups associated with animals, not humans, and intergroup emotions are the glue that keep such attitudes about outgroups connected. Without their emotional bases, these attitudes would have little meaning or practical consequence. But intergroup relations are complex and potentially deadly, especially among ideologically based groups, precisely because outgroup cognitions are associated with strong emotions.

The Role of Emotions in Predicting the Escalation of Political Groups to Violence

Cultures of hatred based on emotion

Not only are emotions important to the creation and maintenance of intergroup attitudes and relations, but *changes* in those emotions across time may be associated with different intergroup behaviors (because the primary function of emotion is to motivate behavior, on both the individual and group levels). In our view, violence and hostility are the direct result of the planned inculcation and careful, methodical nurturing of hatred in political/terrorist groups. As mentioned above, this theoretical framework is based on a view of discrete emotions (Ekman, 1999), most notably those having to do with morality (Rozin & Fallon, 1987; Rozin, Lowery et al., 1999; Tangney & Fischer, 1995). Although emotions such as shame and guilt have received considerable attention as moral emotions (Shweder & Haidt, 2000; Tangney & Fischer, 1995), other work has focused on anger, contempt, and disgust and their relationship to autonomy, community, and divinity (Rozin, Lowery et al., 1999). More specifically, Rozin and colleagues (1999) proposed that anger, contempt, and disgust are often elicited in response to violations of autonomy, community, and divinity, respectively, known as the CAD (community, autonomy, divinity) Triad hypothesis.

Sternberg (2003) has proposed a triarchic theory of hatred that is based on these three emotions, and fear. He proposes that hatred is based on a negation of intimacy (based on disgust), passion (based on anger and fear) and decision-commitment based on devaluation and diminution of others (based on contempt). According to his model, different kinds of hatred can exist based on different combinations of these three components. Because there are three components, they can yield seven different combinations of hatred: cold, cool, hot, simmering, boiling, seething, and burning hatred. In fact, more recent work demonstrated that these emotions were associated with appraisals related to other types of ethical and moral violations, including appraisals of self-relevance, others' incompetence or lack of intelligence, and others' moral untrustworthiness (Hutcherson & Gross, 2011).

An interesting aspect of Sternberg's (2003) theory is that hatred is propagated via stories or narratives. Stories serve an important and interesting purpose, bringing to life the various components of hatred in a concise, easy-to-understand and easy-to-communicate method. It provides group leaders with a platform by which group emotions can be developed, fostered, maintained, or extinguished, and for those same emotions to be propagated within groups by its members who communicate the stories to others. According to Sternberg (2003), there are many different types of hate stories that achieve this purpose; for example, barbarian vs. civilized, enemy of God vs. servant of God, or morally bankrupt vs. morally sound, and so forth.

Stories also serve the important function of providing members with a way to communicate attitudes, values, beliefs, and opinions across generations, which is a central component of culture (Matsumoto & Juang, 2013). Culture refers to a shared meaning and information system transmitted across generations. Terrorist groups, like most politically motivated groups, are uniquely characterized by their own cultures. Collectively, this system provides guidelines for normative behavior, the basis for the nature and function of attributions, communication systems, and intergroup relations. Terrorist organizations are often characterized by sacred values and beliefs (Atran & Axelrod, 2007; Ginges, Atran, Medin, & Shikaki, 2007), but then again so are many ideologically-based organizations (e.g., pro- or anti-abortion groups, gun groups, death penalty groups, etc.). Research on terrorists and other political/ideologically-based groups suggests that they are comparable to each other in their social psychological dynamics (Stahelski, 2005). Hatred and disdain of others is facilitated by a culture of hatred and disdain that is permeated throughout the group, and future generations are similarly enculturated. Moreover, these narratives or stories color the perception of all new information; information that confirms the narrative is accepted at face value, information that disconfirms the narrative is dismissed through accusations of bias, conspiracies, or even flat out logical fallacies (Green & Donahue, 2011; Nisbett & Ross, 1980). Thus once established, narratives are self-perpetuating – particularly if the listener is in the same emotional state as that implied by the narrative (Green, Chatham, & Sestir, 2012)

Emotions associated with a ramping up toward political violence

Work on the CAD Triad hypothesis (Rozin, Lowery et al., 1999) is important because it highlights the importance of specific, discrete emotions in moral systems. Sternberg's (2003) work is important because it uses the CAD Triad hypothesis as a basis to understand the various components of hatred. Building on this previous work, we propose that these emotions are transformed over time, often via stories, to inculcate cultures with hatred and violence. Specifically, we suggest three elements to this emotion transformation:

Element 1 – Outrage based on Anger. Element 1 involves the group identifying events that obstruct goals or are based on perceptions of injustice. Element 1 may also involve the group identifying threats to well-being, physical safety, or ways of life. These

interpretations and attributions lead to, or are fueled by, feelings of anger toward the outgroup.

Element 2 – Moral Superiority based on Contempt. In Element 2, groups begin to reinterpret anger-eliciting situations and events identified in Element 1, and take the high road; that is, they reappraise the events from a position of moral superiority, identify links between similar behaviors or events, no matter how tenuous, thus making the attribution that the outgroup is morally inferior. These reappraisals and attributions lead to, or are fueled by, the emotion of contempt.

Element 3 – Elimination based on Disgust. In Element 3, there is a further reappraisal of events and situations that lead to the conclusion that distance needs to be placed between the ingroup and outgroup (the mild form of elimination), or that the outgroup needs to be eliminated (the extreme form). These ideas are promulgated by the emotion of disgust.

This perspective allows us to understand how groups can hate, but not all hatred leads to violence or hostility. Hatred based primarily on anger and/or contempt will *not* be associated with violence or hostility, but hatred that involves disgust does, because disgust is the emotion of repulsion and elimination. Groups can be angry or contemptuous, but when they are also disgusted, they may become dangerous. Further, it is interesting to note that many definitions of hatred involve concepts of intense aversion, which is related to the emotion of disgust, or intense animosity. These previous studies suggest that anger, contempt, and disgust may play a role in providing the motivation for aggression and violence given their social functions vis-a-vis ethics and morality and their purported role as components of hatred.

How do these emotions get created and then transformed into political violence?

We argue that powerful leaders set the tone for groups to interpret or reinterpret events in certain ways that then lead to group emotions. Leaders do this by creating stories based on their appraisals or reappraisals of critical events and situations, and by communicating the emotions associated with their reappraised stories to their followers and subordinates. The communication occurs through the specific types of emotion-laden and emotion-related words, metaphors, images, and analogies used, as well as nonverbally through their faces, voices, gestures, and body language. That is, it is not the case that emotions are communicated directly to groups (e.g., we perceived an obstacle, so we must be angry); instead, emotions are communicated indirectly via the associations made to groups with emotion-laden words, metaphors, analogies, and nonverbal behavior. Through the careful use of language and nonverbal behaviors, leaders are in a position to motivate, escalate, or defuse situations, and incite action or not, through emotion. Leaders' emotional expressions facilitate their followers' sharing of those emotions (cf., emotion contagion; see Hatfield, Cacioppo, & Rapson, 1994) and allow subordinates to appraise events in the ways leaders appraise them; thus events can be viewed as acts of injustice or benevolence, and perpetrators of these acts can be seen as

infidel dogs or freedom fighters. Emotion-sharing allows leaders to motivate followers to engage in certain actions because emotions are a foundation for motivation. Followers who share their leader's anger, contempt, and disgust are more easily motivated toward the devaluation and destruction of others. Through the careful use of language and non-verbal behaviors, therefore, leaders are in a position to motivate, escalate, or defuse situations, and incite or suppress action, through emotion.

We have called this model the ANCODI hypothesis (Matsumoto, Hwang, & Frank, 2012). In essence, it argues that the combination of these the emotions of anger, contempt, and disgust have a synergistic effect more powerful than the independent effects of each given emotion. The metaphor is of gunpowder; gunpowder's components charcoal, sulfur, and potassium nitrate by themselves have their own caustic properties, but are not explosive. However, when compressed together become a dangerous mix that is unstable and hence combustible. Such the same process is proposed with anger, contempt, and disgust.

Testing the ANCODI hypothesis

We tested this hypothesis by examining the shift in the emotional tone of speeches made by leaders prior to major political events that turn violent (what we'll call *Acts of Aggression*, abbreviated AoA), compared to major political events that do not turn violent (what we'll call *Acts of Resistance*, abbreviated AoR). Specifically, we examined the emotions expressed in the words used by leaders of ideologically motivated groups talking about their archrival outgroups in their speeches (Matsumoto, Hwang, & Frank, 2012b). There has never been an analysis of the emotional content of such statements in the historical archives, and these archives serve as potentially rich sources of information that allow us to test the hypothesis that verbal expressions of anger, contempt, and disgust toward outgroups across time are associated with violence and hostility against the outgroup. (There has been, however, an analysis of emotions in words analyzed from digital text messages sent by laypersons; see Back, Kufner, & Egloff, 2010, 2011; Pury, 2011.) We scoured the archives for records of such speeches, anchoring them to an identified AoA, and selected for analysis those speeches that were available at three points in time prior to those acts (Matsumoto, et al., 2012). We also included for comparison a small group of acts and speeches of ideologically motivated groups that had despised opponent outgroups but did not result in violence. We analyzed the speeches for their emotional content and tested the differences in that content separately for groups that committed an AoA and those that did not, that is, an AoRs. We predicted that AoAs would be characterized by an increase in anger, contempt, and disgust as speeches toward the outgroups neared the AoA, whereas these emotions would not increase in AoRs.

Selecting the particular events to examine was difficult because there are many types of political violence, including those that are group based (e.g., Tutsi's versus Hutu's in Rwanda) and others that are more vaguely caused based (e.g., al Qaeda). Therefore we applied a number of criteria to facilitate the search for materials: (1) the act was motivated by ideological motives, including racial and political; (2) the AoA was not

an immediate response to an AoA committed by the other party, such as a surprise attack or immediate retaliation; (3) the AoA was a violent action against a defined outgroup, with the intention of causing physical harm, reduced quality of life, and/or denial of basic human rights; and (4) there was a clear leader of the group who made speeches across multiple points in time. In contrast, we also identified non-violent AoRs committed by ideologically motivated groups using the following criteria: (1) the act was motivated by ideological motives, including racial and political and (2) the AoR was a non-violent action against a defined outgroup with the intention to NOT cause physical harm, reduced quality of life, and/or denial of basic human rights of others.

When potential AoAs or AoRs committed by ideologically motivated groups were identified, we searched for texts of speeches at three different points in time: 3, 6, and 12 months before the event. These time periods were chosen as we considered 1 year an adequate range of time to see changes in expressed emotions. For the purposes of this study, we included only those acts and groups for which a speech text was found for all points in time. This resulted in events ranging from the US government's declaration of the Indian Removal Act of 1830 to Kristallnacht in Nazi Germany in 1938 to assassination of Dr. George Tiller (a doctor who performed late term abortions) in 2009. The comparison AoR's included the Salt Satyagraha (otherwise known as Gandhi's salt march in 1930) to the Poor' People's campaign in Washington DC in 1968 to Pro-Tibet supporters Olympic protest in China in 2008.

To identify the segments, two independent coders were briefed on the events and identified those segments of speeches referring directly (e.g., Osama bin Laden) or indirectly (enemies of freedom) to the outgroups. Only those segments agreed upon by both coders were isolated for analysis. This produced a total across all speeches and events to be 7800 sentences and 191,763 words. Coders were blind to the hypothesis, and then asked to rate each segment on one of the 7 'basic' emotions (anger, contempt, disgust, fear, happy, sad, surprise) and then rate them on their intensity on an 11 point scale. Overall average intercoder agreement was .84.

We then compared the different emotions, the three periods of time prior to the event, and then the event itself (AoA vs. AoR). As Table 1 shows, we found that there were no changes in emotions from 12 months prior to the event until 6 months prior to the event for either AoA's or AoR's. However, as predicted, we found that from 6 months prior to the event until 3 months prior, there was a significant increase in the anger, contempt, and disgust content of the speeches for the AoA's, and a significant decrease in those emotions for the AoR's. There was also no change in the other emotions (fear, happiness, sadness, or surprise. Moreover, the pattern held when comparing the 18th and 19th century speeches with the 20th century speeches (see Matsumoto, et al., 2012, for more details).

Likewise, when these speeches were coded for the appraisals underlying each emotion – e.g., obstruction and injustice for anger; superiority and inferiority for contempt, and intolerability for disgust – we found a similar, but not identical pattern of

results. In this instance, we found increases in contempt and disgust type appraisals prior to AoA's, and no changes in them prior to AoR's. We did not find any changes in appraisals for anger for AoA's or AoR's prior to the vent, nor changes in the appraisals for the positive emotions (Matsumoto, Hwang, & Frank, 2013b).

Although correlational, these results are consistent with the ANCODI hypothesis. They are limited in that they are based on just those speeches where we could find them 12, 6, and 3 months prior to the event. They are also limited in that they are just the based on language, but they show the same pattern for emotions directly, and the appraisals that underlie emotions indirectly. However, they do suggest, based on the appraisals, that anger seems to be an element of both AoA's and AoR's, but it is the addition of contempt and disgust that turns the event lethal.

Finally, we have also argued that the ANCODI hypothesis should manifest itself in the nonverbal behaviors of the leaders as they make their speeches. When members of groups hear their leaders talk about their opponent outgroups, they often not only just hear words, but they also see their leaders' faces and gestures and hear the tone of voice. The messages expressed nonverbally can substitute, amplify, or even contradict the messages solely expressed verbally. And research that has directly compared the relative contribution of verbal and nonverbal behaviors to message transmission has shown that the nonverbal elements of the message contribute more to its ultimate comprehension compared to the verbal elements relatively more messages are conveyed nonverbally rather than verbally (e.g. Friedman, 1978). Moreover, much of the nonverbal content in the messages are affective and attitude based. Thus it is reasonable to believe that leaders of ideologically motivated groups will express emotions such as anger, contempt, disgust, and others nonverbally as well as verbally, and the combination of verbal and nonverbal behaviors is what followers observe and hear. A more complete assessment of the emotions expressed by leaders in speeches, therefore, requires seeing and hearing the nonverbal behaviors as well as listening to the words. Doing so would give a more complete picture of the emotions expressed by the leaders and provide insight as to whether the nonverbal behaviors amplify, neutralize, or even contradict the emotional messages in the words used. We address this issue in this study by examining the emotions expressed by leaders of ideologically motivated groups in videos prior to identified acts of aggression or resistance (Matsumoto, Hwang, & Frank, 2013c).

In this instance we had to identify more contemporary events, as there were no videos of speeches in the 18th century. We identified many of the same events as in the previous paper, but now had added a few more from the 20th century to substitute for the 18th century events (e.g., the first Chechen war in 1994 as an AoA, the civil rights march in 1964 as an AoR).

To code the emotions expressed by the leaders in their speeches, we utilized an adaptation of the Emotional Expressive Behavior (EEB) coding system (Gross & Levenson, 1993). The coding required the annotation of the emotions expressed in each individual sentence, and were done from the speaker's (as opposed to coder's)

perspective in order to capture the emotions experienced and expressed by the leader delivering the speech. Coders first watched a video in its entirety, paying close attention to the speaker's tone of voice, gestures, and facial expressions. Then the segment was coded with a 0 for no emotion to a notation for a specific basic emotion rated up to 10 for maximum amount of emotion that can be expressed.

As predicted leaders of groups that eventually committed AoAs expressed significantly more anger, contempt, and disgust when talking about their archival opponent outgroups than when not, whereas there was no difference in these emotions expressed by leaders of groups that eventually engaged in AoRs. However, the time pattern identified earlier did not seem to hold, it seemed that the expressed emotions occurred more often whenever discussing the outgroup that turned violent compared to those leaders discussing their outgroups in situations that did not turn violent (see Matsumoto, et al., 2013c, for more details).

Conclusion

That anger, contempt, and disgust were the expressed emotions associated with acts of political aggression is meaningful as it directly links these emotions to ideologically motivated aggression or violence. This finding occurs in the verbal content of the speeches made by leaders – both the direct emotion and the appraisals that underlie the emotion - as well as the nonverbal displays of these same leaders. These findings add to a literature that suggests that anger, contempt, and disgust allow groups and individuals to not only appraise the actions of others, but also to make evaluations of the nature of the actors – especially their moral character – and what should be done about them. When people feel these emotions it is easier to make an evaluation that the target of their emotions is inherently bad or contaminated and that there is no chance for rehabilitation, thus making a permanent assessment of the moral worthiness of the opponent group rather than a temporary judgment about an act committed by that group. When felt these emotions can only be mollified ameliorated through elimination.

It is interesting to note that the findings reported here were obtained in samples that varied across a substantial period of time, across a span of a half-century, and across many different cultures, languages, and specific events. That the findings occurred from this diverse sample is suggestive of cross-cultural and cross-generational functions of the emotions associated with political aggression. Future studies will need to replicate these findings in different languages, as well as examine the possibility that the same markers of political aggression we report here also occur on the level of individual aggression; anger, contempt, and disgust may be the emotions that increase in individuals prior to their personal acts of aggression. The results of this study demonstrate the potential utility of the analysis of expressed emotions as indicators of individual- and political-level aggression, and open the door to much future work in this area. In fact we have engaged in these efforts and have preliminary data suggesting such a link to individual behavior, and that this link is causal.

Interestingly, however, anger-related words were not correlated with nonverbal displays of anger, contempt, or disgust coded in the videos. This suggests that emotions expressed in the words and nonverbally do not overlap entirely and may be two separate sources of information about emotion. To our knowledge there are no previous studies that have directly examined how emotions expressed verbally and nonverbally are related to each other, and this finding opens the door to research in the future examining the relationship between how emotions are expressed verbally and nonverbally in the same speech episode can have differential effects of listeners.

A perennial question in emotion research concerns whether or not anger, contempt, and disgust are different emotions or indicative of a single, underlying state. Our post-hoc analyses provided some evidence to suggest that they are somewhat independent of each other because they were not all intercorrelated with each other when leaders discussed non-opponent outgroup topics. When discussing the opponent outgroup, however, anger, contempt, and disgust were intercorrelated with each other, suggesting that they came together to function as a collective whole. Although the data are not definitive, they do suggest that anger, contempt, and disgust each sampled a different domain of emotion for the leaders of the groups sampled, but organized themselves similarly when the leaders discussed the opponent outgroups. This is why we earlier suggested the gunpowder metaphor - where potassium nitrate, sulfur, and charcoal each have their own properties, often corrosive, but once mixed together produce a state that requires only a spark to release an extraordinary amount of energy. Future studies may address the potential specific, independent roles of anger, contempt, and disgust in contributing to aggression.

Philosophers (e.g., Smith, 2011) have talked about how dehumanization is essential in promulgating violence, but those concepts involved are often hard to measure. Psychologists have tackled this problem too and have identified a number of measurable concepts to help understand parts of the dehumanization process – ostracizing others, ingroup-outgroup effects, hatred, and so forth (see Forgas, et al, 2011, for a review). This work further contributes to this discussion by identifying more specific and measurable processes – internal human emotions, their appraisals, and action tendencies – and how they may work in a sequence so that starts with an injustice and evolves to elimination.

We also note that this pattern does not seem to be consistent with a dichotomous valence model positive/negative emotion phenomenon (cf. Feldman-Barrett 1999). In these situations, anger and fear – which are very close in these dichotomous models - operate very differently in these situations. Fear seems to have no relationship the violence displayed, whereas anger does. Interestingly, another negative emotion – sadness – also seems irrelevant to the violence. Thus we believe these results suggest that the basic emotion model carves nature at its joints, and allows us to see a phenomenon that would be invisible had we used the more parsimonious valence models.

Our findings may have practical application. Monitoring the expression of emotions by group leaders both verbally and now nonverbally may provide not only early warning mechanisms of impending possible aggression, but also a method to gauge the effects of one's own group's actions on other groups. Developing systems to assess emotions among members of groups, and at different levels within the groups, may provide a way to gain insights about how groups are being primed for action, and how such action is being politically justified on an emotional level. These glimpses into the mental processes underlying the emotions of group leaders provide the potential for gaining additional insight about those leaders that can be used to further the interests of national security. Such systems may be useful not only for predicting violence in non-state entities but also in within-country organizations and individuals.

Although the evidence is now mounting for a special role for anger, contempt, and disgust in the ramping up of political violence, there are still many questions left unanswered. It is still not clear from these studies whether these emotions underlie decisions of leaders or the behaviors of followers who carry out leader's decisions. The degree to which the emotions expressed in the speeches were part of a strategic rhetoric that may not have been genuinely felt by the speechmakers is not entirely clear, either. The degree to which the emotive rhetoric of the leaders is indicative of a group-level behavioral strategy in general or more of a predictor of a group-level state of mind is also an open question. And, demonstrating that leaders of ideologically motivated groups express emotions in their speeches does not demonstrate that members of those groups hearing those speeches accurately perceive those emotions as intended. And even if they do, it is an open question as to whether those perceived emotions indeed spur them on to aggression or not. Future research will need to address all of these important questions about the role of emotions in group violence.

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Persistence of Belief Change in the Face of

Deception: The Effect of Factual Stories

Revealed to Be False

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Table 1. Means (and standard deviations) for all emotion variables at three time periods.

Emotion	AoAs			AoRs		
	12 months prior	6 months prior	3 months prior	12 months prior	6 months prior	3 months prior
Anger	2.16 (1.10)	1.84 (0.82)	2.37 (1.42)	1.28 (0.94)	2.12 (1.60)	1.68 (1.14)
Contempt	1.90 (1.11)	1.90 (0.84)	2.45 (1.55)	1.36 (0.80)	2.44 (1.70)	1.88 (1.48)
Disgust	1.71 (1.07)	1.66 (0.82)	2.16 (1.55)	1.22 (0.79)	2.66 (1.68)	2.10 (1.36)
Fear	1.15 (1.28)	1.11 (0.81)	1.06 (1.02)	0.82 (0.70)	1.64 (0.95)	1.56 (1.08)
Happiness	1.43 (1.04)	0.83 (0.58)	1.10 (1.04)	0.86 (0.47)	0.54 (0.52)	0.66 (0.40)
Sadness	1.33 (1.03)	1.25 (0.57)	1.26 (0.88)	1.10 (0.56)	2.36 (0.87)	1.84 (0.69)
Surprise	0.88 (0.79)	0.75 (0.50)	0.83 (0.73)	0.46 (0.42)	1.18 (0.71)	1.18 (1.35)

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