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Emotion in Predicting Violence

The Role of Emotion in Predicting Violence

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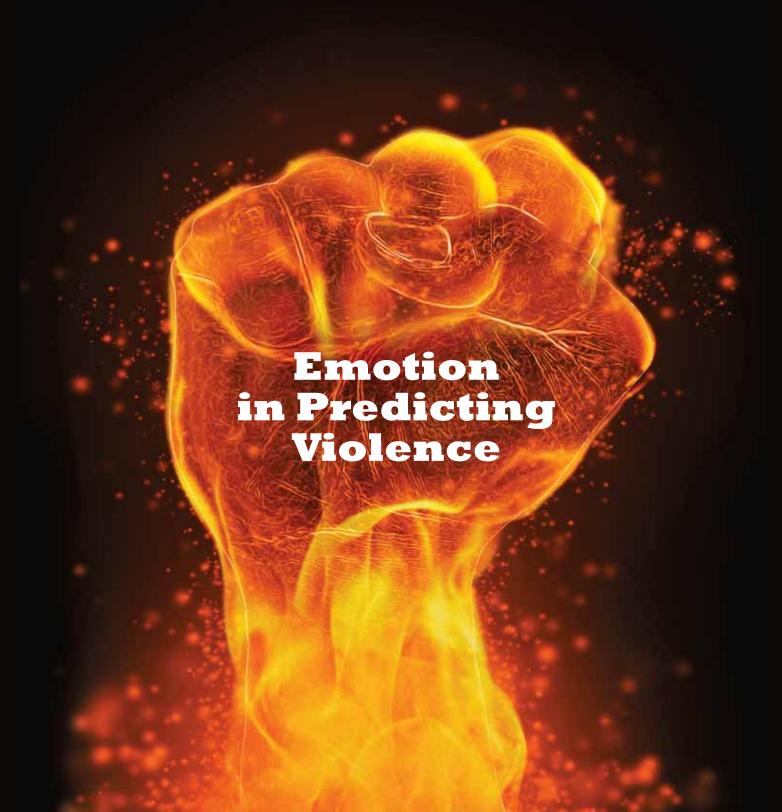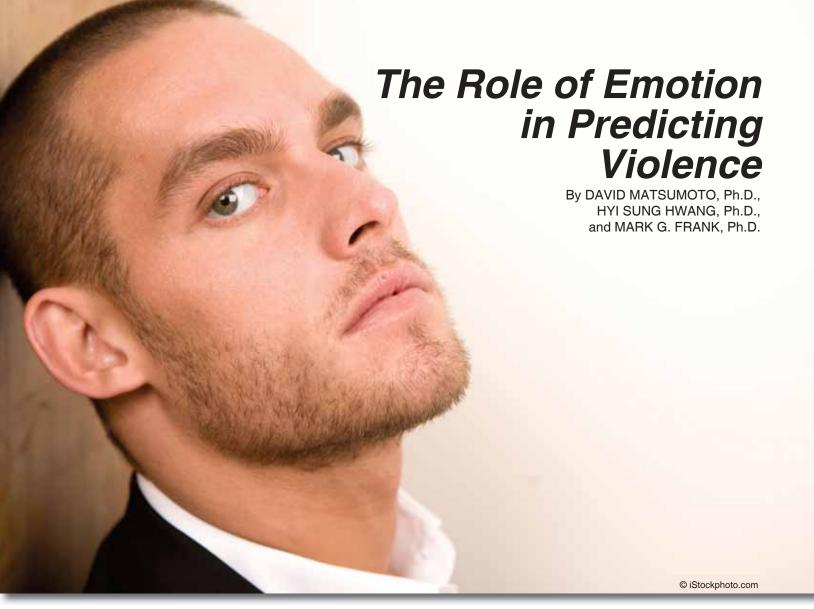
Emotion, one crucial aspect of human behavior often overlooked by researchers, operators, and policymakers who often view it as too "soft" for serious consideration or research, serves a crucial purpose in understanding any individual or group behavior. For the individual, emotions are evolved information-processing systems that aid in survival.[1] These transient, fleeting reactions to events can impact a person's welfare and require immediate response.[2] Emotions prime behaviors by initiating unique physiological signatures and mental structures, aid in bonding memories and cognitions, and, most important, serve as a motivator of human behavior.[3]

Group emotions arise when a sufficient proportion of members share similar emotions about their group (the "ingroup") or another group (the "outgroup"), although no definition or consensus in the field exists about what that proportion may be. As in individuals, groups have emotional reactions to events that impact their perceived welfare and survival. Group-level emotions motivate members' behaviors as a whole. Woven into the group's overarching narratives of life, they provide guidelines and bases for making attributions about ingroups and outgroups. They aid in regulating social behavior and preventing social chaos.[4] Thus, a complete understanding of individual or group behavior starts with recognizing the importance of

emotion, which *is* motivation.[5] The authors assert that this is important for recognizing the behavior of individuals and groups in predicting acts of hostility or violence.

THEORETICAL FRAMEWORK

Emotions as Discrete Constructs

Many methods exist of understanding and categorizing emotions. For instance, a simple way—popular among laypersons, as well as those in academic psychology—is to classify emotions simply by their valence (positive versus negative) or intensity (strong versus weak); its simplicity merits attention.[6] But, much literature demonstrates convincingly that not all emotions are the same, nor should they be reduced to such simple dimensions as valence or intensity.[7] This framework is known as a *discrete emotions* perspective in which different categories of emotion are qualitatively and uniquely distinct from each other.

For example, considering anger and fear, most law enforcement agencies have heard the phrase "fight or flight" to describe these emotions. Every emotion activates separate areas of the brain and produces different patterns of nonverbal expressions and body reactions (e.g., sweat, surface vasoconstriction vs. dilation), and laypeople do not confuse the subjective sensations associated with them. Someone's expression of fear versus anger has major implications for the person's well-being; inmates who show fear are assaulted, while those who express anger are not. Yet, a valence/intensity model would label both anger and fear similarly as "negative" and "intense."
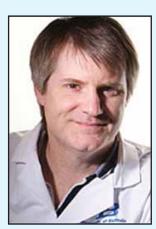
However, when comparing anger, contempt, and disgust, all, perhaps, negative in terms of valence, important differences among these emotions clearly show that they are not alike, which raises major practical implications. Anger, contempt, and disgust have different physiologies, mental states, and nonverbal expressions, implying different behaviors.[8] Angry people have an increased

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heart rate, and their blood flows differentially to their arms and hands; this prepares them to fight because anger functions to remove obstacles.[9] However, disgust causes an individual to eliminate or reject contaminated objects. As a primary function, contempt makes someone communicate their evaluations of another's actions vis-à-vis status and hierarchy. Therefore, anger focuses on persons' or groups' *actions*, while contempt and disgust focus on *who they are*.

Laypersons often do not recognize the important distinctions among emotions. In particular, for several reasons, disgust plays a special role in understanding terrorism and violence. First, studies of emotions in interpersonal conflicts indicate that disgust (and contempt), not anger, contributes to the breakdown of relationships (which also could represent a component of hostile acts between groups).[10] Second, disgust is a basic, primary emotion elicited by the perception of contamination or disease agents. It is universal, not only in its signal properties but also in terms of its elicitors.[11] Third, disgust is a moral emotion often used to sanction persons' moral beliefs and behaviors.[12] Fourth, anecdotal observations of the videos of terrorists, such as Usama Bin Ladin or Virginia Tech shooter Cho Seung Hui, as well as the speeches and writings of world leaders (e.g., Hitler, Milosevic) who incited wars, revealed an escalation of disgust, as seen in facial expressions, leading up to violent acts. Disgust drives individuals to kill without discretion. For instance, terrorists do not differentiate between men, women, or children; infidels (or vermin) must be eliminated.

Although research on aggression has focused on anger, the authors believe, in today's context of terrorism as a global phenomenon, that disgust must

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represent a central emotion to study on the group level. 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 (sometimes constructive) into hostility (usually not) and anger into hatred. The transformation of anger to contempt and then disgust resembles a conversion of a situational attribution to an act to a dispositional attribution to the person. Consequently, if a person or group does something "bad," anger focuses on the act, but the person or group may or may not be considered bad and, in fact, may be rehabilitated somehow in the future. Evaluations resulting in contempt and disgust, however, indicate 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 ways, from extreme forms of violence to shunning, avoiding, or simply dissociating them.

Intergroup Emotions

While the scientific study of emotion traditionally has focused on the individual, in recent years, it increasingly has centered on group emotions. Most studies have examined the types of emotions felt by members of groups toward outgroups. For instance, studies suggest that intergroup anxiety toward outgroups may occur because of potential embarrassment about not knowing what to do with the outgroup's members, apprehension about negative behavioral consequences, fear of disapproving evaluations, past negative intergroup relations, minimal previous contact with the outgroup, large status differences between the

ingroup and outgroup, or higher ratios of outgroup members compared with ingroup members (more of "them" than "us").[13] Studies on the Stereotype Content Model suggest that group members have different emotions toward outgroups based on the dimensions of perceived warmth and competence.[14] The Intergroup Emotions Theory suggests that ingroup members feel anger toward an outgroup it is in conflict with when the ingroup view is that of the majority; this anger will lead to confronting, opposing, or attacking the outgroup.[15]

Studies also have examined the emotions attributed to ingroup and outgroup members. For example, the Infrahumanization Theory suggests that ingroup favoritism and outgroup derogation leads to the attribution of more human characteristics, including emotions, toward the ingroup.[16] Thus, ingroups more likely will attribute the more human emotions of compassion, shame, serenity, bitterness, or contempt to ingroup members. At the same time, ingroups attribute more basic (or primary) emotions, such as surprise, anger, pleasure, fear, attraction, or disgust, to outgroups. Researchers consider these emotions shared between humans and primates.[17] Thus, the dehumanization of outgroups involves

the attribution of emotions associated with animals to the outgroups, and intergroup emotions 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.

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EMOTIONS AND ESCALATION TO VIOLENCE

Cultures of Emotion-Based Hatred

Because emotions function primarily to motivate behavior on both the individual and group levels, not only are they instrumental in creating and maintaining intergroup attitudes and relations but changes in those emotions over time may

become associated with different intergroup behaviors. In the authors' view, violence and hostility directly result from the planned inculcation and careful, methodical nurturing of hatred in terrorist groups. This theoretical framework is based on a view of discrete emotions, most notably those related to morality.[18] Although such emotions as shame and guilt have received considerable attention as moral emotions in the past, more recent work has focused on anger, contempt, and disgust and their relationship to autonomy, community, and divinity.[19] Specifically, some experts have proposed that anger, contempt, and disgust often result from violations of community, autonomy, and divinity, respectively known as the CAD Triad Hypothesis.[20]

Another expert has proposed a triarchic theory of hatred based on anger, contempt, disgust, and fear.[21] He proposes that hatred is based on 1) a negation of intimacy (originating from disgust); 2) passion (resulting from anger and fear); 3) and decision-commitment deriving from the 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.

An interesting aspect of his theory is that hatred is propagated via stories or narratives.[22] 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. They provide group leaders with a platform by which shared emotions can be developed, fostered, maintained, or extinguished; in turn, group members communicate those stories to others. Many different types of hate stories achieve this purpose.[23]

- Strangers
- Impure others (versus pure ingroup members)
- Controllers (versus controlled)
- Faceless foes (versus individuated ingroup members)
- Enemies of God (versus servants of God)
- Morally bankrupt persons (versus morally sound individuals)
- Death (versus life)
- Barbarians (versus civilized ingroup members)
- Greedy enemies (versus financially responsible ingroup members)
- Criminals (versus innocent parties)

- Torturers (versus victims)
- Murderers (versus victims)
- Seducer-rapists (versus victims)
- Animal pests (versus humans)
- Power-crazed individuals (versus mentally balanced persons)
- Subtle infiltrators (versus infiltrated)

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- Comic characters (versus sensible ingroup members)
- Thwarter-destroyers of destiny (versus seekers of destiny)

Stories also serve the important function of providing members a way to communicate attitudes, values, beliefs, and opinions across generations, a central component of culture that refers to a shared meaning and information system transmitted across generations.[24]

Unique cultures characterize terrorist groups. Cultural systems provide guidelines for normative behavior, the basis for the nature and function of attributions, communication systems, and intergroup relations. Sacred values and beliefs also characterize terrorist organizations but, then again, also many ideologically-based organizations.[25] Research on terrorists and other ideologically based groups suggests comparability to each other in their social-psychological dynamics.[26] A culture of disdain permeated throughout the group facilitates hatred of others, and future generations are similarly enculturated. Emotionally laden narratives color the perception of all new data; group members accept at face value information that confirms the narrative and dismiss details that disconfirm the narrative through accusations of bias, conspiracies, or even flat-out logical fallacies.[27] Once established, narratives become self-perpetuating.

Emotions Leading to Violence

Building on these theoretical frameworks, the authors propose that emotions transform over time, often via stories, to inculcate cultures with hatred and violence. Specifically, this emotional transformation follows three phases.

*Phase 1: Outrage
Based on Anger*

This involves the group identifying events that obstruct goals or stem from perceived injustice. It also may involve the group identifying threats to its well-being, physical safety, or way of life. These interpretations and attributions lead to or are fueled by feelings of anger toward the outgroup.

*Phase 2: Moral Superiority
Based on Contempt*

Groups begin to reinterpret anger-eliciting situations and events identified in Phase 1 and take the high road. That is, they reappraise the events from a position of moral superiority and 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.

*Phase 3: Elimination
Based on Disgust*

A further reappraisal of events and situations leads to the conclusion that distance is necessary (the mild form of elimination) between the ingroup and outgroup or that the outgroup needs to be removed altogether (the extreme form). These ideas are promulgated by the emotion of disgust.

This perspective helps to understand that groups can hate, but that not all hatred leads to violence or hostility. Hatred based primarily on anger or contempt likely will *not* be associated with violence or hostility, but hatred that involves disgust—the emotion of repulsion and elimination—likely will be. Groups can be angry or contemptuous but, when also disgusted, they may become

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dangerous. Further, interestingly, many definitions of hatred involve concepts of intense aversion related to the emotions of disgust or intense animosity, which has its roots in animals and also relates to disgust.

How do these appraisals and reappraisals occur and group emotions get created or transformed? 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 specific types of emotion-laden words, metaphors, images, and analogies, as well as nonverbally through their faces, voices, gestures, and body language. That is, emotions are not 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 behaviors. Through the careful use of language and nonverbal behaviors, leaders can motivate, escalate, or defuse situations and incite action—or not—through emotion.

Empirical Evidence

Recently, the authors conducted an initial test of these ideas by examining the emotions expressed by world leaders and heads of ideologically motivated groups in archived speeches about outgroups the leaders despised. There never had been a formal analysis of the emotional content of such statements, and archives served

as a rich source of information that allowed the authors to test the hypothesis that verbal expressions of anger, contempt, and disgust toward outgroups over time lead to violence and hostility against that group.

The authors anchored these speeches to an identified act of aggression and selected for analysis those speeches available at five specified points in time (3, 6, 12, 18, and 24 months) prior to the acts of aggression. They also included for comparison a small group of acts and speeches of ideologically motivated groups that focused on hated outgroups but did not result in violence.

The authors analyzed the speeches for their emotional content and tested the differences in that content, separating the ones from groups that committed an act of aggression from those that did not, which they labeled acts of resistance. The authors hypothesized that acts of aggression would be characterized by an increase in anger, contempt, and disgust as speeches toward the outgroups neared the event, whereas acts of resistance would follow where there was no increase in these emotions.

As predicted, acts of aggression were associated with increases in anger, contempt, and disgust in the time periods immediately preceding the act of aggression. Interestingly, acts of resistance followed *decreases* in these emotions during this same time period. There were no differences in any other emotions for acts of aggression or resistance. These findings were not affected by the time when the events occurred as separate analyses of only events within the last 50 years produced the same results.

> " …emotions transform over time…to inculcate cultures with hatred and violence. "

These findings demonstrated how an analysis of specific emotions of anger, contempt, and disgust—not just any negative emotion—proves especially meaningful in terms of understanding how group emotions contribute to aggression or hostility. As mentioned, anger is about what an individual or a group *did*; however, contempt and disgust focus on who people or groups *are*. The combination of contempt and disgust, along with anger, allows groups and individuals to make emotional dispositions about the moral character of others. When people and groups feel contempt and disgust toward others, they are evaluating the target of their contempt and disgust as inherently bad or contaminated. No chance for rehabilitation exists; the only logical recourse is elimination. Anger focuses on actions, but not necessarily the underlying morality of the act or the individuals or groups performing it. Martin Luther King, Jr., Mahatma Gandhi, and the Dalai Lama all have been angry and, perhaps, even contemptuous, but they did not become disgusted with their outgroups.

Although the findings from the authors' study demonstrated that the emotions expressed in the language used by leaders of ideologically motivated groups determined groups' violence, emotions expressed in the words may constitute only part of the overall emotional message delivered. Nonverbal behaviors, such as facial expressions and tones of voice, that accompany the emotionally laden language probably amplify the overall emotional messages delivered. Therefore, quite possibly, when emotionally laden language is imbedded within a rich repertoire of nonverbal behaviors that also portray emotions, the overall

emotional message to the listeners may hold substantially more power than simply reading the words. The authors currently are researching this possibility.

FACIAL EXPRESSIONS OF EMOTION AND AGGRESSION

Signs of Imminent Aggression

Another line of the authors' research program has attempted to identify the nonverbal signals of imminent aggression. This work holds the view of emotions as evolved, rapid information-processing systems that enable humans to adapt to changes in their environment with minimal conscious intervention.[28] When elicited, emotions recruit a host of physiological, cognitive, and expressive behaviors organized and coordinated with each other.[29] Facial expressions constitute part of this coordinated response package. Charles Darwin claimed, in his principle of serviceable habits, that facial expressions are the residual actions of more complete, whole-body responses that prepare individuals for action by priming the body to act.[30] Thus, people express anger when furrowing their brow and tightening their lips with teeth displayed because these actions form part of an attack response. Individuals show disgust with an open mouth, nose wrinkle,

and tongue protrusion as part of a vomiting response. Recent research has suggested that different facial expressions (e.g., those showing fear and disgust) facilitate the acquisition or rejection of sensory information.[31]

This important theoretical perspective suggests a link between specific facial expressions of emotion and subsequent behavior. Although disgust may energize the narrative to produce violence at a distal level, anger energizes the

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physical action of assault at the proximal level. Recently, the authors examined the possibility that variants of the facial expression of anger represent a reliable association with acts of immediate, subsequent violent behavior. Logically, signs of anger may arise prior to acts of aggression or assault if anger

primes the body to aggress, and facial expressions are part of the anger-response package. Given that assassinations, shootings, and physical violence often occur in a matter of seconds, the existence of such facial signs is a distinct possibility and has important practical ramifications.

In the authors' studies, a single Caucasian male—a professional actor—demonstrated an array of faces for law enforcement officers (LEOs) in five countries. Each expression depicted a variant of the full-face, prototypic version of anger found in stimulus sets, such as the Pictures of Facial Affect or the Japanese and Caucasian Facial Expressions of Emotion stimulus sets.[32] That is, all expressions included at least some of the muscles identified by the Facial Action Coding System (FACS) involved in the full-face prototype; the expressions differed in the amount and intensity of those muscles and in the presence or absence of *zygomatic major* (the smiling muscle).[33]

The expressions were generated by first asking the actor to produce the face seen in previous videos involving assaults, attacks, and assassination attempts. Additional expressions then were portrayed when the actor demonstrated as many different kinds of anger as he knew. This resulted in a preliminary selection of 16

expressions. Pilot testing with a separate group of American LEOs indicated that some of the expressions almost never were selected in the procedures; 4 expressions were, thus, dropped, resulting in a final stimulus set of 12 expressions, which the authors placed in a random array and numbered.

LEOs in each of the countries selected a face from the 12 that they saw moments before either a premeditated physical assault or an assault due to a momentary loss of impulse control. Prior to this task, the LEOs were asked if they ever were involved in such attacks, if they remembered the face of the attacker, and if they could recall the face if they saw it again. The LEOs identified 2 faces—1 for premeditated assaults and 1 for loss of impulse control—at high agreement rates. Moreover, LEOs in different countries, two of which were non-English speaking, identified the same faces.

University students shown the same set of faces and engaged in the same experimental procedures did *not* select the same faces at the previous chance rates, suggesting that the authors' findings did not result from a process of elimination among the 12 provided. More recently, the authors replicated the findings with LEOs

and university students using a different array of faces, ensuring that the initial findings were not limited to a single expresser.

Potential Research Possibilities

The authors hope to expand the notion of violence from the spontaneous and planned to include the special category of suicide bombers, particularly those who believe they have divine dispensation to conduct

> " *Emotions…serve to motivate. Gaining an understanding… can help predict acts of hostility and violence.* "

their attack. The authors have no data concerning the facial signs of this type of imminent aggression and have no reason to believe that the face of the suicide bomber is the same as that of the person carrying out a premeditated attack or who loses control and attacks. They would like to study additional video footage prior to a violent event for signs of impending attack through both facial expressions and bodily movements, such as gait or tension.

Moreover, additional questions can follow on this line of research. For example, the authors have developed tools to help train individuals to identify the two types of dangerous faces identified by LEOs in their studies; as of this date, however, they have no data concerning its efficacy either as a training tool or in the field. Such data are a must. The authors have developed the necessary experimental protocols and plan to conduct their research within a relatively short period of time.

IMPLICATIONS

The findings to date have significant potential implications for national defense and security, intelligence, and law enforcement operations. For example, the elucidation of the role of emotion in leading to acts of aggression by members of ideologically motivated groups suggests the existence of signs that can serve as markers of escalation toward hostility. This, combined with the creation of sensor technologies that can recognize those markers, either through the analysis of the emotional content of verbal statements, nonverbal behavior, or the emotional profiles of groups, leads to the interesting potential for these markers to predict hostile acts before enacted, allowing for evasive or preemptive action that may save lives.

Technologies that analyze the verbal content of speeches can identify emotions associated with this escalation, allowing for the production of automated detectors of aggression potential based on ramp-ups of disgust across time. The same potential exists for automated detectors of aggression ramp-ups based on video analyses of faces or voices. These technological advances all are predicated on the establishment of empirically validated signs of aggression escalation based on emotion, which have been found preliminarily but require further validation. The identification of facial signs of premeditated assault leads to the interesting possibility that automated expression-recognition technologies can be developed to scan crowds for such faces to identify individuals of interest; this capability surely would be useful for those in the protective services. And, the identification of the face displaying a loss of impulse control is important for anyone who interacts with individuals who may explode to violence at any time.

CONCLUSION

Emotions are essential to understanding individual and group behavior as they serve to motivate. Gaining an understanding of this behavior can help predict acts of hostility and violence.

In today's world, agencies need as many tools as possible to carry out their mission of protecting the public. The authors offer their findings in this regard. Knowing what signs to look for is important for anyone potentially in harm's way. ✦

> **Powerful leaders set the tone for groups to interpret or reinterpret events in certain ways that then lead to group emotions.**

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