NOT JUST WHAT YOU SAY, BUT HOW YOU SAY IT:
NEUTRALITY OF NONVERBAL BEHAVIOR OF JOURNALISTS
DURING CRISIS COVERAGE

by

DANIELLE DEAVOURS

WILSON LOWREY, COMMITTEE CHAIR
MICHAEL BRUCE
RENI TA COLEMAN
DARRIN GRIFFIN
SCOTT PARROTT

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ABSTRACT

In times of crisis, the eyes of America turn to the news. School shootings are an example of man-made crises, and as these particular events continue to proliferate in America, the decisions made by journalists about how school shootings are framed become critical to the presentation of issues. Over time, those communications develop into patterns and standards of news delivery, not only in crises but everyday practice. Previous studies of the relative neutrality of crisis journalism have focused on a linguistic perspective. This study seeks to expand current understandings of neutrality of journalistic presentations of crisis by considering broadcasters’ nonverbal communication and the variability of that nonverbal behavior. The study utilizes Basic Emotions Theory (BET; Ekman, 1984; 1999) and Behavioral Ecology View of Facial Displays (BECV; Fridlund, 2002; 2017) to expand current understandings of how journalists work during crisis according to Graber’s stages of crisis coverage theory. Variability of nonverbal behavior of broadcast journalists and influences on that behavior are examined through a content analysis of coverage of the six deadliest school shootings in the past 20 years. The analysis will examine the factors that influence nonverbal neutrality at the psychological, reaction-based level utilizing connected BET concepts, and at the social level through the typifications that guide journalists’ work utilizing connected BECV concepts. The researcher aims to bridge gaps in existing literature on the norm of neutrality with nonverbal communication, potentially offering clarity to the negotiations of meaning of nonverbal neutrality norms in journalism. The findings from this study can potentially extend current theoretical understandings of crisis coverage patterns, routines, and roles as well, by adding crisis journalism as a new context for nonverbal theory.
DEDICATION

In all things, I dedicate my life to Christ. “Where feet may fail and fear surrounds me, You've never failed, and You won't start now.”–Hillsong

To my amazing husband, Patrick, who made this possible through his hard work and dedication to our family. Thank you for always believing in me, even when I didn’t believe in myself. No words can say how much you truly mean to me.

To my daughter Skylar, who constantly reminds me to reach for the stars. You are my inspiration, and I pray you always know there are no limits to what you can do. I love you to more than…

To all those who were told you couldn’t do it, you can.
**LIST OF ABBREVIATIONS AND SYMBOLS**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>α</td>
<td>Krippendorff’s alpha for internal reliability</td>
</tr>
<tr>
<td>B</td>
<td>Unstandardized Coefficient Beta</td>
</tr>
<tr>
<td>B</td>
<td>Standardized Coefficients Beta</td>
</tr>
<tr>
<td>BECV</td>
<td>Behavioral Ecology View of Facial Displays (Fridlund, 2002; 2017)</td>
</tr>
<tr>
<td>BET</td>
<td>Basic Emotions Theory (Ekman, 1984; 1999)</td>
</tr>
<tr>
<td>CI</td>
<td>Confidence interval: range of values so defined that there is a specified probability that the value of a parameter lies within it.</td>
</tr>
<tr>
<td>F</td>
<td>F statistic as calculated for an Analysis of Variance</td>
</tr>
<tr>
<td>JF</td>
<td>Janis-Fadner coefficient as a dependent variable</td>
</tr>
<tr>
<td>M</td>
<td>Mean: sum of a set of measurements divided by the number of measurements in the set</td>
</tr>
<tr>
<td>N</td>
<td>Population size</td>
</tr>
<tr>
<td>n</td>
<td>Sample size</td>
</tr>
<tr>
<td>NNS</td>
<td>Nonverbal neutrality score as a dependent variable</td>
</tr>
<tr>
<td>R²</td>
<td>Coefficient of multiple determination</td>
</tr>
<tr>
<td>p</td>
<td>Probability value: whether the null hypothesis of a value would be greater than or equal to the observed results</td>
</tr>
<tr>
<td>SD</td>
<td>Standard deviation: the value of variation from a mean within a set of data</td>
</tr>
<tr>
<td>t</td>
<td>T-statistic as calculated for a t-test</td>
</tr>
<tr>
<td>x²</td>
<td>Chi square: whether categorical variable distributions differ from each other</td>
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ACKNOWLEDGMENTS

I would like to thank all of the faculty members, colleagues, and friends who have helped me throughout this process. First, thank you to my committee chair and advisor, Dr. Wilson Lowrey, for being one of the first people in the program to believe in me. Thank you for your continued guidance and dedication to this project; I’m truly grateful for all of the support in this research and beyond. Thank you to my committee members, Drs. Michael Bruce, Renita Coleman, Darrin Griffin, and Scott Parrott. I have so much respect for you, and I’m honored you chose to give your time and talents to provide feedback, support, and guidance. Thank you to Dr. Chandra Clark, who has been there as an advisor, mentor, and friend for almost two decades. I pray I can be a faculty member like you, serving students with Christ-like compassion and care.

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CHAPTER 1.
INTRODUCTION

When crises happen, eyes turn to the news. Crises are events that disrupt normal life and threaten individuals and organizations (Zdziarski, 2006), and media play key roles in informing the public when they happen (Sood, Stockdale & Rogers, 1987; Graber, 2002). The decisions journalists make about how the event information should be presented has widespread impacts, not only for audiences but the journalism industry itself. One aspect journalists must consider is the neutrality of crisis coverage. American journalism relies heavily on neutrality, the distancing of a reporter’s personal beliefs and emotions from the story (Kotíšová, 2019). While the neutrality norm of American journalism has a rich history of study, it is typically explored in the context of written or verbal communication. This study builds on current understandings of the norm by applying nonverbal theories to the negotiations of nonverbal neutrality of journalists during crises. While other studies have explored nonverbal communication in crisis journalism (e.g. Coleman & Wu, 2006; Li, Lindsay, & Mogensen, 2002), this study examines influences of nonverbal neutrality’s variance at both individual and social levels, allowing a wide range of predictions for journalistic behavior during crisis events.

Nonverbal communication, which refers to any form of information sharing that is not done through written or spoken words, is an important aspect of all human communication. Nonverbal behavior can transmit potential bias of the journalist to audiences (Banning & Coleman, 2009), influence audience perceptions of the journalists and the events being covered (Miller, Coleman, & Granberg, 2010), and affect audience attitudes, beliefs, and actions (Tankard et al., 1977; Deavours, 2020a). Because of these potential effects, the patterns built by
journalists’ neutrality choices, and the ubiquity of nonverbal behavior, nonverbal neutrality of journalists should be further explored to increase understanding of normative behaviors during crisis coverage, and how this comes about. Therefore, this study explores the variability of broadcast journalists’ neutrality of nonverbal behavior during television network coverage of school shootings, as well as the factors and contexts that shape this variability. Nonverbal theories of basic emotions theory (BET) and behavioral ecology of facial displays (BECV) inform choices of these factors.

**Importance of studying neutrality**

Neutral presentation of news remains an important norm of American journalism. As one aspect of the more encompassing objectivity norm, neutrality is enacted by the journalist having a detached and unemotional tone. “The objectivity norm guides journalists to separate facts from values and to report only the facts. Objective reporting is supposed to be cool, rather than emotional, in tone” (Schudson, 2001, p. 149). Prior research suggests neutrality of news coverage is socially constructed, an aspect of the professional routine of objectivity that has been referred to as a *guiding principle often religiously practiced*; as a *standard of excellence* for ‘good journalism’ (Schudson, 2011); as an *agent of legitimization* (Tuchman, 1978) for the profession and industry of journalism; and as a *strategic ritual* (Tuchman, 1972) for individual journalists to follow in order to work efficiently. The professional norm of neutrality is negotiable and negotiated within journalism, and there are various levels of influence on adherence to or deviation from neutrality norms (Shoemaker & Reese, 2014). As a typification and routine of journalistic work, nonverbal neutrality may vary and change, depending on influences by and within various social contexts.
Nonverbal neutrality norms

While prior literature in news sociology has examined ways neutrality has been constructed (e.g. Tuchman, 1972; 1973; 1978; Schudson, 2001), and its various contexts, neutrality of journalists’ nonverbal communication and the factors that shape it are understudied. Two common approaches to studying nonverbal communication suggest possible directions for research on factors shaping nonverbal neutrality in news. According to Ekman’s (1984, 1999) Basic Emotion Theory (BET), nonverbal behavior can reflect a biological response to internal emotions, and those responses tend to be universal, although they are thought to be somewhat controlled in the presence of cultural or social influences. However, Fridlund’s (2002; 2017) Behavioral Ecology View of Facial Displays (BECV) suggests nonverbal expression can be more of a cultural and relational phenomenon, reflecting perceived appropriateness of behavior (e.g. social norms and expectations) in social situations as a transactional behavior rather than an uncontrollable one. BECV suggests people behave nonverbally, whether consciously or unconsciously, to achieve specific goals in interaction (Patterson, 2019), suggesting nonverbal behavior is more strongly influenced at the social level. From these two theoretical frameworks, BET provides a basis for examining individual-level, psychological response influences on nonverbal behavior of journalists, while BECV suggests examining influences from social-level typification factors on the ways journalists control and construct nonverbal frames in their reports.

BET and BECV suggest nonverbal communication is shaped by both individual-level emotional response as well as social-level factors, and so these approaches orient this study’s investigation of possible influences on neutral nonverbal communication. By examining factors that could potentially change the *psychological*, emotionally reactive state of individual
journalists during a crisis, the research can help explain influences that operate on the individual level and how they affect nonverbal neutrality during crisis, reflecting a BET approach. Example of factors that could influence this emotional, reaction-based nonverbal variability include those that make the shooting event seem more severe (such as the age of victims or the number of people killed), the proximity to the event (whether in physical location, emotional connection to the affected community, or chronemic (time) closeness to the start of the event), and demographic factors like a broadcaster’s gender and race. These factors change the individual-level perception of the stimuli or the trauma, and thus, would potentially create differences across reactions to those stimuli. Because BET also suggests nonverbal communication is emotions-based reaction, rather than a utilitarian form of interaction with others, this research will measure nonverbal reaction in broadcasters as emotionally valenced (positive, negative, or neutral) reactions. A Janis-Fadner (JF) coefficient (discussed in more detail in the methods section), which is sensitive to emotional valence, will be used as one measure of journalists’ nonverbal behavior.

In addition, the researcher examines typifications of journalistic work as social-level influences on nonverbal behaviors through the lens of BECV. Thus, the research will explore boundaries, of professional nonverbal neutrality norms and negotiation of these boundaries. Typifications of journalistic work are ways that journalists “mentally rehearse and build a story template” for various situations, even nonroutine events or crises (Berkowitz, 1992, p. 45) – socially shared categories that serve as shortcuts for journalists to make news practices more familiar and less uncertain as they face an uncertain world. Typifications have been shown to be important factors in channeling journalists’ decision-making about news, and in the development of work routines (Berkowitz, 1992; Fishman, 1982; Tuchman, 1972). Coverage of crisis events,
which are highly uncertain, tend to bring very high ratings for television news (Althaus, 2002), making them profitable for news organizations and making it more likely that organizational factors shape journalists’ coverage. Therefore, newsrooms are often willing to shift a lot of resources, including personnel, equipment, and time, in order to continuously cover the event for days and even weeks (Sylvie & Gade, 2015).

For this study, social-level predictive factors in this study are conceptualized as socially agreed-upon categories of how to accomplish work or “social typifications” (McKinney, 1969), as BECV suggests nonverbal behaviors are tools to meet standards and goals of social interactions. Typifications in this study include journalistic role performances (Weaver & Wilhoit, 1991; Weaver, Willnat & Wilhoit, 2019), news frames (Iyengar, 1991), news topics (Tuchman, 1973; McCluskey, 2016), and news sources (Fisher, 2018; Berkowitz & Beach, 1993)—all conceptualized as socially agreed-upon categories that help organize, routinize and channel journalistic work. Because BECV theorizes nonverbal communication as a functional tool, rather than an emotional reaction to stimuli, the research will also measure nonverbal behavior as strict muscle movements that are either positioned in the neutral or nonneutral plane through the measure of the nonverbal neutrality score (NNS) (discussed in more detail in the methods section).

By exploring both the relative neutrality of muscle movements that compose nonverbal communication, as well as the emotionally valenced reactions to stimuli, it is hoped that this research contributes to greater understandings of both nonverbal theories, as well as methodological nuances of studying nonverbal neutrality in journalism. The research will utilize the context of crisis journalism, specifically using school shootings as its case study for examining nonverbal behavior and its influences.
Examining crisis coverage in journalism

Media play a major role during crisis events, potentially shaping the public’s emotional reaction to the events, making it an important area of research to explore the use of nonverbal neutrality during the coverage. Crises are times of extreme difficulty, trouble or danger (Seeger, Sellnow, & Ulmer, 1998). A crisis is defined as “an event, which is often sudden or unexpected, that disrupts the normal operations… and threatens the well-being of personnel, property, financial resources, and/or reputations” (Zdziarski, 2006, p. 5). School shootings are one example of a human-made crisis. Because school shootings continue to proliferate in the U.S., they are common media events that are subject to change and routinization in media practice (McCluskey, 2016). They are prime areas for study in crisis journalism.

The National Research Council Committee on Disasters and the Mass Media states the functions of the news media during crisis include:

- warning of predicted and impending disasters, conveying information to officials and the public, charting progress of relief and recovery, dramatizing lessons learned for future preparedness, taking part in a long-term public education, and defining the problems that led to the disaster. (Sood, Stockdale, & Rogers, 1987, p. 10)

Researchers show traditional media sources are a primary stakeholder for crisis information, and television specifically is an important medium for the public during crisis, due to its immediate and visual nature (Austin, Liu, & Jin, 2014). Research also suggests media coverage of a crisis helps to reduce threat for the public during times of ambiguity (Lowrey, 2004).

In terms of neutrality of crisis journalism, previous studies have found that coverage of a crisis event is more emotional in television reports than print, even when considering only language as opposed to visuals (Cho et al., 2003). Yet, Cho and colleagues (2003) only
compared the written elements, not examining the visual stimuli of reporters and their nonverbal behavior, which could potentially have effects on emotionality of content as well. This study examines the visual characteristics of televised crisis coverage that could influence the emotionality, typifications of newsgathering practice, and overall neutrality of a report.

For journalists, crisis coverage is a specific kind of journalism that relies on navigating uncertain situations that are often professionally and personally challenging. It is helpful to study crisis journalism because the values of the field, including objectivity, neutrality, and impartiality, are constantly challenged during crises (Olsson & Nord, 2015). Journalists who are reporting during crises are faced with ongoing dilemmas over the need to remain neutral, detached, and unemotional, while simultaneously surrounded by trauma, suffering communities, victims and their families, and death.

Traumatic impact of a crisis can contribute to a broadcasters’ ability to control or conceal nonneutral behavior. Trauma research suggests that journalists working on the scene of a crisis can experience vicarious traumatization, the countertransference of empathy and trauma as a crisis worker witnesses the traumatic experiences of others (Palm, Polusny, & Follette, 2004). Psychologists have reported that vicarious traumatization forces crisis workers to rigidly follow rational routines initially, but as the event continues, overwhelming emotions and compassion fatigue cause breakdowns in professional performance and quality of work (Phipps & Byrne, 2003; Collins & Long, 2003). Journalism researchers suggest vicarious traumatization leads to less adherence to neutrality norms during a crisis with overwhelming emotions and nonneutral nonverbal behaviors occurring during news reports (Coleman & Wu, 2006; Graber, 2002). Yet, vicarious traumatization and subsequent emotional response are not necessarily experienced by every journalist; many journalists claim to be able to work deadly scenes with little to no impact
on their emotional capabilities (Seely, 2019). In addition, trauma theory suggests crisis workers will not experience the same level of vicarious traumatization throughout the event, with some work periods being easier to control reactions than others (Pyevich, Newman, & Daleiden, 2003; Phipps & Byrne, 2003; Graber, 2002). Because not everyone experiences vicarious traumatization and not at the same levels, journalists’ emotional response could contribute to the individual-level variability of nonverbal behavior during crisis coverage.

Crises can also show the interplay between these individual and social influences on the adherence to or deviation from neutrality norms. While typically newsrooms set policies that reporters are required to follow, crises call for greater autonomy in individual journalists’ decision-making, given the uncertainty and developing nature of the events. This study will explore the potential impacts of both individual-level and social-level influences on journalistic work during crises, examining the interplay of journalists’ emotional reactions to traumatic stimuli with their negotiation of the typified expectations of journalistic work. School shootings will be utilized as case studies for this research.

**School shootings as crises**

School shootings are a growing crisis, particularly in America but worldwide as well, that have continued to garner regular media attention. School shootings in the United States have received international attention for their recent proliferation. From 2009 to 2018, the United States had 57 times as many shootings as six other major G7 countries combined (Grabow & Rose, 2018). In the first 21 weeks of 2018, there were 23 school shootings where someone was hurt or killed, averaging more than one shooting a week (Ahmed & Walker, 2018), and unfortunately, there is no indication that these attacks will cease anytime soon.
The growing prevalence of school shootings has risen to the level of a national crisis where the population believes that they are at risk for experiencing a mass shooting even though the statistical likelihood is low, and media coverage of those events can influence that perception (Deavours, 2020a). Media crisis coverage plans for school shootings are also becoming increasingly important in the journalism field due to the growing need to understand issues regarding mass shootings. Since the shooting at Columbine High School in 1999, school shooting news coverage routines have developed, with more established frames and work patterns (McCluskey, 2016). Due to the prevalence of school shootings, experts say news organizations need to have a communication plan in place for journalists (McCluskey, 2016; Sylvie & Gade, 2015), which can become explicitly formalized typifications for organizations. Psychology researchers also suggest journalists need to develop emotionally neutral ways of interpreting crisis events that they routinely deal with to maintain impartiality (Duckworth, 1991). Findings of this study should help individual journalists and their organizations create better informed crisis coverage plans for future events.

This study will focus on six school shootings as case studies of how journalists work during crisis coverage. The six school shootings were chosen based on their severity, or the number of deaths, as well as the time they took place in order to explore potential patterns of journalistic work in a historical timeline. The case studies include the six deadliest school shootings in the United States from 1999 through 2019: Columbine High School, which occurred on April 20, 1999; Virginia Tech, April 16, 2007; Sandy Hook Elementary School, December 14, 2012; Umpqua Community College, October 1, 2015; Stoneman Douglas High School, February 14, 2018; and Santa Fe High School, May 18, 2018. These cases will be discussed in more detail in the method section.
The six school shootings will be further analyzed across time to explore potential routinization in coverage and nonverbal behavior that could be occurring as the frequency of these events increases. Continued exposure to crises is important for both BET and BECV perspectives of nonverbal behavior. BET suggests that as a traumatic stimuli becomes more familiar and repetitive for an individual, the more likely they will react quickly and in similar universal patterns as before. BECV suggests that as nonverbal behaviors for situations become ritualized, the behaviors will become taken-for-granted and often be produced unconsciously, without much consideration for the socially appropriate nonverbal display (Patterson, 2019). This idea lends itself to the concept of typifications from journalism studies -- typifications also require repeated practice to become part of a fields’ norms of behavior.

The researcher hopes by bridging gaps in existing literature on the norm of neutrality with nonverbal communication theories, the negotiations of meaning of nonverbal neutrality in journalism can be more clearly understood. In addition, results should shed additional light on the theory of crisis coverage (Graber, 2002), which predicts how journalists work to maintain neutrality during crisis. In summary, these findings can potentially extend current theoretical understandings of crisis coverage patterns, routines, and roles, as well as psychological reactions of professional journalists, by adding crisis journalism as a new context for nonverbal theory.
CHAPTER 2.
LITERATURE REVIEW

This chapter begins by discussing nonverbal communication and two primary theories about nonverbal communication, basic emotions theory (BET) and behavioral ecology view of facial displays (BECV). These two approaches provide rationale for exploring the nonverbal behavior of journalists at both an individual and social level. The chapter will then examine ways nonverbal communication has already been applied to both journalism and crisis communication, the professional norms of neutrality and objectivity for the profession, and the role of neutrality in nonverbal communication in crisis coverage.

Nonverbal communication theories

Nonverbal communication is defined as a process of transmitting and receiving information without using words (Welch, 2019; Wasike, 2019). Nonverbal behaviors are actions that are performed and that can serve particular functions. An example of a nonverbal behavior is a smile, the upturning of muscles around the mouth in a particular way. However, that smile as a behavior transmits information through nonverbal communication. The behavior is the action that leads to the transmission of information; however, there is a reliance on the process of encoding and decoding by senders and receivers, which speaks more to the process of nonverbal communication. Therefore, nonverbal displays can only have significant influence when there is shared meaning. Some nonverbal scholars have focused on nonverbal behaviors, utilizing in-depth studies of muscular movements and displays (e.g. the Facial Action Coding System) (Ekman & Friesen, 1976; Cohen, Ambadar, Ekman, 2007) as indicators of psychological or emotional reactions to stimuli. Others have focused on the functions of those behaviors, the ways
behaviors can communicate information through a transmission process, such as Fridlund’s (2002; 2017) Behavioral Ecology View of Facial Displays (BECV), that involves wanting to meet social expectations and accomplish personal goals of that communication process. A distinction between (a) nonverbal behavior as automatic and universal and (b) nonverbal behavior as functional and relational is important as scholars must consider that behaviors can serve multiple functions depending on social context, and are not always displayed in similar ways for the same purposes. Understanding the differences and interplay between two dominant nonverbal theories can help explain how nonverbal behaviors are displayed within the context of crisis journalism. These two conceptualizations of the influences of nonverbal behavior are discussed in detail below.

**Basic Emotions Theory**

Paul Ekman is one of the leading scholars of nonverbal communication, and his development of the neurocultural theory of emotions (or basic emotions theory (BET)) has been a prominent part of nonverbal communication research for decades. Ekman’s (1984, 1999) BET relies on the assumption of the universality of emotions, that there are prototypical expressions that are unconscious displays of internal states. Ekman’s research was used and replicated throughout decades of nonverbal research, but recent critiques of BET have led to further developments in the field.

Prior to Ekman’s development of BET, nonverbal scholarship relied on a paradigm of evolutionary and biologic responses to stimuli, which drew from work by Charles Darwin that nonverbal expression was movement of the body that displayed internal states (Crivelli & Fridlund, 2019). Allport (1924) suggested that facial behavior was a *language of the face*, believing expression was situationally based. For example, through a BET lens, a smile during a
first meeting between people would be a reflection of the person’s internal state of happiness or hope for that relationship. Scholars adopted this belief that nonverbal behaviors were external displays of internal feelings to support the idea that nonverbal displays were automatic and difficult to control, which was universal across humans (Landis, 1924). Ekman further developed this idea with his research on cross-cultural facial expressions, finding there were six prototypic, universal expressions that were produced by basic emotions. This was the underpinning idea of BET, that facial expressions are reactions to stimuli and produced in identical ways by everyone (Ekman, 1984; 1999).

However, Ekman and other nonverbal scholars recognized that these basic emotions were not displayed in the exact same ways by every individual all the time. In the early 1970s, Ekman suggested that there could be ‘blended’ expressions, where a person did not display in the prototypic way all the time because they are having conflicting emotions or transitioning from one emotion to another (Ekman & Friesen, 1972). Ekman and Friesen (1976) also found microexpressions, or ways of masking or altering the prototypic expressions. They suggested these were often controlled by display rules, ways that culture affects the presentation of those prototypic expressions. For instance, if a person is experiencing an extreme negative state in a situation that, culturally, calls for a more neutral display, they would purposefully alter their display in order to adapt to the expectations of the surrounding culture. Matsumoto (2006) defines culture as a “shared system of socially transmitted behavior that describes, defines, and guides people’s ways of life, communicated from one generation to the next” (p. 220). Culture is important in nonverbal communication display rules, then, because it helps individuals determine appropriate nonverbal displays, depending on contexts and situations, and may influence the individual’s desire to conceal their nonverbal reaction during inappropriate situations. Applied to
broadcasters, BET would suggest all journalists would likely display similarly during a crisis based on reactions to traumatic, emotional stimuli of the event. Their reactions would be emotional reflections of their internal states, either positive, negative, or neutral responses to what was going on around them. This is more of an individual-level approach, less impacted by cultural or social influences, even though BET has grown to accept some level of influence on these prototypic expressions from cultural or social expectations. Despite BET’s continued use, many scholars have criticized certain inconsistencies in its premises and worked to find alternative ways of conceptualizing displays.

**Critiques of Basic Emotions Theory.** Through his work in BET, nonverbal scholar Alan Fridlund (2017) claims to have found irreconcilable inconsistencies in its theoretical premises. First, Fridlund believed that the use of photo-matching techniques used by Ekman’s experiments across cultures led to a circular logic, where participants were given limited options and limited images that forced a perception of universality. Second, some nonverbal scholars suggest there are large differences among BET scholars about what should be defined as universal emotions, with even Ekman and Friesen using different terms within their own studies, sometimes having six displays and sometimes seven (Crivelli & Fridlund, 2019). As the theory continued to be used, scholars would also claim to “find” new prototypic emotions from self-reports (Keltner & Cordaro, 2017) with very little proof of their universality (Crivelli & Fridlund, 2019). The changing emotions caused confusion and muddled the basic premises of BET, according to some nonverbal scholars. Third, Fridlund (2017) and others argue that when the prototypic emotions were not found in experiments, Ekman and Friesen (1977) adapted BET to allow for cultural display rules, which supported more of an evolutionary perspective than the original biologic, universal premise. This was further intensified when Ekman and Friesen claimed these cultural
display rules could be so pervasive that people would alter their prototypic emotions even in private; this meant that there could never be a way to support whether a display was the prototypic one because every expression could potentially be adapted for cultural influences (Crivelli & Fridlund, 2019). This would mean BET researchers had no way of knowing what was and was not an “authentic,” prototypic expression. These critiques of BET have led to many calling the theory outdated and too narrow in its focus (Crivelli & Fridlund, 2019). With one of the dominant theories in the field under critique, another theory was constructed to explain nonverbal behavior.

**Behavioral ecology view of facial displays**

The behavioral ecology view of facial displays (BECV) was developed in the 1990s by Fridlund after his work with BET scholars like Ekman, Friesen, and Izard. Believing that the adaptation of universal expression for display rules mirrored evolutionary premises of Darwin and other animal behaviorist scholars, Fridlund (2017) proposed BECV, which conceptualizes nonverbal behavior as a social tool that provides flexible ways of evolving displays to interact with others for personal benefit. BECV abandons BET’s premise that expressions were universal or emotions-based, using a more functionalist and external approach. BECV suggests displays depend solely on interactions and contexts of the social world. Nonverbal behaviors are not truly expressions of anything in particular; they hold no intrinsic meaning and are not reliant on internal states. Instead, they are ritualized via natural selection processes, or they can be social conventions of behaviors that reward or harm the communicator in relationships. Scholars also suggest that the speaker’s nonverbal behavior is really a tool used to meet a goal or expectation, regardless of whether the nonverbal behavior is conscious or unconscious (Patterson, 2019). Some nonverbal behaviors become so deeply ingrained in societal expectations that they can be
determined as the best tool for that circumstance, even without conscious thought (Fridlund, 2017). For example, a person may smile at someone in a first meeting to encourage a friendly rather than adversarial relationship without ever thinking about the gains of smiling specifically; smiling is what has evolved as the appropriate behavior over time, a self-presentation tool used as far back as early humans (Fridlund, 2017). Over time, these nonverbal behaviors used as tools were ritualized and routinized for particular situations (Fridlund, 2017), allowing the behavior to become almost immediate in recurring circumstances, regardless of whether the person is truly happy to meet the person or not. Instead of relying on experiments or self-reports, BECV scholars tend to use observational patterns from real-world interactions in order to get reliable contexts and social interactions through which to study. BECV scholars also study the appropriateness of the behavior. When applied to broadcast journalists a BECV-informed measure of nonverbal expression would be appropriate for examining whether nonverbal facial movement adheres to or delineates from a professionally acceptable standard of neutrality. The presence of absence of movement of expressions would be the focus rather than emotional valence.

While BECV does not allow for categories of emotions like BET does, some scholars suggest it is a better framework to interpret complexities of nonverbal displays. BECV scholars have also been able to adapt their work for non-human technologies, leading to advancements in mediated contexts as well (Fridlund, 2017). Through its critique of the original BET, BECV has become another way to study nonverbal communication and expressions through a sociology of expression. Together, the theories of BET and BECV suggest both individual and social level factors of influence on nonverbal behavior may be explored.

*Nonverbal communication research in journalism scholarship*
While literature on journalists’ nonverbal expression is limited, the existing scholarship utilizes assumptions from either an individual-level approach similar to BET, or a social-level approach similar to BECV, but without ever formally citing these nonverbal theories. Most of the nonverbal journalism studies have focused on political communication, which is not surprising, as the study of political communication is dominant in journalism scholarship generally.

Babad (1999) explored preferential treatment of broadcast journalists interviewing candidates for Israeli Prime Minister. The study found all six interviewers demonstrated preferential treatment of interview subjects through their nonverbal behavior. In addition, when comparing one veteran broadcast journalist’s nonverbal behavior in interviewing the two opposing PM candidates, Babad (1999) found the broadcaster displayed favorable, positive nonverbal cues for the candidate he personally liked over 60% of the time, while the broadcaster displayed unfavorable, negative nonverbal cues for the other candidate that the broadcaster did not personally support 60% of the time; the extremes in the valences suggest a large difference in the nonverbal treatment of interview subjects by a journalist under explicitly written norms about neutral treatment of interviewees. Babad (1999) explains this potential reasons for this variability in nonverbal presentation from a BET perspective - that there are universal expressions of bias and feelings when an interviewer does not agree with the stimulus – in this case the interviewee. Babad’s study was among the first to point to variance in nonverbal behavior of journalists as a potential source of bias or lack of neutrality.

In their study of reactions of presidential candidates during debates, Bucy and Newhagen (1999) used a theoretical basis of emotional appropriateness heuristic, which suggests that receivers are expecting certain types of nonverbal displays in certain contexts; when those expectations are violated by the speaker, the interpretation of that display, and thus its
communicator, would be negative. Since television news audiences watch broadcasts with the unspoken promise that the journalist is delivering neutral information (Hanson & Wearden, 2004), a nonverbal presentation that was not neutral would violate the emotional appropriate heuristic (Zimmerman, 2014). The researchers found this negative interpretation affected perceptions of credibility as well (Bucy & Newhagan, 1999). This is largely consistent with a BECV approach, as the speakers are altering expressions based on audience expectations.

Seiter and colleagues (2009) in their experiment on candidate agreement/disagreement during televised debates utilized Goffman’s impression management theory, which states people try to control their nonverbal behavior to serve the best impression of themselves. When candidates failed to agree with other candidates, they were seen as violating social norms of civility, and thus rated less positively by audiences. While this study utilized televised debates as its context, it could also apply to journalists since audiences expect broadcasters to be neutral in their presentations (Skovsgaard et al., 2013), and thus, they perceive nonneutral expressions by reporters as biased and not credible. The connection between normative expectations from within the profession and by audiences seems consistent with the evolutionary, social interaction-based framework BECV provides.

Zimmerman (2014) completed a content analysis of typical, everyday coverage of the nonverbal communication of broadcast journalists in the Las Vegas television market. Zimmerman uses assumptions that implicitly support both a BET and a BECV approach without citing either directly. First, Zimmerman (2014) suggests that local journalists display nonverbal behaviors that match the tone or nature of the story; for instance, “if there was a sad story then the reporters for the most part, maintained an angry or neutral or sad expression” (p. 86). This would point to typifications of work, where the types or topics of stories presented would lead to
differences in nonverbal frames. Zimmerman (2014) suggests the journalists are “operating under the influence of someone above them; perhaps news consultants, news directors, or general managers of the stations” (p. 89), another social-level influence.

Yet, Zimmerman notes that this facial expression matching was especially true for local journalists, while national journalists tended to be more detached and neutral in their presentations. Zimmerman suggests this is likely because local journalists have more of an emotional connection to the communities in which they work and likely live; this is more of an individual level and psychological reaction-based assumption, consistent with BET.

One of the most influential articles for this work is a content analysis of broadcast coverage of the 9/11 terrorist attacks. Coleman and Wu (2006) also utilize assumptions that are consistent with both BET and BECV, without explicitly citing them. They found that broadcasters displayed significantly more nonneutral behavior than neutral behavior, and the difference in nonverbal neutrality valence changed depending on which stage of coverage journalists were reporting in, relying on Graber’s (2002) stages of crisis coverage theory as the theoretical explanation. Coleman and Wu (2006) suggest vicarious traumatization that journalists experience during crisis coverage causes emotional leakage at the individual level, leading to more pronounced displays of emotion than typical neutrality norms would allow. This conclusion is consistent with a psychological and individual based explanation, like BET. Yet, consistent with BECV assumptions, Coleman and Wu (2006) also discuss the typification of work patterns within each of the three stages of crisis coverage, suggesting some stages have patterns of work that allow for more inherent bias than others.

This study seeks to build on this previous scholarship. While most previous literature has focused on the effects of journalists’ nonverbal behavior on audiences, providing a justification
for studying nonverbal presentations in news, this study approaches questions about nonverbal communication in journalistic work from the perspective of the sociology of media production. Specifically, it examines how individual- and social-level influences of production can predict variability of broadcasters’ nonverbal neutrality during crisis coverage. The normative concepts of neutrality and objectivity in professional journalism and their relationships to nonverbal communication are discussed next.

**Journalism, neutrality, and nonverbal neutrality**

In early American journalism, objectivity was synonymous with neutrality, a complete absence of personal values, opinions, or emotions in order to transmit the ‘truth’ and facts (Schudson, 1990). This view is often referred to as a “mirrored reality,” where journalists seek to produce reflections of the world around them, working to prevent distortions by providing personal emotions or beliefs (Vos, 2011). Yet, most practitioners and scholars quickly realized this was something merely to aspire to, but too difficult, if not impossible, to put into everyday practice. Every choice of a journalist, from which stories to pursue to what sources to use, involves some level of subjectivity (Tuchman, 1972). The norm of objectivity later shifted from focus on pure neutrality to an emphasis on balance to find Truth (Durham, 1998). Even that definition becomes suspect, though, when viewed in postmodern interpretations of truth, where news is a social construction based on sociological factors, rather than a mirrored reflection of reality; scholars argue there can be no absolute Truth for journalists to find (Shoemaker & Reese, 2014; Wade, 2011). Despite the theoretical knowledge that complete neutrality and objectivity are impossible, and perhaps (from the post-modern perspective) are even undesirable standards, “the underlying principles of objectivity nonetheless remain firmly entrenched in the industry” (Reese, 1990, p. 393).
Today, objectivity is “at once a moral ideal, a set of reporting and editing practices, and an observable pattern of news writing” (Schudson, 2001, p. 149). The norm is supported explicitly in codes of ethics, textbooks, and organizational policies; it is also implicitly found in the ways journalists talk of their work, discuss the ideals and goals of the profession, and produce news (Schudson, 2001; Deavours, 2020e). Yet, despite its prevalence, its definition remains somewhat elusive. From a sociology perspective, objectivity is usually defined more by the ways it can be “accomplished,” such as the absence of reporter emotion or beliefs, the use of balanced and multiple sources, and the verification of facts through trusted sources. It’s described by scholars like Schudson (2001) based on what the production of objective news is “supposed to look like” in best practice.

The objectivity norm guides journalists to separate facts from values and to report only the facts. Objective reporting is supposed to be cool, rather than emotional, in tone. Objective reporting takes pains to represent fairly each leading side in a political controversy. According to the objectivity norm, the journalist’s job consists of reporting something called ‘news’ without commenting on it, slanting it, or shaping its formulation in any way. (Schudson, 2001, p. 150)

As a professional norm of journalists in the United States, objectivity guides the news gathering process of journalists in their daily work. Tuchman (1972) described objectivity as a “strategic ritual,” helping journalists mitigate continual pressures such as deadlines, possible libel suits, and anticipated punishments by managers by being able to claim adherence to objective practices. Objectivity is an “agent of legitimization” (Tuchman, 1978), a way of distinguishing between professional and novice reporters of events. Schudson (2001) also describes objectivity as an efficient form of production and a socialization tool, a way to describe the ideals of social
practice in the field of journalism in order to maintain power over subordinates and to share
group culture to new hires. These benefits of objective standards of reporting support its
continuation as a professional norm.

Objectivity is the broader umbrella term for the normative standard, but part of that
collection is the narrower term of neutrality. Heikkilä (2008) defines neutrality as a way to
safeguard one's position in presentations to others. Neutrality in early American journalism was
declared strictly as showing no stance or opinion on any subject while reporting, which aligned
with the more political stance of nonalignment in regards to diplomacy or war (such as
Switzerland's neutral political stance since the Congress of Vienna in 1815) (Heikkilä, 2008).
More modern definitions of neutrality suggest it involves the reporter removing overt personal
beliefs and emotions from the report (Kotíšová, 2019). Researchers note American journalists
today shade their reports with first-hand witness accounts from the reporter, the descriptions of
the reporter’s experience, and even more overt statements of emotion or belief (Andén-
Papadopoulos & Pantti, 2013), while still relying on tactics like sourcing opinions and emotions
to maintain a perception of neutral coverage (Shoemaker & Reese, 2014), showing continually
negotiated standards of neutrality in the field.

As the definitions of neutrality and its broader, encompassing term objectivity have
changed over time, the acceptable range of neutrality in reporting has changed as well.
Throughout American journalism history, the press oscillates between extremes of
partisan/opinionated and controlled/unbiased. What is considered acceptable displays of emotion
and personal opinion varies as industry standards shift. As the press loosens or tightens its grip
on the ideal of objective neutrality, journalists grapple with newsmaking decisions about how
much of themselves – their opinions and emotions – to place within the story. What they decide
can influence the outcome of the message. It is important to explore these normative boundary negotiations as they provide insight to the shared meaning and acceptance of these norms for journalists. This study extends discussions of norms of neutrality to nonverbal communication practices as well, by applying concepts of neutrality from journalism scholarship to two dominant paradigms of nonverbal theory.

**Dependent variables of nonverbal neutrality: Nonverbal neutrality (NNS) and emotional valence (JF)**

As previously discussed, nonverbal scholars conceptualize nonverbal behavior in two ways: as reactions to stimuli that reflect internal emotional states, which is based in BET assumptions; or as functionalist movements of muscles to adhere to cultural expectations in order to reach a personal goal within a social interaction, which is based in BECV assumptions. Because of these differences in conceptualization of nonverbal expressions, this study utilizes two measures of nonverbal behavior through which to examine the variability of nonverbal neutrality in broadcasters during crisis. The two measures are explained in detail in the Methods section, but they are broadly outlined here to help shed light on the different conceptualizations of nonverbal neutrality.

The first measure of nonverbal neutrality is the “nonverbal neutrality score” or NNS. This measure reflects the movement of the nonverbal expression, rather than valence of that expression. Knapp and Hall (2014) define the six nonverbal dimensions according to positive, negative, and neutral movements of muscles in each of these six areas, but the positive and negative definitions do not correspond directly to favorable or unfavorable, where a journalist is necessarily showing positive or negative emotions. Instead, it denotes the direction of the muscular movement away from the neutral state, which is culturally shaped and socially constructed. The measure does not distinguish between the movements as positive or negative,
emotionally. Therefore, the NNS is a measure of an accumulation of neutral and nonneutral expressions across the six nonverbal dimensions. The higher the NNS, the less neutral the presentation is overall, while the lower the NNS, the more neutral the presentation is. This measure reflects the theoretical bases of BECV since it examines the adherence to or deviation from neutrality as a practice that adheres to professional journalism norms.

The second measure reflects an emotional valence of nonverbal reaction. The Janis-Fadner coefficient of imbalance (JF) measures the relative proportion of positive (favorable) to negative (unfavorable) expressions, while controlling for the overall number of expressions. Each expression among the six nonverbal dimensions is given equal weight in the measure. It also eliminates the problem of having positive and negative values canceling each other out when the six dimensions are combined. Thus, JF is the extent of difference in the ratio of positive, negative, or neutral expressions in the broadcaster’s presentation. The more positive the JF is, the more favorable or emotionally positive the nonverbal reaction is during the presentation, such as displaying emotions of joy, surprise, or contentment; the more negative the JF, the more unfavorable or emotionally negative the nonverbal reaction, such as displaying emotions of sadness, fear, anger, disgust, or contempt. If JF is zero, it suggests the expressions are neutral, or the number of dimensions that are positive reactions are the same as the number of dimensions that are negative reactions (Janis & Fadner, 1949). This measure reflects the BET approach of nonverbal communication, where emotional valence of the reaction to stimuli is important. By capturing the strength of emotional reaction, the measure can suggest the degree to which broadcasters are reacting to stimuli.

These two conceptualizations and measures will be used as dependent variables throughout the study in order to examine two dimensions of the concept of nonverbal
communication, through the lens of both BET theory and BECV theory. By adopting measures of both dimensions, theoretical connections between nonverbal fields and crisis journalism can be more thoroughly assessed. For each hypothesis and research question presented below, $NNS$ and $JF$ are tested separately (since the correlation between these variables is high) without using a Bonferroni correction since there is no assumption of overlap in these conceptualizations. In addition, the two variables’ measures can potentially contribute methodologically to future studies, examining which measures may be more appropriate for studies of certain factors.

The next section explores potential explanations for variation in nonverbal neutrality during a crisis, both from an individual, trauma-based perspective and from a sociological, typification-based perspective.

**Neutrality during crisis**

The media play a major role during crisis events, especially in terms of the public’s emotional reaction to the events, making an adherence to or deviation from neutrality norms particularly important to explore. Nonverbal researchers suggest a speaker’s nonverbal communication during a crisis or heightened threat can have a strong impact on listeners’ interpretations of the event, and political and social leaders’ nonverbal communication can act as motivational cues for audiences on how they should be reacting to and interpreting unfolding events (Bucy, 2010). Therefore, it is important to research the degree of neutrality in reports during crisis events. By examining the adherence to or deviance from the norm of neutrality during crisis news coverage, researchers can understand the patterns of newsmaking decisions made during times of crisis and examine the product of either adhering to or deviating from a professional norm.
Guided by the primary functions outlined by the National Research Council Committee on Disasters and the Mass Media (Sood, Stockdale, & Rogers, 1987) and studying how the media acted during coverage of national crisis events, Graber (2002) found that these functions manifest variably across time during the reporting of a crisis story, and can affect degree of neutrality during coverage. Accordingly, she developed the stages of crisis coverage theory. Graber’s work suggests that journalists follow patterns to accomplish the larger crisis roles of the media during these events. This stands as an example of the routinization of work, which leads to less uncertainty for journalists, increases productivity, and allows for professional control of information (Shoemaker & Reese, 2014).

Research suggests that during crisis, journalists tend to be less neutral in their coverage patterns than typical journalism practice. In his study of print coverage of the Columbine and Sandy Hook school shootings, Joffe (2014) suggests there is an “increase in interpretive, opinion pieces [which] shows a change in the role of the modern journalist, such that journalists now place a higher priority on telling the public what to think, rather than what to think about” (p. iii). This suggests that the routines and professional practices typically followed in day-to-day coverage were not fully adhered to during these cases.

Graber (2002) also suggests that there is more inherent bias in crisis coverage, but that the level of bias may change given the stage of coverage. Graber (2002) states there are three main stages that journalists routinely follow when reporting during a national crisis. Each stage lends itself to certain journalistic functions and psychological reactions to trauma, which together help explain variability in differing levels of neutrality during crisis coverage. Generally, in the first stage, journalists concentrate on sharing initial information, in the second stage they add interpretation, and in the final stage, they work to sustain audience morale. Graber’s stages are
discussed in more detail in the discussion of journalists’ typifications, below. However, the stages of crisis coverage theory dealt with written bias, not nonverbal bias. Therefore, Coleman and Wu (2006) applied Graber’s theory to nonverbal neutrality of broadcaster expressions during crisis coverage.

Coleman and Wu (2006) empirically tested Graber’s stages of crisis coverage theory with their content analysis of the nonverbal behavior of broadcast journalists during 9/11 coverage. They analyzed nonverbal neutral behavior of journalists in each of the three stages. Overall, they found broadcasters communicated significantly more positive or negative nonverbal expressions than neutral expressions during the 24-hour coverage period. They also found variability in nonverbal neutrality by stage.

Coleman and Wu (2006) discuss two primary reasons for the variability in the nonverbal presentation of journalists during 9/11 coverage. The first is typifications of work. Each stage, they argue, involves meeting different roles, goals, and needs during the crisis. The researchers suggest that in the first stage of coverage, journalists want to disseminate facts quickly, following routine sourcing and topic decisions as an efficient way to gather information. In the second stage, when information and developments slow, journalists are required to fill time with more speculation about causes and implications for future political and social decisions related to the event. In the third stage, the media serve as public servants by trying to bring the nation back to status quo and handling any issues that need to be resolved to prevent further incidents. Utilizing these arguments, Coleman and Wu (2006) suggest a typification of work as influential in the variability of broadcasters’ nonverbal presentations during crisis coverage.

The second explanation Coleman and Wu provide focuses on individual-level factors influencing vicarious traumatization. They suggest that just like other crisis workers, journalists
follow patterns of work to “triage” and get work done, but continual traumatic exposure eventually causes a lack of emotional control in the second stage of coverage. “In this second stage, they lost their professional demeanor and began to feel, and uncontrollably express, emotions. This phenomenon resembles the work with other professionals in vicarious traumatization” (Coleman & Wu, 2006, p. 11). This is the time when journalists showed the least amount of neutral expressions (Coleman & Wu, 2006). In the third stage, journalists work harder to control themselves and their emotions, also known as masking, as Ekman and Friesen (1977) refer to the process of trying to adapt stimuli-based reactions. This makes them less likely to display “emotional leakage” as they return to more routine ways of producing and presenting news. These explanations focus on the more psychological reaction-based factors of nonverbal variability.

The conclusions drawn by Coleman and Wu (2006) suggest both individual and sociological factors may influence journalists’ nonverbal behavior. This is consistent with factors suggested by nonverbal communication theory. The interplay between basic emotions theory (BET), which focuses on individual and situational reactions that cause predictable and universal displays of nonverbal behavior, as well as BECV, which focuses on the transactional and situational or social-level influences that predict nonverbal behavior, can serve as a theoretical basis for the variability in nonverbal neutrality during crisis coverage. The current study will seek to shed more light on the variability of nonverbal behavior by exploring influences of possible causal factors within the categories of individual or emotional influences and the social-level influences of work typifications. Both types of influences are conceptualized below.
Influences on nonverbal neutrality of journalists

This study explores potential influences on nonverbal neutrality within six case studies of school shooting coverage from 1999 to 2018. The major nonverbal communication theories, BET and BECV, suggest that both individual level and social-level influences are both important in shaping nonverbal communication.

Use of multiple levels of analysis are common in media sociology studies (Dimmick & Coit, 1982; McQuail, 2002; Shoemaker & Reese, 2014), and so the approach here is consistent with these models. For example, in their *Hierarchy of Influences on Media Messages*, Shoemaker and Reese (2014) acknowledge the importance of journalists’ agency at the individual level as influencing the media content they produce, while also acknowledging that this agency is structured by assumptions at higher-order sociological levels: e.g., routines, organizational, extra-media and cultural levels. Such a model helps scholars understand “interplay between structure and agency, between actions people take and the conditions under which they act that are not of their own making” (Shoemaker & Reese, 2014, p. 11). According to assumptions of the two nonverbal theories of BET and BECV, both individual-level and social-level variables shape nonverbal behavior and communication.

Below, two types of influences on nonverbal behavior are explored. First, at the individual-level, journalists who are exposed to traumatic stimuli while covering a crisis have psychological, emotional reactions to the events, which in turn produces autonomic, uncontrolled nonverbal presentations about what they are experiencing. The severity (age of victims and number of deaths) and proximity (physically, emotionally, and chronemically) of crisis are considered variables that affect the intensity of the psychological reaction to an event, which could in turn influence the degree to which a journalist can control their nonverbal behavior.
Second, at the social-level of influence, typifications of journalistic work encourage certain professional practice and standards of practice, including how neutral the presentation of information about the event is. These typifications could be such strong influences on journalists’ work that even if experiencing psychological trauma, the journalist can fall into typified categories and routinized ways of doing their work, as the journalist maintains professional norms and boundaries, leading to conscious or unconscious control of nonverbal behavior. Typifications included in this analysis are roles performed, thematic/episodic framing, topics of coverage, and sources used. The study explores which factors and which set of factors correspond more strongly or weakly with the broadcasters’ nonverbal presentation of visual frames in crisis coverage. These independent variables are described in detail below.

**Individual level influences**

At a micro-level, individual broadcast journalists have the ability to make decisions that shape journalistic work (Shoemaker & Reese, 2014). Individual characteristics, such as gender and race of the journalists, have long been used as predictors for variability in reporting practices (e.g. Mingxiao et al., 2018; Wagner, 2019), and the study of the traits and values of individual journalists has been conducted through numerous surveys, ethnographies, and interviews (e.g. Lanosga et al., 2017). The individual level also becomes important when looking at normative values because the degree to which a norm is enacted or rejected happens at the individual journalist level, although heavily influenced by their organization and industry (Shoemaker & Reese, 2014).

This interplay between individual influence and professional influence is important to examine in crisis reporting, especially given the potentially emotional nature of crisis. The situational contexts of these events often give journalists working in crisis more agency to act
individually, outside of normative positions and values (Skovsgaard et al., 2013). Previous studies have found that journalists experience deeply personal and overwhelmingly emotional reactions during crisis reporting. In her chapter on emotional consequences of reporting during crisis, Kotišová (2019) writes that journalists often expressed to her very personal reactions in crisis situations, including:

Post-traumatic stress disorder, emotional numbness, feelings of guilt, denial of emotional problems, physical risks, loss of insightfulness, neglecting one’s own emotional health when face to face with the tragedies of other people, trauma caused by witnessing distant suffering, confrontation with the paradoxes of passion and detachment, and acting and observing. (p. 3)

Kotišová (2019) also notes that “all the stories, placing the journalists themselves at the center of the narrative, were also cases of extreme, escalated visibility of journalists’ own emotions being reported in the news” (p. 3), a deviation from the typical detached, unemotional, and neutral frame that defines American reporting style.

This study focuses on factors that literature suggests are important in prompting individual-level, emotional effects on speakers and their communication: severity of event, proximity to event, and demographic characteristics. To be clear, these factors themselves do not reside at an individual level – rather they are conceptualized in this study as “individual level” because they are expected to be especially relevant in eliciting personal, emotional nonverbal responses, which suggest autonomous action by individual journalists.

Severity. Perceived severity of an event is important because it has effects on those on the scene and their communication strategies. The more severe the crisis is perceived, the greater the risk perception, likelihood of emotionally reacting to it, and likelihood that individuals will
take action to protect themselves from that risk in the moment and for similar events in the future (Zhao, Rosoff, & John, 2019). The perception of severity of an event can affect the emotional reaction of those on the scene. In a 2010 study of students who experienced a school shooting, Suomalainen and colleagues (2010) found the more severe a school shooting is, the more likely an individual exposed to the event will experience signs of distress. In addition, journalists who experience more severe crises at work have been shown to suffer negative impacts on their psychological well-being and professional work (Dworznik, 2008). Interviews with journalists covering a Finnish school shooting showed journalists had very personal reactions to the event, worrying “about feeling empathy for the victims and how to interview victims/eyewitnesses without causing further distress” (Backholm & Björkqvist, 2012, p. 177), which tends to intensify as the victims increase in number and severity of injury. Communication strategies also change depending on the level of severity of the crisis (Xu & Li, 2012).

Since BET suggests that nonverbal behaviors are the result of psychological reactions to stimuli (Ekman, 1984; 1999), the more severe a crisis is perceived by the broadcaster, the more likely broadcasters will display more noticeable and more valenced nonverbal behaviors in their presentation of the information. As the perceived severity of the event increases, the harder it will be for journalists to control their nonverbal behaviors, meaning those behaviors will begin to be evident despite a communicator’s best efforts to conceal them – what is called “emotional leakage” by nonverbal scholars (Ekman & Friesen, 1969).

Severity is defined by two factors in this study. First, Xu and Li (2012) defined severity as the number of deaths and harm done during the event (Xu & Li, 2012) with more severe crises involving higher death rates. Second, previous research has also found a relationship between age of victims of violence and perceived event severity, where crimes involving younger
children are considered more severe (Rogers & Davies, 2007). Within the field of journalism, school shootings tend to be significantly newsworthy, especially those with higher rates of death, and those whose perpetrator(s) and victims are young (Silva & Capellan, 2017).

Therefore, the researcher adopts two indicators of severity -- number of deaths and age of victims -- as independent variables to test this relationship with neutrality of nonverbal frames displayed. Since events involving younger victims are perceived as more severe (Rogers & Davies, 2007), this leads the researcher to hypothesize:

**H1: The younger the age group of the victims in the event, the less neutral the nonverbal behavior of broadcast journalists will be immediately following the crisis.**

Also, the more people who die in an event, the more severe the case is perceived (Xu & Li, 2012). Therefore, the researcher hypothesizes:

**H2: The more deaths from the event, the less neutral the nonverbal behavior of broadcast journalists will be immediately following the crisis.**

**Proximity.** Proximity to an event is also an important factor in psychological reaction to crisis. Previous studies define proximity by three factors: physical distance, emotional distance (or the feeling of being closely related to the communities experiencing the crisis), and chronemic distance (or time from start of event)(Huang et al., 2015). Proximity in these three forms is a potentially important influence on individuals’ responses to crises, according to literature on crisis context.

The impact of a crisis is consistent with the function of the interaction of proximity to the crisis event, the unique reaction of the individual or system, the interaction of primary and secondary relationships, and the degree of change, all of which are moderated by time. (Myer & Morre, 2006, p. 144)
Generally speaking, the more proximal that individuals are to a crisis, the more likely individuals are to seek information about, have emotional reactions to, and be affected by the crisis (Huang et al., 2015). Proximity is also a factor in risk assessment; the closer someone is physically, timewise, or emotionally to the event, the more likely they are to consider the event to be personally risky. In one study, researchers found “proximity affected people’s levels of uncertainty, dread, and support” of policies to prevent future crises (Heath, Seshadri, & Lee, 2009, p. 35). Another study found physical distance from a threat during active shooter crises also affects the person’s perception of message credibility (Egnoto, Griffin, Svetieva, & Winslow, 2016), which could affect the ways journalists close to the scene take in and then deliver information about the active crisis. Communication strategies also change depending on proximity, with people closer to the event being more willing to share and seek information (Huang et al., 2015). Berger and Luckmann (1966) suggest that the more “real” a subject becomes, the more the speaker will participate in a “continuous reciprocity of expressive acts,” mirroring the subject’s reactions; the researchers suggest this is known as showing “subjectivity emphatically ‘close’” (p. 43) to that of those the speaker encounters. Therefore, as a reporter gets closer both physically and emotionally to those experiencing trauma, their expressions and subjectivity biased towards the victims’ experience will likely be affected as well. As individuals get closer to the crisis event, whether physically, socially, or chronemically, they may lose the ability to control their nonverbal behaviors as they become overwhelming, leading to ‘emotional leakage’ in displays (Ekman & Friesen, 1969).

In terms of physical distance, crisis scholars suggest that the closer physically a person is to the crisis stimuli, the more likely it will affect them psychologically (Huang et al., 2015). As
they become more affected by the stimuli, BET suggests the individual will be less likely to control emotional displays. Therefore, the researcher hypothesizes:

**H3: The closer a journalist is physically to the location of the crisis scene, the less neutral their nonverbal behavior will be immediately following the crisis.**

In terms of emotional proximity, researchers suggest that the more personally involved a person is to the event and the community being affected, the more likely they will be to experience psychological reactions to the trauma (Berger & Luckman, 1966; Zimmerman, 2014). Since BET suggests that nonverbal behaviors are the result of psychological reactions to stimuli (Ekman, 1984, 1999), the more personally proxemic an event is to the broadcaster, the more likely the broadcaster will be unable to control their nonverbal behavior, leading to emotional leakage of nonneutral nonverbal behaviors (Ekman & Friesen, 1969). Journalism researchers have found that local journalists, who have worked continuously in a community that is undergoing crisis, will experience more emotional effects of covering crisis in their home areas compared to national correspondents who are unfamiliar with the area and its population (Zimmerman, 2014; Deavours, 2020e). Yet, like severity, there has been little research done specifically on the nonverbal behavior of journalists who are more or less proximal to the crisis event. Therefore, the researcher hypothesizes:

**H4: Local journalists will be less neutral in their nonverbal behaviors than national journalists immediately following the crisis.**

In terms of chronemic proximity, though, crisis researchers suggest the relationship between how far away timewise a crisis worker is from an event and their emotional reaction to the event is not linear. Immediately following an event, a crisis worker will be able to perform routine tasks necessary for work, often called ‘triaging.’ Yet, as the situation progresses, the
crisis worker will become overwhelmed with tragedy around them and begin to experience symptoms of vicarious traumatization, such as “emotional leakage” of nonverbal behavior. As the worker is able to maintain more control over those emotions and symptoms of vicarious traumatization, they will be more likely to return to normal work patterns (Duckworth, 1991; Pyevich, Newman, & Daleiden, 2003; Phipps & Byrne, 2003; Collins & Long, 2003). Graber’s (2002) stages of crisis coverage theory also suggests the emotional impact of the events would vary as a function of time passed where vicarious traumatization would be delayed as journalists in the first hours of coverage work to find information and do their jobs; yet, by the second stage, the journalists would become strongly affected by the emotional toll of the event, causing more emotional leakage. By the third stage, the furthest time proximity from the event, the journalist would collect themselves and continue reporting according to their typical (and typified) practice. This inverted U effect of chronemic proximity to crisis has been studied in many areas, including journalism (Coleman & Wu, 2006; Graber, 2002) and provides an outline to the psychological reactions of workers in crisis. Therefore, the researcher hypothesizes:

**H5: The nonverbal behavior of journalists will follow an inverted U pattern, where reports at the beginning and end of the event will present more neutral nonverbal behaviors than the middle of the event.**

**Individual demographics.** Demographic characteristics of the individual broadcast journalists could also influence their likelihood of reacting to stimuli in an expressive way. For decades, nonverbal scholars have explored the effects of gender and race as demographic factors on nonverbal behavior.

**Gender.** Nonverbal communication research suggests the gender of the speaker affects expressiveness of their nonverbal behavior. Meta-analysis has shown a strong tendency for
females to be more facially expressive than males (Hall, 1984), but other research has shown these findings to be inconclusive (Hall, Carter, Horgan, 2000).

In their studies on nonverbal behavior of journalists in crisis coverage, Coleman and Wu (2006) and Deavours (2020b; 2020c; 2020d) studied the influence that gender has on neutrality of nonverbal expression while reporting. The studies found that while female broadcasters were more likely to have slightly higher neutrality scores than male journalists, the results were not statistically significant. However, in Deavours’ (2020c) study of Parkland coverage, she found that when examined by stage of coverage, gender was significant, with female broadcasters’ nonverbal behaviors the least neutral in the first stage and most neutral in the third, while male broadcasters were the most neutral in the first stage and least neutral in the third stage. This finding suggests further investigation of this factor is needed. While these findings in recent journalism studies suggest gender may not have a main effect, the breadth of nonverbal research finding significant differences in gender begs further investigation in this study. Therefore, the researcher hypothesizes:

\[ \text{H6: Female journalists will be less neutral in their nonverbal behaviors than male journalists immediately following the crisis.} \]

\[ \text{Race. Racial differences in expressivity have also been studied with inconclusive results. Matsumoto’s (1993) survey of the four most prevalent racial and ethnic groups in America found considerable differences in display rules, and emotional expressions as a function of ethnicity; the findings suggest that overall, whites were more likely to consider the expression of negatively valenced emotions, such as contempt, disgust, fear, and sadness, as more appropriate} \]

\[ \text{1 It is not implied here that nonverbal reactions by gender or race are due to any innate, biological characteristics. Rather, gender and race are conceptualized as constructions, though these constructions are experienced at the individual level of the journalist.} \]
than Asians, Black, and Hispanics. Overall, whites were more likely to express themselves with negative expressions than minorities, and Black participants were the least likely to express themselves through negative emotions. Similar results were found by Vrana and Rollock (2010), whose study suggests Black students exhibited more positive facial expressions, while Whites were more negatively expressive; interestingly, the study also suggested Blacks were more autonomic in their emotional reactions, which they said suggested racial differences between Black and white nonverbal expressions and in ability to control or conceal expressions as a reaction to stimuli. Additionally, researchers found that Asian populations are less likely to display emotional expressivity compared to whites, as a coping mechanism to stress and trauma reactions since emotionality is less aligned with Asian cultural values (Wang & Lau, 2018). This again suggests racial and ethnic differences in socioemotional processes.

There has not been enough research in these areas specific to broadcasters’ nonverbal behavior. Broadcast newsrooms are dominated by white journalists with minorities comprising only a quarter of staffers (RTDNA, 2018), so most journalistic norms are based on predominantly white newsrooms, although there is hope for continued diversification of the industry. In three pilot studies on the impact of race of reporter on overall neutrality of the report, Deavours (2020b; 2020c; 2020d) found that race was not a statistically significant factor in nonverbal variability during crisis coverage of school shootings. However, the established nonverbal scholarship suggests the potential for variability by race. Therefore, the researcher hypothesizes:

**H7: Nonverbal behavior will vary significantly based on the race of the journalist.**

_**Social-level influences on journalists’ work: Typifications**_

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2 See footnote 1
The behavioral ecology view of facial displays (BECV) suggests nonverbal behaviors are not merely hard-wired, personal reactions to events that are universal and uncontrollable; there are also larger social structures and dynamics that constrain, channel, and enable an individual’s nonverbal behavior. BECV scholars suggest that as the functions and expectations of social situations become more clear and routinized, the nonverbal behavior may occur without conscious thought about the social and situational influences (Fridlund, 2002; 2017; Patterson, 2019). BECV suggests nonverbal behaviors may follow a routinization pattern, where the outcomes of practice and behavior become almost taken-for-granted because they are the best tools for a particular circumstance, and they become ingrained and ritualized into social practice that they practically become the “natural” way to react, even unconsciously. Typifications of journalistic work are similar in their ability to become ritualized and taken-for-granted behaviors.

In the sociology of work, occupations and organizations, these structured ways of conceiving of and doing work are called typifications. Berkowitz (1992) describes typifications as the “classifications in which relevant characteristics are central to the solution of practice tasks or problems at hand and are constituted in and grounded in everyday activity” (p.178). Typifications are ways that actors orient themselves to action in their situations. Typification “involves disregarding those individual differences of the typified objects that are not relevant to such a purpose” (McKinney, 1969, p. 1). Typifications keep journalists from having to report on every event as if it were completely unprecedented, which would require a journalist to invent new coverage strategies and practices every time something occurred. This would be cumbersome and inefficient as a work practice. Instead, typifications reduce uncertainty for both journalists and audiences, increase predictability, make work more manageable. They also tend to support the status quo (Tuchman, 1973). Examples of typifications across crisis journalism
include role performance, thematic and episodic framing, topics of coverage, and types of sourcing; this research will examine the variability of nonverbal behavior of journalists across these professional typifications in order to better understand the potential influence of sociological patterns of nonverbal communication suggested by BECV.

**Role performance.** Many media sociologists have explored the influence that the typifications of journalistic roles have on adherence to norms during crisis. Roles are sets of expectations that classify the behaviors of people in certain positions in society (Drew, 1972). Roles are typifications of expected behavior that are shaped at the macro- or meso-level of influence, but adopted at the routine and individual levels (Shoemaker & Reese, 2014; Hellmueller & Mellado, 2015). Researchers suggest the ways journalists think about their roles, called role conceptions, will shape the ways in which their stories are produced, as well as shape the final product (Hellmueller & Mellado, 2015). Conforming to these professional roles is important because it can affect journalists’ credibility (Waisbord, 2013). As individuals adapt to new roles, they will model their behaviors to conform to the roles. However, research shows that what role journalists believe they are performing is not always congruent with the roles they actually perform when reporting (Mellado & Van Dalen, 2013). Therefore, it is important to study how the role is being enacted, called role performance, in terms of nonverbal behavior.

Roles are assessed here through role performance, or the role the viewer is interpreting as being performed linguistically based on the role definitions, rather than on the journalists’ own role conceptions, which require interviews. Previous scholars have used this concept of role performance in other content analyses and quantitative study of journalistic practice (e.g. Weaver, Willnat, & Wilhot, 2019; Hellmueller & Mellado, 2015; Mellado & Van Dalen, 2013).
Weaver, Willnat, and Wilhoit (2019) describe four types of roles for journalists – disseminator, interpreter, adversarial, and populist-mobilizer. Each role has different norms for how it is to be performed or enacted in routine practice. A journalist adopting a disseminator role emphasizes the fast relay of information to the public without commentary; neutrality is critically important in this role (Reynolds & Barnett, 2003; Weaver, Willnat, & Wilhoit, 2019).

For interpretive journalists, the focus is analyzing the complexity of the issue, addressing policies, and investigating official claims (Weaver & Wilhoit, 1991). It moves beyond the dissemination role to add commentary and interpretation. There may be more acceptance for non-neutrality in this role as journalists are more apt to share their experience as resources and eyewitnesses in this role (Weaver, Willnat, & Wilhoit, 2019).

The adversarial role places the media as watchdog to business or officials, offering alternative viewpoints (Weaver & Wilhoit, 1991); research suggests this role is not as strong during crisis since there is an increased level in trust in officials during crisis (Graber, 2002). However, media could act as a watchdog for the government, protecting the country from outside influences, such as terrorists, enemy countries, or laws/policies that contribute to hurting the nation (Weaver & Wilhoit, 1991). This is considered the least neutral role because journalists are taking an active stance for and against entities (Reynolds & Barnett, 2003).

The populist-mobilizer role of media lets everyday people express their views, develops intellectual and cultural interests, motivates people to get involved, and points to possible solutions (Weaver, Willnat, & Wilhoit, 2019). This role allows for more subjectivity, meaning there would be more acceptability for expressions of non-neutrality while enacting this role.

The concept of role performance is important to crisis coverage because it could suggest why the adherence to the norm fluctuates within the event coverage itself. BECV suggests that
people change their nonverbal cues to reflect social norms or expectations of behavior, a transactional behavior rather than an uncontrollable one (Fridlund, 2002; 2017). Therefore, if a journalist is performing a role with an emphasis on, for example, being adversarial and taking sides, compared to a journalist who is being detached and facts-based (disseminator role), it would be expected that journalists’ nonverbal neutrality would reflect the varied ways neutrality or non-neutrality are expressed through these professional roles. In their national survey of U.S. journalists, Weaver, Willnat, and Wilhoit (2019) find the most neutral role is disseminator, followed by populist-mobilizer, interpretative, and adversarial as the least neutral role. Therefore, the researcher hypothesizes:

**H8:** There will be a significant difference between the neutrality of journalists’ behavior performing different roles.

**H8a:** Broadcasters performing the disseminator role will be the most neutral nonverbally.

**H8b:** Broadcasters performing the adversarial role will be the least neutral nonverbally.

**Thematic/episodic frames.** Journalists rely on routine typifications of news frames as a way to make the unpredictable more manageable, turning even unique crisis events into the standard typifications of “what-a-story” or breaking/developing news coverage (Berkowitz, 1992). Iyengar (1991) outlines two of the more significant typified frames in news coverage: the episodic and thematic frames. Episodic frames are those that focus solely on one example, event, or individual (e.g. the facts of a particular school shooting). Thematic frames place the issues in a broader issue context (e.g. coverage of proliferation of U.S. school shootings, gun control regulation, etc.).
Studies show journalists tend to cover crises episodically, focusing on the event and individuals rather than larger social or public issues (Iyengar & Simon, 1993). Previous studies suggest episodic framing tends to be more cognitively driven, focused on facts and information. Thematic framing tends to be more affectively focused, creating more emotion-laden conversations around the event’s broader issues (Gross, 2008; Gross & D’Ambrosio, 2004). Even crisis events begin to use thematic framing early on in coverage, especially as similar events occur more frequently, and thematic coverage allows journalists to tie together patterns from the same kind of “what-a-story” events (McCluskey, 2016). Neutrality norms in journalism suggest that when providing facts about an event, a journalist would be expected to present that information in a nonbiased way, but interpretative or more emotionally driven content may encourage less neutral presentations (Cho et al., 2003; Graber, 2002; Coleman & Wu, 2006). Since BECV suggests that communicators would work to match their nonverbal behavior to the expectations of the message and receiver (Fridlund, 2002; 2017), this would suggest that episodic frames would lead to more neutral nonverbal presentations, while thematic frames would allow for more nonneutral nonverbal presentations. Therefore, the researcher hypothesizes:

**H9: Journalists framing information episodically will be more neutral nonverbally than journalists framing information thematically.**

**Topic.** While thematic and episodic frames help to categorize the general content of crisis coverage, these frames can be broken down into typified topics of coverage as well. Nonverbal behavior researchers suggest nonverbal communication expectations can change based on topic, which people are socialized to, even in early childhood (Picard, Brechet, & Baldy, 2007; Grebelsky-Lichtman, 2014). For example, if the socially learned nature of the topic is sad, the
nonverbal expectation would match that topic’s tone, like a frown; a violation of that topic match could result in communication incongruence, where the linguistic and nonverbal communication are not mutually enhancing, like smiling gleefully at a funeral. This suggests journalists may change their nonverbal communication encoding by topic as well, working to meet the expected styles and goals of addressing socially learned topic types through nonverbal frames.

Tuchman (1973) says variability in practice and uncertainty and complexity of events in the journalists’ world impede routinization of work, so journalists create typifications of stories to decrease that uncertainty. Because these categories of story type are so routinized and taken for granted for journalists and audiences, they can be difficult to identify and describe. However, researchers can tease out primary topics by reviewing other crisis journalism studies. In examining common topics from previous studies of school shootings (e.g. McCluskey, 2016; Porfiri et al., 2019; Silva & Capellan, 2017), this research utilizes four primary topic categories for school shooting coverage: 1) facts about the event, the shooter, the guns used, the scene and its investigation, and the conditions of victims; 2) policy issues, including gun laws, mental health regulation, and school safety measures; 3) reactions from the local community, the nation, and politicians; and 4) first-hand accounts from witnesses and survivors of the event. Little work has been done to identify the inherent neutrality of these topics, making a true hypothesis about the changing nonverbal neutrality by topic difficult. Instead, the researcher will examine this typification with a more exploratory research question:

**RQ1:** How do the topics of coverage affect the neutrality of nonverbal behavior of the broadcast journalist immediately following the crisis?

**Sourcing.** News sources are also a major influence on journalistic routines. ‘Source’ in this context means the person or organization that is providing information from which the
reporter is gathering material for a story. News is often defined as information provided by sources, typically officials of bureaucratic commercial organizations and professions, and is repackaged for general audiences by journalists (Gans, 1979). Speakers often attempt to present themselves differently based on who they are speaking to or about (DePaulo, 1992). As mentioned earlier, sociologists Berger and Luckmann (1966) suggest that subjects become more real face-to-face, making the “interchange of my expressivity and his more real when one can see and interact with the other; in addition, as the recipient of communication alters their expressiveness, the speaker will work to match that as well” (pp. 43-44). This speaks to the self-presentation goals of BECV from a sociological perspective. This could potentially mean that as sourcing changes in crisis communication, so will the nonverbal behavior of journalists to align with those speakers and the self-presentation expectations of that source type.

Previous research shows the sourcing decisions of journalists have the ability to influence frames or presentations of news content (Fisher, 2018), and journalists may follow the source’s lead in framing news content (Boesman, Berbers, d’Haenens, & Van Gorp, 2015). There is also a typification of sourcing, where journalists most often utilize ‘legitimate’ or official sources that support the status quo (Skovsgaard et al., 2013). There are other regularly used types of sources, such as experts, members of the affected community, victims of similar events, and even other media outlets or themselves as first-person witnesses. It is important to note, though, that journalists are also less likely to properly source information during crises, struggling to confirm certain details in the hectic environment and therefore, not sourcing anyone at all (Graber, 2002). While common types of sources in school shooting coverage have been identified by journalism scholars (McCluskey, 2016; Cho et al., 2003; Silva & Capellen, 2017), the relative expectations
of those sources and journalistic neutrality need more exploration. Therefore, the researcher asks a more exploratory research question:

**RQ2: How does the type of source the broadcast journalist is citing affect the neutrality of nonverbal behavior of the broadcast journalist immediately following the crisis?**

*Graber’s stages of crisis coverage theory*

Graber’s stages of crisis coverage theory provides a unique lens through which to examine BET and BECV influences on nonverbal behavior of journalists in more detailed ways. Both Graber (2002) and Coleman and Wu (2006) discuss vicarious traumatization and psychological reactions to emotional stimuli as a possible explanation for a variability in neutrality across crisis coverage. Also, BET would suggest those individual-level psychological reactions would be patterned across the events and broadcasters, a universal reaction to the same patterns of crisis. In addition, Shoemaker and Reese (2014)’s hierarchy of influences suggest individual-level influences would be shaped by social-level typifications, making the stages of coverage as a typification factor important to study across independent variables. Additionally, Shoemaker and Reese (2014) would suggest it is less common for a social-level factor to influence another social-level factor, so only analysis of individual-level factors across the three stages of coverage will be conducted. Therefore, the following research question is asked.

**RQ3: What interaction effects are there between individual-level influences and the three stages of crisis on the nonverbal neutrality of broadcasters?**

After analyzing the influence of these variables on nonverbal behavior of broadcasters, the researcher aims to provide a more comprehensive overview of patterns that emerge to help
predict the variability of the nonverbal frames utilized by broadcasters during crisis coverage. Therefore, the researcher asks a summary exploratory question:

**RQ4: Which factors among the individual and social level best predict variability of the neutrality of nonverbal behavior of broadcast journalists?**

By analyzing these areas, a goal is to extend current understandings of basic emotions theory and behavioral ecology view in the context of journalistic practice, as well as understandings of the potential underlying influences within the stages of crisis coverage theory. Each of these hypotheses and research questions will be measured through the NNS in order to understand the dimension of nonverbal neutrality, as well as JF in order to understand the dimension of emotional valence of nonverbal reactions to the events. Findings should shed light on the normative behavior of journalists’ nonverbal neutrality during crisis coverage, as well as theory about this behavior.

The next chapter will address the methodology used in addressing hypotheses and research questions.
CHAPTER 3.

METHODOLOGY

This section outlines content analysis as the choice of method, the sampling process, descriptions of the six case studies, explains the seven-step coding process, and explains the measurement of the study’s variables.

Content analysis is a methodology that researchers use to determine the presence, meaning and relationships among key concepts, words, images, structures or themes in a source. The tool allows scholars to make inferences about the texts, sources, audiences or surrounding culture, social structures, and time period of the source. There are differing definitions of content analysis, but here, the research utilizes a systematic quantitative approach. Berelson (1952) defines content analysis as a “research technique for the objective, systematic, and quantitative description of the manifest content of communication” (p. 18). Content analysis is an appropriate method to investigate nonverbal behavior of broadcast journalists during crisis coverage as it allows for examination of large volumes of real-world news content in a nonreactive and unobtrusive way (Holsti, 1969). Content analysis is particularly helpful for investigations when the subject’s own language is crucial (Neuendorf, 2002), which is the case with the nonverbal communication of journalists.

This study uses the seven-step method of content analysis outlined by Kaid and Wadsworth (1989). The first step involves formulating hypotheses and research questions a priori, based on theoretical foundations and concepts. The second step is sample selection, preferably with random, representative, and large samples. The third step is defining categories of analysis, and the fourth step is outlining the coding process through coder training. The fifth
step is to implement the coding process, while the sixth step is determining the reliability and validity of the results. The final, seventh step is analyzing the results of the coding process. This chapter outlines how the seven-step method was utilized in the context of this study. The previous chapter proposes research questions and hypotheses, and outlines the literature upon which these are based, as the first step in the process. The sampling method is described below.

**Sampling**

The first sampling determination is to decide what to analyze. The researcher has chosen school shootings as the context of this story for three main reasons. First, coverage of school shootings holds an important place in journalism history as some of the highest rated live broadcasts of crises in America (Althaus, 2002). Second, school shootings are highly emotional due to large death tolls of innocent and typically young victims, making these cases a good way to study the potential impact individual emotional reactions can have on nonverbal behavior of journalists. Third, given recent proliferation and extensive coverage of school shootings, there is evidence of routinization of coverage of these events, making them a good case study for influence of typifications (McCluskey, 2016).

**Case studies**

This study draws samples from six case studies of school shooting coverage. For this study, the six deadliest shootings in United States history since 1999 were chosen, as severity and timeline of events are important concepts in the study. 1999 was chosen as the beginning point, in part because of Columbine’s historical significance in the proliferation of school shootings in America, but also because of technological considerations of having 24/7 coverage of a crisis available on national broadcasts. While the University of Texas tower shooting, which happened in 1966, remains the third deadliest school shooting in American history, it was not
included because the television broadcast coverage of the event was not similar enough to the live, uninterrupted coverage of those that occurred after 1999. Each of the six cases are briefly described below.

**Columbine High School.** The shootings at Columbine High School took place on April 20, 1999 in Columbine, Colorado. Two twelfth grade students, 18- and 17-years-old, shot 12 students and one teacher; 21 additional people were injured by gunshots, and three were hurt trying to escape the event. Both shooters committed suicide on scene. At the time, it was the deadliest school shooting in American history, and at the time of this writing, it is the fifth deadliest school shooting in the U.S.

Columbine also has significance in journalism history. It was one of the first school shootings to be covered live on broadcast television networks for continuous periods, setting the stage for how networks would cover school shootings in the future (Cullen, 2009). Experts also suggest that the coverage of Columbine inspired large fandoms supporting and even idolizing the Columbine shooters, and officials suggest many copycat shootings have spawned because of this event (Rico, 2015), making this an important case to study for school shooting coverage. As one of the first crises covered continuously by national broadcasts in America (Cullen, 2009), Columbine also serves as a truly unique coverage experience for most journalists who covered it, which makes it an interesting case to analyze within the larger timeline of school shootings.

**Virginia Tech.** The shootings at Virginia Polytechnic Institute and State University (Virginia Tech) took place on April 16, 2007. A senior at the college, then 23-years-old, shot and killed 32 people on the campus; 17 others were injured by gunshots, and six were injured trying to escape the shooter. The shooter shot himself after police stormed the building in which he had barricaded himself and the victims. Virginia Tech is the deadliest school shooting in the history
of the United States at the time of this writing. As well as being the most severe in terms of
deaths, the coverage of Virginia Tech drew international attention and widespread criticism.
Media debates about mental health, gun control, responsibility of schools to protect students, and
journalism ethics were ubiquitous in the coverage, and after television news organizations aired
portions of the killer’s manifesto, many debated the media’s role in covering school shootings
(Maddox, 2007; APA, 2007). Due to its severity and its part in sparking media debates on gun
control, mental health, and journalism ethics during the coverage of the events, Virginia Tech is
also an important case to study the normative nonverbal behavior of journalists.

**Sandy Hook Elementary School.** The Sandy Hook Elementary School shooting
occurred on December 14, 2012, in Newtown, Connecticut. A 20-year-old man shot and killed
26 people and injured two others. This included 20 children between the ages of six and seven,
and six adult staff members. Prior to being driven to the school, the shooter also killed his
mother at their home. The shooter committed suicide as police arrived on the scene. The
shooting remains the deadliest mass shooting at a primary or secondary school in America, and it
is the second deadliest school shooting in the U.S. at the time of this writing. The event prompted
national petitions for gun control legislation, a heavily debated topic in the national coverage of
the shooting. In addition, the State Attorney’s report suggested that the shooter had Asperger’s
Syndrome, but stated the diagnosis “neither caused nor led to his murderous acts” (HSDL, 2013),
prompting numerous discussions in the media about the connection between mental health and
violence. No motive was ever determined by officials, but media speculation about the shooter’s
obsession with Columbine and Virginia Tech led many to question to the role of media in school
shootings (BBC, 2013). Because of the severity of the event targeting primary school aged
children and the renewed debate of media’s role in covering school shootings, Sandy Hook is another important case to study journalists’ nonverbal behavior during school shooting coverage.

**Umpqua Community College.** The Umpqua Community College shooting occurred on October 1, 2015, at the UCC campus near Roseburg, Oregon. A 26-year-old student enrolled at the college shot a professor and eight students in a classroom, injuring eight others. Officers engaged in a shootout with the perpetrator before he committed suicide. Investigators suggest that the case was almost classified as a religious hate crime because the shooter asked students their religion before shooting them, but officials said they could not find enough evidence for a religion-based motive to classify the event as such (ADL, 2015); media coverage focused on the religious aspects of the case, as well as college preparedness plans to protect students. The event is the seventh deadliest shooting in American history, and the third deadliest on a college campus after the University of Texas tower shootings. Because of its severity in deaths and the ability to contrast the age of victims at Umpqua to collegiate-aged victims at Virginia Tech, the Umpqua shooting coverage is included as a case study for analysis.

**Marjory Stoneman Douglas High School.** The shooting at Marjory Stoneman Douglas High School in Parkland, Florida took place on February 14, 2018. Just as the media did in its coverage of this event, this study used the shorthand of “Parkland” to refer to the shootings at Marjory Stoneman Douglas High School. The shooter shot and killed 17 people and injured 17 others. The shooter was a 19-year-old former student of the school who had been transferred to an alternative placement school after making threats against students in 2017 (Cullen, 2019). After leaving the scene on foot as students ran from the school, the shooter was arrested without incident an hour later. He has been charged with 17 counts of premeditated murder and 17 counts of attempted murder. He is expected to plead guilty in exchange for a life sentence, if the death
penalty is taken off the table (Switalski, 2019). The Parkland shootings are significant in the history of American school shootings for many reasons. First, there were many concerns about how law enforcement handled the incident prior to and after the shooting. Specifically, the media focused on ways law enforcement, including the FBI, needed to work on being able to spot potential threats online since the sheriff’s office and FBI tip line had received information about the shooter making death threats as far back as 2016 without response. The FBI also knew that a YouTube user with a similar username to the shooter posted a message in September 2017 about becoming a school shooter, but the agency says they could not identify the user to investigate (Goldman & Mazzei, 2018). The local sheriff’s department also came under heavy criticism for their response to the shooting, including why a school resource officer never entered the school despite being on campus and aware of the incident (Blinder & Mazzei, 2018). Second, Parkland survivors, primarily young students, founded Never Again MSD, an advocacy group that lobbies for legislative action on gun violence. The Never Again movement has sparked international attention and led to legislation for stricter gun laws in Florida (Cullen, 2019). Third, the media attention given to Parkland was arguably among the largest coverage a single school shooting has received, partly because of the desire of victims to utilize media for gun control advocacy platforms (Cullen, 2019). In addition, the Parkland shooting is the deadliest high school shooting in the United States, and it is the fourth deadliest school shooting in American history at the time of this writing. Because of the severity in terms of the number of victims, amount of media coverage received, and intensified media focus on gun control policy, the Parkland shooting is an important case study for nonverbal behavior of broadcast journalists during crisis coverage.

**Sante Fe High School.** The shooting at Sante Fe High School occurred on May 18, 2018 in Santa Fe, Texas. A 17-year old student at the school shot and killed ten people, including eight
students and two teachers, and wounded 13 others. After a standoff with police at the scene, the shooter surrendered to officers after being injured. He is charged with capital murder of multiple persons and aggravated assault against public servant. He was found to be unfit to stand trial for mental incompetence, and he has been in a hospital since November 2019; if convicted, he faces a sentence of 40 years to life (Levenson, 2018). The shooter’s mental health and social media profiles suggesting violence were widely discussed by the media in the aftermath of the shooting. However, compared to the Parkland shooting just three months prior to Sante Fe, the media coverage was not as prominent primarily because residents of Sante Fe largely declined to participate in media coverage and did not support gun control actions (Deutch, 2019). Because of its severity, ability to contrast with other high school shootings, and lesser media reaction after the event, the Sante Fe shootings provide a unique lens through which to examine the variability of broadcast journalists’ nonverbal behavior during crisis coverage.

**Sampling and units of analysis**

Once the six case studies were selected, a sample was drawn from digital archive clips of the first 24-hours of coverage of these events from six national networks- ABC, CBS, NBC, MSNBC, CNN, and FOX News. These media outlets were chosen since they are the six highest rated televised broadcast news networks for these events. In addition, national broadcasters are the ‘gold standard’ for the news profession, and their presentation styles are most likely to be influential and modeled by local journalists, which encourages profession-wide typification patterns. For Columbine and Sandy Hook, the researcher collected archival clips for the first 24 hours of their coverage from various sources, including the networks directly, archival sites like Vanderbilt TV News Archive, and archivists willing to share their files. Complete televised coverage for these events have yet to be reliably archived on digital libraries for public use,
making it necessary to use different collection methods for these cases compared to the last four. In addition, very little local broadcast coverage is accessible for researchers, again reinforcing the need to sample only national broadcast networks for this study. For Sandy Hook, Umpqua, Parkland, and Sante Fe, the archival footage was gathered and viewed from the website Internet Archive (2020), a digital library service for news clips and other historical material from 2009 to today. For each of the six case studies, a search was conducted for the school shooting’s name (“Sandy Hook,” “Umpqua,” “Parkland,” and “Sante Fe”); the date range was the day of the shooting and the day after.

Only clips from the time the FBI recorded the first report to police of a shooting through 24-hours the next day were be included in the sample; for instance, the Parkland shooting began in the 7 a.m. hour (Eastern), so only clips from February 14, 2018 at 7 a.m. Eastern to February 15, 2018 at 7 a.m. Eastern were included. Similar search protocols were set for the other four case studies as well to collect the digital footage from the archival site. Only the first 24-hours of coverage were included because of Graber’s (2002) stages of crisis coverage theory’s focus on the short term reactions of journalists after a crisis, as well as evidence that as more time after exposure to traumatic stimuli passes, the effects of individual level influences will wane (Huang et al., 2015) This time period was utilized by Coleman and Wu’s (2006), Li, Lindsay, and Mogensen’s (2002) analyses of 9/11 coverage, as well as Deavours’ (2020b; 2020c; 2020d) pilot studies of school shooting coverage.

The sample unit was defined as a 15-minute digital clip from the network coverage. Because Nielsen network ratings are typically reported in 15-minute increments, this unit has been chosen as being reflective of a newscasts’ planning structure. 15-minute increments start at the top of the hour when a traditional broadcast news show would begin. This generates four
possible sample units each hour and 96 total for the 24-hour period per network. Since the sample included six networks, there are a total of 576 sample units in the population for each event. There are six case studies or school shooting events, meaning the total population for this study is 3,456 sample units.

From the total population of sample units, a stratified random sample was drawn so that an equal number of sample clips from each of the six case studies were chosen, as well as equal distribution of networks and time periods. Since there are four possible sample units per network per hour, the researcher randomly selected one sample unit from each network every two hours. Two hours was chosen as a way to restrict the dataset, making analysis manageable, without losing analysis across time periods and stages. This provided a total of 12 sample units per network for each event. Multiplied by six networks, this provided 72 sample units per event, and with six case study events, this generates 432 sample units. Having a stratified random sample that equally represents each of the six case studies and the hours of the event is considered a best practice to obtain probability samples (Lacy et al., 2015), as well as to allow for greater validity and generalizability of results (Krippendorff, 2004).

However, archiving issues and coverage patterns did not allow the researcher to collect all 432 sample units. Columbine had 52 sample units, primarily due to a lack of available digital archives; Virginia Tech had 33 sample units for the same reasons. Sandy Hook had 59 sample units, and the missing sample units were primarily because the networks did not cover the event continuously or even have break-ins to regular programming for all sampling periods. The same was true for Umpqua, which had 62 sample units; Parkland, which had 67 sample units; and Santa Fe, which had 52 sample units. Santa Fe was notably lower than other post-2012 events because it coincided with coverage of the royal wedding of Prince Harry and Meghan Markle, an
event that caused many networks to send their staffs overseas and scramble to cover the shooting back at home. The total number of sample units then was 325 across all six events. Despite this limitation in varied sample units across events, this stratified random sample was seen as more representative of the actual population than other sampling methods.

Once the sample units were obtained, the sample units were coded for the units of analysis. The unit of analysis for this study is any news clip in which the broadcaster was fully visible, meaning the coder was able to see at least the journalist’s mouth, two eyebrows, and upper body, since these are key body parts involved in coding nonverbal expressions. The clip of the broadcaster was included for analysis as meeting the analysis criteria if there is no break in action— that is, it does not contain editing cuts such as going to video or another reporter/source; all clips were also at least four-seconds long to help the coders have context of the nonverbal cue (Gianetti, 1982; Van Leeuwen & Jewitt, 2001). Both live and taped elements were included. These same criteria for the units of analysis were used by Coleman and Wu’s 2006 study as well.

In total, the 325 sample units produced 3,178 units of analysis for the final sample. Columbine had 311 units of analysis, Virginia Tech had 246, Sandy Hook had 833, Umpqua had 664, Parkland had 819, and Santa Fe had 299. In addition to the difference created by having different sample units available, there were differences in coverage patterns that created variation in the number of units of analysis. For instance, earlier events like Columbine and Virginia Tech often showed the same images over and over instead of going live to broadcasters; this could be due to a lack of or the time necessary to get satellite/live trucks to the area. The same was true for Umpqua, where broadcasters talked about the difficulties in getting crews to the rural, isolated scene, making appearances by broadcasters more difficult.
A power analysis run through G*Power suggests a total sample size of 227 units is sufficient for the multiple regression with 11 total predictors at a .9 Power. This suggests the final sample is well above the recommended sample to have sufficient power. A second power analysis was run through G*Power for an ANOVA for the IV with the largest number of groups (source with 6 groups), at .95 power, which suggested a needed total sample size of 102. This again affirms the sample size is more than sufficient.

It is important to note that while some content analyses utilize the same unit for both sampling and analysis, separate sample units and units of analysis are often when the researcher cannot know how many of the units they want to examine will be present in the sample. In this study, it would be impossible to know how many clips of a broadcaster there would be before viewing the 15 minute clips of the newscasts in order to reliably find all broadcaster clips since the archival system posts by newscasts rather than individual clips. Therefore, it was necessary to have the sample unit as a 15-minute increment of a newscast during the 24-hour period, while the actual analysis unit was the broadcaster clip. This does mean that while the sampling units were equally distributed through a stratified random sample, the units of analysis could never have been equal across cases, even if all sample units for each case had been represented. While this can potentially limit the generalization of findings and affect results, it is still representative of the available population. The limitations are discussed both within the statistical assumptions of each test.

Coding categories

The third step for content analysis is defining categories. This study utilized manual coding since the categories for examination involve subjective decision making that would be difficult if not impossible to program for a computer analysis. Given the various levels of
analysis and complexity of operationalizations that would make it difficult to generate a computer syntax codebook, manual coding was considered to be the best option for this study’s aims. This study identified three coders to use in the process. Two of the coders are independent of the writing of this project, while the third is the author.

The coding process, during both the intercoder phase and final sample phase, was done in two parts. First, coders independently coded the units of analysis for the six nonverbal dimensions as positive, negative, and neutral, according to nonverbal definitions (see below) without the sound on. Previous research suggests linguistic communication can interfere with the accuracy of coding nonverbal behavior (Burns & Beier, 1973; Coleman & Wu, 2006), so having the coders complete this section of analysis without being able to hear what the reporter is saying is important. After the six nonverbal dimensions were coded, the coders independently watched the same unit of analysis with the sound on in order to obtain accurate coding about all other categories, using both linguistic, visual, and nonverbal communication from the clip to inform their decisions. However, once the codes were submitted for the nonverbal behavior, coders could not change their responses once they turned on the sound. Coders were allowed to pause the video or rewind the clips to consider their responses further in an effort to reduce confusion and encourage thoughtful coding responses. This process continued for all units of analysis.

The researcher generated a codebook that was used during the training and coding process. The categories for each variable are defined in the codebook, and examples of each category were given during training and often replicated in the codebook. A general outline of those categories is below, and the entire codebook is included in Appendix A. At the end of this section, Table 1 includes descriptive statistics for each of the dependent and independent variables.
Non-variable categories

The researcher provided the coders information about each clip, including event name (Columbine, Virginia Tech, Sandy Hook, Umpqua, Parkland, or Sante Fe), year of event (determined by the date of the event), and the time of the clip (in Pacific time zone since that is the time zone in which the clips are archived; however, times had to be converted for each event to match the event’s time zone with the Pacific time zone of the archived clip for the stages of coverage unit. Guidance was provided for each event in the codebook). In addition, the coders logged each clip for length in seconds based on the inclusion and exclusion requirements of the units of analysis; this will allow the researcher to ensure that only clips four seconds or longer were coded. These categories were not used directly for later analysis, but provided for coders to have necessary information for complete coding.

Dependent variable measures

Coders evaluated the units for six nonverbal dimension factors – eyebrows, mouth and lips, head, overall face, overall body, and overall gesturing (Ekman, 1983; Knapp & Hall, 2014). These dimensions have been used in previous research (Coleman & Wu, 2006; Zimmerman, 2014), and they are visual forms of nonverbal communication seen in almost every clip of a broadcaster. The coders did not try to determine which discrete emotion the reporter showed (such as anger or sadness), in an effort to reduce coding bias. Instead, they judged movements along a three-point dimension – positive, negative, and neutral; this is according to standards set by nonverbal experts (Ekman, 1983; Knapp & Hall, 2014) in order to increase intercoder reliability and measurement validity.

Coders used a six-dimension pattern of nonverbal behavior, which has demonstrated validity in other studies of gesture and appearance (Ekman, 1983; Knapp & Hall, 2014). The
description for each of the six nonverbal dimensions and their positive, negative and neutral definitions are provided here:

- **Eyebrows**
  - Negative if lowered or furrowed toward middle; movement is below neutral position
  - Positive if raised up or not furrowed; movement is above neutral position
  - Neutral if normal or expressionless; there is no movement, eyebrows are in neutral position

- **Mouth and lips**
  - Negative if corners contracted or pulled back as if in a grimace, tight, or frowning; movement is below neutral position
  - Positive if raised, or retracted and raised as if smiling laughing; movement is above neutral position
  - Neutral if normal or non-expressive; there is no movement, mouth/lips are in neutral position

- **Head**
  - Negative if head turned facing downward as if dejected or tired; head is tilted below neutral position
  - Positive if head or chin pointed up; head is tilted above neutral position
  - Neutral if normally positioned or straightforward; there is no movement, head is in neutral position

- **Overall face**
  - Negative if serious, intense, unhappy, or worried; facial muscles are turned downward from neutral position
  - Positive if happy, lighthearted, calm, or peaceful; facial muscles are turned upward from neutral position
  - Neutral if normal or expressionless; there is no movement, facial muscles are in neutral position

- **Overall body**
  - Negative if stiff or tense, the speaker is leaning forward as if hunched over; the body is below the neutral position
  - Positive if relaxed, the speaker is leaning backward as if open and inviting; the body is above the neutral position
  - Neutral if normal or expressionless; the body is straight, not leaning and in neutral position

- **Overall gesturing**
  - Negative if journalist engaged in a lot of gesturing, hand-waving, or so forth at shoulder level or above; hands and arms are moving below neutral position
  - Positive if small expressions with hands at waist level or below shoulder level; hands and arms are moving above neutral position
  - Neutral if none; hands and arms are not moving, they are in neutral position
These six dimensions and their positive, negative, and neutral definitions were used in previous studies (Coleman & Wu, 2006, p. 8; Li, Lindsay, & Mogensen, 2002; Zimmerman, 2014) in their study of broadcasters’ nonverbal behaviors.

**Dependent variable: Nonverbal neutrality score (NNS).** After the coding was complete, each of the six codes for the nonverbal dimensions was transformed according to the two dependent variables discussed in the literature review. 

NNS allows for the measure of how neutral or nonneutral the overall presentation was, but it does not account for valence of expressions. All six of the nonverbal dimension categories were recoded into new variables (e.g. Eyebrows -> NNSEyebrows). Any original code of positive or negative was recoded into a 1 for its NNS nonverbal dimension, while anything coded neutral originally was recoded as a 0 in the new NNS category. Total NNS was then calculated by summing all six variables for a total score, ranging from 0, meaning all six nonverbal dimensions were neutral, to 6, meaning all six nonverbal dimensions were nonneutral (without differentiation between positive or negative). This allows the researcher to examine the degree of neutrality in the broadcaster’s nonverbal expressions as a whole, and it does not factor in the valence of those expressions, nor cancel out equal representation of positive and negative codes. This method was used in previous studies (Deavours, 2020b; Zimmerman, 2014). For this study, this interval-level variable is treated as a dependent variable for any analysis involving the nonverbal behavior of broadcast journalists.

**Dependent variable: Janis-Fadner coefficient of imbalance (JF).** Each of the six codes for the original nonverbal dimensions were transformed for a second measure of nonverbal neutrality, which used the Janis-Fadner (JF) coefficient of imbalance. 

JF is a measure of the valence of nonverbal behavior, either positive, negative, or neutral in emotional expression. All six of the nonverbal dimension categories were recoded into new variables (e.g. Eyebrows ->
JFeyebrows). Any original code of positive was recoded into +1, an original code of negative was recoded into a -1, and an original code of neutral was recoded as a 0 in the corresponding new JF categories. The coefficient is calculated through a statistical measure of the extent of difference in the ratios of favorable, unfavorable, or balanced/neutral expressions for each unit of analysis. JF ranges from +1.0, the strongest positively valenced nonverbal reaction, to -1.0, the strongest negatively valenced nonverbal reaction. JF scores are negatively further away from zero when the frequency of unfavorable reactions increases; JF scores are positively further away from zero when the frequency of favorable reactions increase. JF equals 0 when the dimensions are neutral, or the number of positive and negative codes are equal (Janis & Fadner, 1949). It is important to note the valence of nonverbal behavior does not necessarily correspond to a negative or positive emotion; for instance, nonverbal scholars suggest that the negative emotion of anger commonly involves raising eyebrows and gesturing above the shoulders, which are actually positive codes (e.g. Cohen, Ambadar, & Ekman, 2007). However, there are typically more total negative dimensions involved in anger (such as tightened mouth, negative head tilt, negative body posture), which would result in a negative JF. This method has been used by previous scholars (Coleman & Wu, 2006). For this study, this ratio-level variable is treated as a dependent variable for any analysis involving the nonverbal behavior of broadcast journalists.

**Independent variable measures**

**Individual level variables**

*Average age of victims.* The average age of victims was used as an operationalization of severity of the event. The age of victims is an ordinal-level variable that uses the categories of 1-youngest, 2-middle or 3-oldest age group designations. These were calculated by averaging the ages of all the victims for each event, retrieved from researching the victim lists from each event.
The ages of victims were averaged by event to create a mean age for each of the six events. The lowest average age was 15 (for Sandy Hook), while the highest average age was 33 (for Virginia Tech). The mean average age of victims across all six events was 22.00 (SD=6.47). The average ages were then categorized into oldest, middle, and youngest victim age groups. Those with the 1-youngest victims were Sandy Hook and Columbine; the 2-middle age group included Parkland and Santa Fe; the 3-oldest age group of victims was Virginia Tech and Umpqua. This is an independent variable in the individual-level influences analysis based on one aspect of event severity. For the multiple regression analysis, this was recoded from an ordinal into a dichotomous variable: youngest (Sandy Hook, Columbine, Santa Fe) and oldest (Parkland, Umpqua, and Virginia Tech).

**Number of victims.** The number of victims was used as an operationalization of severity of the event as well. The amount of deaths is an ordinal-level variable that uses the categories of 1-highest, 2-middle or 3-least number of deaths. The fatalities for each case was collected from the Gun Violence Archives databases (2020) to categorize the events. The researcher did not include the death or injury of the shooter(s), if one occurred. They also do not consider the number of injuries in the ranking order since most journalism reports use the death toll as the historical ranking system, rather than injuries. The 1-highest death toll group included Virginia Tech with 32 deaths and Sandy Hook with 28 deaths; the 2-middle number of deaths group included Parkland with 17 deaths and Columbine with 13 deaths; the 3-least death group included Santa Fe with 10 deaths and Umpqua with 9 deaths. The average deaths across all six cases was 18.00 (SD=6.47) deaths. This ordinal-level variable is another way to examine the independent variable of severity. For the multiple regression analysis, this was recoded from an
ordinal into a dichotomous variable: *highest* (Virginia Tech, Sandy Hook, and Parkland) and *

*lowest* (Columbine, Santa Fe, and Umpqua).

**Proximity to scene/location.** Proximity to the scene is considered the physical distance away from the crisis and those affected. Proximity was measured in four categories. The closest proximal location was the 1-scene, which included the school and its staging area(s); the next closest was 2-secondary scene, which included an area in the affected community that was not the scene, such as the shooter’s home, a vigil, the hospital, etc.; the next closest was 3-alternative scene, which was a location in the field that was not in the affected community, such as the White House; the least proximal scene was 4-newsroom, since journalists are more isolated to those working in the field. There was also an option for 5-undetermined, but no units were coded in this category. This ordinal-level variable was used as one indicator of the independent variable proximity. However, for the multiple regression, this was categorized from an ordinal to a dichotomous variable, as 1- *closest* (scene and secondary scene) and 2- *furthest* (alternative and newsroom).

**Emotional proximity/affiliation.** The emotional proximity, or affiliation, of the broadcaster was based on whether the reporter was working for the local or national station at the time of the report. This was determined by coders in multiple ways: using verbal cues in descriptions about the reporters (such as the anchor saying ‘Joe Smith with local affiliate KXYZ reporting’), the station flag on the reporter’s microphone (such as having KXYZ mic flag as opposed to CNN’s), and graphics identifying the broadcaster. Coders coded journalists as 1-local, 2-national, or 3-unknown. No units were coded as unknown. This nominal-level variable allows for the operationalization of emotional proximity to the community since local reporters
are more likely to have strong ties to the communities in which they work than national correspondents (Zimmerman, 2014).

**Chronemic proximity/stages.** Chronemic proximity is how far away in time the report is from when the initial event began. This was determined by stage of coverage in which the report occurred, where the 1-first stage was hours 1-8, the 2-second stage was hours 9-16, and the 3-third stage was hours 17-24. Coleman and Wu (2006) used this variable in their study of nonverbal neutrality of 9/11 coverage, based on Graber’s (2002) stages of crisis coverage theory. This variable allows for examination of chronemic proximity as an independent variable.

**Gender of broadcaster.** Gender of the journalist was based on visual cues of the biological sex of the broadcaster, where 1 is female, 2 is male, and 3 is undetermined. There were no undetermined units. This nominal-level variable allows for the examination of the demographic variable of gender as an independent variable.

**Race of broadcasters.** Race of the broadcaster was based on visual cues of the perceived race or ethnicity of a broadcaster. Definitions were based on those provided in the U.S. Census (2020). The categories included 1-white; 2-Black; 3-Asian; 4-Hispanic; 5-Native Islander (inclusive of Native Hawaiian, Other Pacific Islander, American Indian, and Alaska Native categories), and 6-undetermined. There were no units classified as either Native Islander or undetermined. This nominal-level variable allows for the exploration of the demographic variable of race/ethnicity as an independent variable.

**Social level variables: Typifications**

**Role performance.** Coders determined the role performed by the journalist during the clip. The coders were provided Weaver, Willnat, and Wilhoit’s (2019) definitions of the dissemination, interpretative, adversarial, and populist-mobilizer roles, and asked to determine
which role was performed by the broadcaster in the unit; they were also given examples of each role performance from Weaver, Willnat, and Wilhoit’s work. These operationalizations of role performance have been used in other prior studies (Tandoc, Hellmueller, & Vos, 2013; Weaver, Willnat, & Wilhoit, 2019). The coders were then asked to code each clip into one of five categories, choosing the most dominant role performed in the clip: 1-dissemination, 2-interpretive, 3-adversarial, 4-populist-mobilizer, and 5-undetermined. There were no undetermined codes. This is a nominal-level variable that allows for the exploration of the typification of role performance as an independent variable. For the multiple regression analysis, the variable was recoded so the disseminator role, which most clearly aligns with the professional norms of American objective reporting, was used as the reference category, and the three other categories were dummy coded into 1=category; 0=other.

**Framing.** The coders categorized each clip as containing either episodic or thematic frames, based on the definitions from Iyengar (1991). Episodic frames are those that explore issues constructed around specific instances and individuals, usually a singular event rather than a series of events. Thematic frames on the other hand are those that utilize broader trends or backgrounds of issues (Iyengar, 1991). Researchers also suggest that coverage can include both frames, looking not only at individual issues for the event but broadening that out with more thematic coverage within one report (Jha, 2007). Therefore, the coders determined the level of episodic or thematic frame through the use of a Likert-scale, where 1-entirely episodic, 2-mostly episodic with some thematic elements, 3-equal parts episodic and thematic, 4-mostly thematic with some episodic elements, and 5-entirely thematic. There were no units categorized as equal parts. This measure has been used in previous research (Broussard, 2019; Gross & D’Ambrosio,
2004). For the regression, this was recoded into a dichotomous variable of 1-episodic and 2-thematic.

**Topic.** In addition, coders determined the topic of the report after examining definitions for each topic along with examples of each. There were four categories for topic, generated from previous research categories of topics from prior crisis research (e.g. McCluskey, 2016; Silva & Capellan, 2017; Porfini et al., 2019). They included 1-facts, which included verified details about the timeline of events, the shooter, the weapons used, the investigation, and the condition of the victims; 2-policy, which included gun laws, mental health regulation, and school safety measures; 3-reactions, which included how the community was coping, national reaction to the event, and politician’s reactions or statements to the event (that did not cover policy issues); and 4-first-hand accounts, which included talking about statements or stories shared from witnesses, survivors, and victims’ family members. If a clip featured more than one topic, the coder was asked to choose the topic to which the reporter dedicated the most time discussing in the report. This is a nominal-level variable, and for the multiple regression, “facts” was chosen as the reference category, since most standards of objectivity refer to an emphasis on facts. The other topic categories were dummy coded into 1=category and 0=other, measured against the reference category.

**Source type.** Source referred to the person or organization cited as providing information contributing to the journalists’ report (Odiegwu-Enwerem, Oso, & Amodu, 2020). Each of these types of sources was pulled from prior research on crisis coverage and typical school shooting information sources (e.g. McCluskey, 2016; Cho et al., 2003; Silva & Capellen, 2017). The types of sources include 1-officials, which included law enforcement, first responders, school officials, and elected officials; 2-experts, which included legal experts, law enforcement experts
(personnel not active in law enforcement for this event), mental health experts, and interest
groups or lobbyists; 3-communities, including survivors, witnesses, family members of victims
or the suspect, community members where the event occurred, or national reactions/man-on-the-
street sources; 4-victim of previous event, which was any victim or person involved in a previous
school shooting; 5-journalists, which included either naming another media source (such as “The
New York Times is reporting…”) or the journalist themselves presenting their own personal
opinion or accounts from experience; 6-no source given, which was any time a source was not
named in the report. This is a nominal-level variable, and for the regression, officials were
chosen as the reference category, since journalists use sources most often, and officials are most
often connected with routines of objectivity and neutrality in reporting. Other categories were
dummy coded into 1=category and 0=other to be measured against the reference category.

See Table 1 for a list of the dependent and independent variables, as well as descriptive
statistics of their means, standard deviations, and/or percentages.
Table 1.
Descriptives of independent variables, with number and percent of units of analysis by category

<table>
<thead>
<tr>
<th>Individual-level characteristics</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Total (N = 3,177))</td>
</tr>
<tr>
<td><strong>Age group of victims</strong></td>
<td></td>
</tr>
<tr>
<td>Youngest</td>
<td>1145 (36.04%)</td>
</tr>
<tr>
<td>Mid-range</td>
<td>1120 (35.25%)</td>
</tr>
<tr>
<td>Oldest</td>
<td>912 (29.71%)</td>
</tr>
<tr>
<td><strong>Number of death (%)</strong></td>
<td></td>
</tr>
<tr>
<td>Highest</td>
<td>1081 (34.03%)</td>
</tr>
<tr>
<td>Mid-range</td>
<td>1131 (35.60%)</td>
</tr>
<tr>
<td>Lowest</td>
<td>965 (30.37%)</td>
</tr>
<tr>
<td><strong>Physical proximity/Location</strong></td>
<td></td>
</tr>
<tr>
<td>Scene</td>
<td>948 (29.84%)</td>
</tr>
<tr>
<td>Secondary scene</td>
<td>154 (4.85%)</td>
</tr>
<tr>
<td>Alternative scene</td>
<td>167 (5.26%)</td>
</tr>
<tr>
<td>Newsroom</td>
<td>1908 (60.05%)</td>
</tr>
<tr>
<td><strong>Affiliations</strong></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>476 (14.98%)</td>
</tr>
<tr>
<td>National</td>
<td>2701 (85.02%)</td>
</tr>
<tr>
<td><strong>Stage</strong></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>925 (29.12%)</td>
</tr>
<tr>
<td>Two</td>
<td>1181 (37.17%)</td>
</tr>
<tr>
<td>Three</td>
<td>1071 (33.71%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1123 (35.35%)</td>
</tr>
<tr>
<td>Male</td>
<td>2054 (64.65%)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>2524 (79.45%)</td>
</tr>
<tr>
<td>Black</td>
<td>318 (10.01%)</td>
</tr>
<tr>
<td>Asian</td>
<td>124 (3.90%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>211 (6.64%)</td>
</tr>
<tr>
<td><strong>Social-level factors</strong></td>
<td></td>
</tr>
<tr>
<td>Role performance</td>
<td></td>
</tr>
<tr>
<td>Disseminator</td>
<td>946 (29.78%)</td>
</tr>
<tr>
<td>Interpretative</td>
<td>1457 (45.86%)</td>
</tr>
<tr>
<td>Adversarial</td>
<td>484 (15.23%)</td>
</tr>
<tr>
<td>Populist-mobilizer</td>
<td>290 (9.13%)</td>
</tr>
<tr>
<td><strong>Framing</strong></td>
<td></td>
</tr>
<tr>
<td>Very episodic</td>
<td>2236 (70.38%)</td>
</tr>
<tr>
<td>Somewhat episodic</td>
<td>506 (15.92%)</td>
</tr>
<tr>
<td>Somewhat thematic</td>
<td>357 (11.24%)</td>
</tr>
<tr>
<td>Very thematic</td>
<td>78 (2.46%)</td>
</tr>
<tr>
<td><strong>Topic</strong></td>
<td></td>
</tr>
<tr>
<td>Facts</td>
<td>1500 (47.21%)</td>
</tr>
<tr>
<td>Policy</td>
<td>727 (22.88%)</td>
</tr>
<tr>
<td>Reactions</td>
<td>597 (18.79%)</td>
</tr>
<tr>
<td>First-hand accounts</td>
<td>353 (11.11%)</td>
</tr>
<tr>
<td>Source</td>
<td>Units of Analysis</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Officials</td>
<td>1116</td>
</tr>
<tr>
<td>Experts</td>
<td>393</td>
</tr>
<tr>
<td>Communities</td>
<td>697</td>
</tr>
<tr>
<td>Victims of previous events</td>
<td>52</td>
</tr>
<tr>
<td>Journalists</td>
<td>246</td>
</tr>
<tr>
<td>No source</td>
<td>673</td>
</tr>
</tbody>
</table>

Note: $N=$total units of analysis; $n=$subsamples for independent variables

### Coding process

The fourth step of content analysis is the coding training process. The researcher used three trained coders to manually code the samples, both intercoder and final. To increase reliability of human coders, all three coders were trained in the codebook in two 30-minute sessions using clips from the total sample that were not used in either the final sample or the intercoder reliability sample. One of the coders is the researcher, but the other two coders are independent of this project and were paid for their participation as coders.

As part of coder training as well as reliability checks, the coders conducted intercoder reliability coding. Once training on the codebook was complete, the coders independently coded 10% of the originally desired sampling units from the total population ($n=42$), which is recognized as an acceptable intercoder sampling method, especially for studies with many units of analysis like this one, by content analysis scholars (Krippendorff, 2004; Riffe et al., 2019). There were a total of 310 units of analysis represented within the 42 sample units. None of the clips that were used in intercoder reliability training were used in the final sample for the study. Once the three coders coded the intercoder sample, the researcher ran intercoder reliability analysis using RECAL3 (2018) using the Krippendorff alpha indicator. .8 and above is considered an acceptable range for Krippendorff’s alpha (2004). All categories were above this range (Stage-1.0, 100.00%; Journalist Gender-.99, 99.56%; Affiliation-.98. 99.56%; Journalist
Race-.98, 99.34%; Topic-.96, 96.01%; Frame-.95, 97.56%; Overall face-.94, 96.46%; Source-.94, 94.68%; Overall gesture-.92, 95.79%; Role-.91, 93.58%; Mouth-.87, 92.47%; Overall body-.85, 93.13%; Eyebrows-.84, 90.03%; and Head-.81, 90.81%). Since the researcher provided the information for the age of victim groups and the number of death categories, no intercoder reliability was determined for these categories. Intercoder reliability was met, and final coding process began.

The fifth step in Kaid and Wadsworth seven-step method of content analysis is coding the final sample. The 325 sample units were coded for all the above categories. There were a total of 3,178 units of analysis that were coded for these 14 categories. Because of the cost of coders, as well as the emotional impact of the material, the researcher coded the final sample units alone. However, additional reliability checks were conducted as the sixth step of content analysis. One of the other coders completed reliability checks on 33 units (10% of the final sample) to ensure similar responses based on the codebook; all 14 categories were met at a .8 and above Krippendorff alpha level, using RECAL2.

The seventh and final step of the process was the final analysis. This involves cleaning the dataset, creating the new variables for the dependent variables, NNS and JF. No units had to be thrown out, and all coding categories were complete. Final analysis was conducted according to the appropriate statistical test in SPSS.
CHAPTER 4.

FINDINGS

Descriptive statistics were conducted sample-wide for independent variables (Table 1 in Methodology). Of 3,177 units of analysis, the average nonverbal neutrality score \((NNS)\) was 3.31 \((SD=1.68)\) across the six dimensions. A higher score indicates less neutrality (more non-neutrality); so on average, journalists showed slightly more nonneutral than neutral movements.

The average \textit{Janis-Fadner coefficient} \((JF)\) was -.06 \((SD=.22)\). The \(JF\) is scaled -1 (negative) to 1 (positive), and so on average, broadcasters were more likely to have moderately strong negative valence in nonverbal behaviors, which indicates unfavorable reaction during the coverage such as displaying nonverbal expressions of anger, sadness, fear, disgust, or contempt.

The event with the lowest \(NNS\), or most neutral nonverbal expressions, was Virginia Tech, while Parkland had the highest \(NNS\), or least neutral expressions. For \(JF\), Virginia Tech had the closest score to zero, and thus the most neutral nonverbal valence, and Santa Fe had the furthest \(JF\) from zero, or the most negatively valenced nonverbal behavior (See Table 2).

<table>
<thead>
<tr>
<th>Table 2.</th>
<th>Descriptive statistics: Means and standard deviations for (NNS) and (JF) by Event</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total ((N=3,177))</td>
</tr>
<tr>
<td>(NNS)</td>
<td>3.31 ((1.68))</td>
</tr>
<tr>
<td>(JF)</td>
<td>-.06 ((.22))</td>
</tr>
</tbody>
</table>

Hypotheses and research questions were explored next. Table 16 at the end of the chapter provides summaries of findings for all hypotheses and research questions.
**H1: Age of victims**

To test H1, which stated the younger the age group of the victims in the event, the less neutral the nonverbal behavior of journalists will be immediately following the crisis, a one-way ANOVA was conducted. Virginia Tech and Umpqua had the oldest victims; Parkland and Santa Fe had the middle-age group victims; Columbine and Sandy Hook had the youngest.

ANOVA assumptions were assessed. Skewness and kurtosis for all IV categories were between -1 and 1 for the NNS dependent variable, indicating normal distribution. For the JF, skewness was within the -1 to 1 range for the oldest and middle age groups, but not the youngest, nor was kurtosis within -1 to 1 for any age group. However, ANOVA tolerates violations of normality well, especially for large samples like this one (Kim, 2013), and so analysis proceeded for both dependent variables. However, cautious interpretation for the JF variable is warranted. Note, the normality assumption is violated in tests of other hypotheses and research questions below, especially for JF; the cautionary statement here applies to these other analyses throughout. However, an additional nonparametric test, the Kruskal-Wallis H test, which does not assume normality and is less sensitive to outliers, was conducted for all ANOVAs in the analysis. Results for the Kruskal-Wallis H tests were similar to all ANOVA results, adding validity to findings. H test results are reported in footnotes for each analysis.

One-way ANOVAs were conducted to compare the nonverbal neutrality of broadcasters relative to the age groups of victims, for both the JF and NNS variables (Table 3). The Levene’s test of assumptions of homogeneity of variances across groups was conducted; since an ANOVA assumes equal population variance distribution for all groups of the independent variable, unequal variances can affect the Type I error rate. When the Levene’s test is significant, an alternative ANOVA type must be used, such as the Welch’s ANOVA, which compares two
means to see if they are equal. Welch’s ANOVA has the most power and lowest type I error rate for normal, different-variance, and balanced data (Tomarken & Serlin, 1986). According to the Levene’s test, the p-value was significant \((p < .05)\) for both dependent variables; therefore, a Welch’s ANOVA was used. A Welch’s ANOVA was used for other analyses of variance throughout the study where the homogeneity of variances assumption is violated.

H1 was not supported for the test of \textit{NNS} because, while results were significant, they did not follow the expected pattern: Journalists were less nonverbally neutral when covering mid-range age groups compared to younger groups. Therefore, evidence for \textit{NNS} is not consistent with the BET-based expectation that journalists will appear less neutral when they cover younger victims. Looking at the statistics, Welch’s ANOVA results show a significant difference in the nonverbal neutrality of broadcasters by age of victims, both for \textit{NNS} \([\text{Welch’s } F(2, 2080.21) = 24.68, p < .005, \text{ partial } \eta^2 = .02]\) and \textit{JF} \([\text{Welch’s } F(2, 2110.91) = 8.62, p < .005, \text{ partial } \eta^2 = .004]\). Post hoc comparisons using the Games-Howell post-test were conducted for all age groups using both dependent variables. A Games-Howell post-test compares groups, but it does not assume equal variances and sample sizes like other nonparametric approaches, such as a Tukey’s test, require.\(^3\) There was an increase in the mean \textit{NNS} (meaning broadcasters became less neutral) from the \textit{oldest} \((M=3.15, SD=1.61)\) to \textit{youngest} \((M=3.17, SD=1.73)\) to \textit{middle} \((M=3.59; SD=1.65)\) age groups, in that order. Games-Howell post hoc analysis revealed a significant mean increase in \textit{NNS} from \textit{youngest} to \textit{middle} \((.43, 95\% \text{ CI } [.25, .59], p < .005)\), and \textit{oldest} to \textit{middle} \((.44, 95\% \text{ CI } [.27, .61], p < .005)\). The difference from \textit{youngest} to \textit{oldest} age groups was not significant.

\(^3\) Tukey’s post hoc results were highly similar to the Games-Howell results across the study’s analyses.
H1 is supported using $JF$ since there is a significant and more negative nonverbal reaction for broadcasters reporting on cases with younger children compared to cases with middle and older age victims. Since $JF$ is a measure of emotional valence, this suggests broadcasters are emotionally reacting to the severity factor of age of victims, consistent with a BET perspective. Looking at the statistics, $JF$ was progressively further away from zero (meaning more negative emotionally) from *oldest* ($M=-.04$, $SD=.17$), to *middle* ($M=-.06$, $SD=.25$), to *youngest* ($M=-.07$, $SD=.23$) age groups. Games-Howell post hoc analysis showed significant mean differences from *youngest* to *oldest* (.03, 95% CI [.01, .06], $p<.005$) and *middle* to *oldest* (.02, 95% CI [.00, .04], $p = .03$); *youngest* to *middle* was not significant. See Table 3.

Overall, both *NNS* and *JF* vary significantly based on age of victims, but the hypothesized direction of difference held only for *JF*. This aligns with BET, which suggests journalists’ nonverbal reaction would be most negative when covering younger victims, a more severe and disturbing crisis. *NNS*, a measure only of the journalist’s relative display of neutrality and less sensitive to emotional valence, was not as affected by crisis severity in terms of victim’s age. It is notable that age is the only individual-level variable that is significant for *JF*.

---

4 $JF$ for all categories of age of victims fell in the negative range, suggesting a stronger likelihood to have negatively valenced reactions to the events, such as displaying sadness, anger, fear, or concern. This trend continues for all independent variables in the study. While there are some positive scores in the overall sample results, almost every category’s $JF$ has a negative mean, again suggesting an overall negative valence of broadcasters’ nonverbal behavior during shootings. This has external validity since crises are negative events.

5 Kruskal-Wallis H test showed that there was a statistically significant difference in *NNS* and *JF* between the different age groups of victims, $NNS - \chi^2(2) = 49.56, p < .001$, with similar mean ranks as the ANOVA. $JF - \chi^2(2) = 10.14, p = .01$ with similar mean ranks as the ANOVA.
Table 3.
**H1: Analysis of Variance Results for Nonverbal Neutrality and Age of Shooting victims**

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Youngest victims M(SD)</th>
<th>Mid-age victims M(SD)</th>
<th>Oldest victims M(SD)</th>
<th>Welch’s F</th>
<th>d.f</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>3.17(1.73)</td>
<td>3.59(1.65)</td>
<td>3.15(1.61)</td>
<td>24.681*</td>
<td>2, 2080.21</td>
</tr>
<tr>
<td>JF</td>
<td>-0.07(.23)</td>
<td>-0.06(.25)</td>
<td>-0.04(.17)</td>
<td>8.615*</td>
<td>2, 2110.91</td>
</tr>
</tbody>
</table>

*Note. Significance indicated by * p < .001.*

**H2: Number of shooting victims**

H2 states that the more deaths during the shooting, the less neutral the nonverbal behavior of broadcast journalists will be following the shooting. To test H2, a one-way ANOVA was conducted. Events with the highest death rates were Virginia Tech and Sandy Hook, mid-range for death rates were Parkland and Columbine. Umpqua and Santa Fe were lowest.

Tests of ANOVA assumptions showed skewness and kurtosis for all categories of the IV were between -1 and 1 for the NNS dependent variable, but not for all categories of JF. Levene’s test was significant for both dependent variables so a Welch’s ANOVA was used (Table 4).

H2 is not supported using NNS since the BET-based predicted direction of neutrality variance was not found. Instead of highest deaths being the least neutral, they were the most neutral, and those with the lowest deaths were least neutral. H2 is also not supported for JF since it was not statistically significant. Looking at the data, Welch’s ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by deaths for NNS [Welch’s $F(2, 2102.02) = 6.70, p = .001$, partial $\eta^2 = .004$], but not for JF [Welch’s $F(2, 2113.98) = 1.13, p = .33$]. There was an increase in mean NNS (meaning less neutral) from the highest number of deaths ($M=3.16, SD=.05$), to the middle ($M=3.38, SD=.05$), to the lowest ($M=3.40, SD=.05$).
This indicates that the higher the death toll of an event, the more likely journalists would be nonverbally neutral. Games-Howell post hoc analysis revealed significant mean NNS increases from highest to middle (.23, 95% CI [.06, .39], p = .01) and highest to lowest (.24, 95% CI [.07, .42], p = .003); the difference between middle to lowest was not significant. In sum, there is no evidence that journalists are less likely to remain neutral when covering more deadly shootings.

Table 4. 
**H2: Analysis of Variance Results for Nonverbal Neutrality and Number of Deaths in Shootings**

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Highest death rate M(SD)</th>
<th>Middle death rate M(SD)</th>
<th>Lowest death rate M(SD)</th>
<th>Welch’s F</th>
<th>d.f</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>3.16(1.74)</td>
<td>3.38(1.67)</td>
<td>3.40(1.60)</td>
<td>6.70*</td>
<td>2, 2102.02</td>
</tr>
<tr>
<td>JF</td>
<td>-.07(.23)</td>
<td>-.05(.23)</td>
<td>-.06(.20)</td>
<td>1.13</td>
<td>2, 2113.98</td>
</tr>
</tbody>
</table>

*Note. Significance indicated by * p < .05.*

**H3: Physical proximity to shooting**

To examine H3, which states the closer a journalist is physically to the location of the crisis scene when reporting, the less neutral their nonverbal behavior will be, a one-way ANOVA was conducted. There were four categories of physical proximity: from the closest, being at the shooting scene, to those with increasing distance from the shooting scene – secondary scene, alternative scene, and newsroom. NNS met skewness and kurtosis assumptions, but not all JF categories did. A Welch’s ANOVA was used for NNS since Levene’s test was significant, but the test was not significant for JF (p = .63), so a standard ANOVA was conducted (Table 5).

---

6 Kruskal-Wallis H test showed there was a statistically significant difference in NNS between numbers of deaths, NNS - γ²(2) = 13.79, p = .001, with similar mean ranks as the ANOVA. JF was not significant - γ²(2) = 1.16, p = .56 with similar mean ranks as the ANOVA.
**H3 is not supported** since physical proximity was not significant in terms of varying broadcasters’ nonverbal behavior, regardless of whether measuring by movement (NNS) or valence (JF). Results show no significant difference for NNS [Welch’s $F(3, 427.62) = 1.66, p = .18$], or JF [$F(3, 153) = 1.58, p = .19$].\(^7\) Despite BET suggesting nonverbal behavior would vary based on how close the broadcaster is to the trauma, there was neither a large nor significant difference in nonverbal neutrality from journalists in different locations. H3 is not supported.

### Table 5.
**H3: Analysis of Variance Results for Nonverbal Neutrality and Physical Proximity to Scene of Shooting**

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Scene of shooting $M(SD)$</th>
<th>Secondary scene $M(SD)$</th>
<th>Alternative scene $M(SD)$</th>
<th>Newsroom $M(SD)$</th>
<th>$F$</th>
<th>$d.f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>3.21(1.65)</td>
<td>3.36(1.60)</td>
<td>3.34(1.47)</td>
<td>3.36 (1.71)</td>
<td>(Welch’s) 1.66</td>
<td>3, 427.62</td>
</tr>
<tr>
<td>JF</td>
<td>-.07(.21)</td>
<td>-.07(.22)</td>
<td>-.04(.19)</td>
<td>-.06(.23)</td>
<td>1.58</td>
<td>3, 153</td>
</tr>
</tbody>
</table>

**H4: Affiliation: local or national broadcasters**

To test H4, which predicts local journalists will be less neutral in their nonverbal behaviors than national journalists, an independent-sample t-test was conducted. Tests of ANOVA assumptions showed that while NNS had no outliers, it was not normally distributed. JF did have outliers. Distributions of both NNS and JF for local and national broadcasters were similar, as assessed by visual inspection of both dependent variables. Although some violations were found, research shows t-tests are robust against deviations from normality and unequal variance (Havlicek & Peterson, 1974). However, for t-test analyses in the study, an additional nonparametric test, the Mann-Whitney U test, was also conducted since it accounts for

\(^7\) Kruskal-Wallis H test showed that there was not a statistically significant difference in NNS or JF between the locations, $NNS - \chi^2(3) = 5.15, p = .16$, with similar mean ranks as the ANOVA. $JF - \chi^2(3) = 7.72, p = .05$ with similar mean ranks as the ANOVA.
abnormalities in distributions; all results of the Mann-Whitney U-tests were similar to the t-tests, increasing the validity of these findings. Those results are in footnotes.

H4 is not supported for NNS or JF since neither show a significant difference. There was not a significant difference in NNS for local broadcasters ($M=3.31, SD=1.46$) and national broadcasters ($M=3.32, SD=1.71$), $M=-.01, 95\%\ CI [-.16, .14], t(725.39) = -.11, p = .91$. There was also not a significant difference in JF between local broadcasters ($M=-.06, SD=.20$) and national broadcasters ($M=-.05, SD=.22$) broadcasters, $M=-.002, 95\%\ CI [-.02, .02], t(691.45) = -.16, p = .87$.\(^8\)

These findings suggest broadcasters do not differ in nonverbal neutrality by affiliation. While BET suggests local journalists who are more emotionally connected to the affected communities would be less neutral in their reaction to stimuli, there was not a large or significant difference between the nonverbal neutrality of local and national journalists.

**H5: Graber’s stages of coverage**

H5 predicted the nonverbal behavior of broadcast journalists will follow an inverted U pattern, where broadcasters at the beginning and end of the event will present more neutral nonverbal behaviors than those in the middle of the event. There were three stages: Stage one, hours 1-8; Stage two, hours 9-16; and Stage three, hours 17-24. These follow Graber’s stages theory: Generally, in the first stage, journalists concentrate on sharing initial information, in the second stage they add interpretation, and in the final stage, they work to sustain audience morale. NNS met assumptions of kurtosis and skewness, but some categories of JF did not. A Welch’s ANOVA was used since Levene’s test was significant for both dependent variables (Table 6).

---

\(^8\) Mann-Whitney U-tests found NNS and JF were not statistically significantly different between local and national broadcasters, NNS- $U = 647,003, z = .229, p = .82$; JF - $U = 636,056.5, z = -.37, p = .71$. 

80
H5 is not supported using NNS since the predicted direction of neutrality variance was not found. According to Graber’s (2002) research on reporting during crisis, broadcasters should be midrange in neutrality in stage one, the least neutral in stage two, and most neutral in stage three, that pattern was not seen; instead, NNS showed broadcasters got progressively less neutral as coverage shifted from stage one to stage three. H5 is also not supported by JF since differences across the three stages were not significant. Looking at the data, Welch’s ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by chronemic proximity for the NNS [Welch’s F(2, 2047.85) = 17.00, p < .001, partial η2 = .01], but not for JF [Welch’s F(2, 2033.45) = .27, p = .76]. There was an increase in mean NNS from the first (M=3.14, SD=1.72), to second (M=3.23, SD=1.59), to third (M=3.55, SD=1.70) stages. This suggests that the further in time from the event that the broadcasters’ report was, the less neutral their presentations were. Games-Howell post hoc analysis revealed mean NNS increase from first to third (.42, 95% CI [ .24, .60]) stages was significant (p < .001), as well as the increase from second to third (.32, 95% CI [ .16, .48], p < .001) stages; the difference between first and second stages was not significant. In sum, the hypothesis’ prediction of an inverted U pattern with broadcasters being less neutral in the middle of the coverage, were not supported, regardless of whether measuring muscle movement or emotional valence.

---

9 Kruskal-Wallis H test showed there was a statistically significant difference in NNS, but not JF, between the stages of coverage, NNS - χ2(2) = 35.88, p < .001, with similar mean ranks as the ANOVA. JF - χ2(2) = .75, p = .69 with similar mean ranks as the ANOVA.
Table 6

H5: Analysis of Variance Results for Nonverbal Neutrality and Chronemic Proximity (Graber’s three stages)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>1st stage $M(SD)$</th>
<th>2nd stage $M(SD)$</th>
<th>3rd stage $M(SD)$</th>
<th>Welch’s $F$</th>
<th>$d.f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>3.14(1.72)</td>
<td>3.23(1.59)</td>
<td>3.55(1.70)</td>
<td>17.00*</td>
<td>2, 2047.85</td>
</tr>
<tr>
<td>JF</td>
<td>-0.06(.21)</td>
<td>-0.06(.20)</td>
<td>-0.06(.25)</td>
<td>.269</td>
<td>2, 2033.45</td>
</tr>
</tbody>
</table>

Note. Significance indicated by * $p < .001$.

Graber’s (2002) stages of crisis coverage theory suggests for each event, the first stage should be mid-neutral, the second stage should be the least neutral, and the third stage should be the most neutral for all crises. To examine if this pattern existed for each school shooting, a post-hoc means comparison was calculated for NNS and JF for the three stages of coverage for each of the six events. Results are reported in Table 7 for NNS and Table 8 for JF, where yellow indicates most neutral, orange is mid-neutral, and red is least neutral of the three stages.

Table 7 indicates Graber’s predictions for stages does not hold for NNS, except for Umpqua. Instead, the third stage is more often the least neutral (Virginia Tech, Sandy Hook, Parkland, and Santa Fe), and the first stage is more often neutral (Sandy Hook, Parkland, and Santa Fe). Also, no recognizable pattern emerges along the historical timeline for these six cases.
Table 7
*Post-hoc: Means of NNS by stages of coverage for each event*

<table>
<thead>
<tr>
<th>Event (in order)</th>
<th>Overall Mean</th>
<th>Mean Stage 1</th>
<th>Mean Stage 2</th>
<th>Mean Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbine ('99)</td>
<td>2.72</td>
<td>2.78</td>
<td>2.72</td>
<td>2.65</td>
</tr>
<tr>
<td>Virginia Tech ('07)</td>
<td>2.57</td>
<td>2.38</td>
<td>2.36</td>
<td>3.18</td>
</tr>
<tr>
<td>Sandy Hook ('12)</td>
<td>3.34</td>
<td>3.06</td>
<td>3.20</td>
<td>3.65</td>
</tr>
<tr>
<td>Umpqua ('15)</td>
<td>3.37</td>
<td>3.38</td>
<td>3.55</td>
<td>3.24</td>
</tr>
<tr>
<td>Parkland ('18)</td>
<td>3.64</td>
<td>3.38</td>
<td>3.38</td>
<td>4.16</td>
</tr>
<tr>
<td>Santa Fe ('18)</td>
<td>3.47</td>
<td>2.91</td>
<td>3.78</td>
<td>3.81</td>
</tr>
</tbody>
</table>

*Note.* Yellow = most neutral; Orange = mid-neutral; Red = least neutral

For *JF*, Table 8 indicates Graber’s predictions for stages does not hold. No cases display the first stage as mid-neutral (orange), the second as least neutral (red), and the third as most neutral (yellow). It was more common for *JF* to have the first stage mid-neutral (orange), the second stage the most neutral (yellow), and the third stage the least neutral (red), as with Columbine, Virginia Tech, Sandy Hook, and Santa Fe. Also, no recognizable pattern emerges along the historical timeline from these few cases. Together, *NNS* and *JF* means comparisons show Graber’s predicted patterns for neutrality across stages does not occur in these cases.
Table 8
Post-hoc: Means of JF by stages of coverage for each event

<table>
<thead>
<tr>
<th>Event (in order)</th>
<th>Overall Mean</th>
<th>Mean Stage 1</th>
<th>Mean Stage 2</th>
<th>Mean Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Columbine ('99)</td>
<td>-.06</td>
<td>-.06</td>
<td>-.05</td>
<td>-.06</td>
</tr>
<tr>
<td>Virginia Tech ('07)</td>
<td>-.02</td>
<td>-.03</td>
<td>-.01</td>
<td>-.03</td>
</tr>
<tr>
<td>Sandy Hook ('12)</td>
<td>-.08</td>
<td>-.08</td>
<td>-.06</td>
<td>-.11</td>
</tr>
<tr>
<td>Umpqua ('15)</td>
<td>-.05</td>
<td>-.07</td>
<td>-.06</td>
<td>-.02</td>
</tr>
<tr>
<td>Parkland ('18)</td>
<td>-.05</td>
<td>-.02</td>
<td>-.07</td>
<td>-.05</td>
</tr>
<tr>
<td>Santa Fe ('18)</td>
<td>-.10</td>
<td>-.11</td>
<td>-.08</td>
<td>-.11</td>
</tr>
</tbody>
</table>

Note. Yellow = most neutral; Orange = mid-neutral; Red = least neutral

H6: Gender of journalist

To examine H6, which states female journalists will be less neutral in their nonverbal behaviors than male journalists, an independent-samples t-test was conducted for both NNS and JF. Tests of assumptions of normality showed NNS did not pass the Shapiro Wilk’s test of normality (p<.05), and boxplots showed outliers for JF. The t-test is robust and analysis continued, but a Mann-Whitney U test was also run, as it accounts for normality in distribution. Results were similar.8

H6 is supported for NNS since female broadcasters showed less neutral nonverbal behaviors than males. NNS was significantly different between female ($M=3.43$, $SD=1.63$) and male ($M=3.25$, $SD=1.70$) broadcasters, $M=.18$, 95% CI [.06, .30], $t(2392.75) = 3.00$, $p = .003$.

H6 is not supported for JF, though, since it was not significant. There was not a significant difference in JF between female ($M=-.06$, $SD=.23$) and male ($M=-.06$, $SD=.22$) broadcasters, $M=.002$, 95% CI [-.01, .02], $t(2197.41) = .26$, $p = .80$.10

10 Mann-Whitney U-tests show a statistically significant difference in NNS, but not JF, for gender; NNS- $U = 1,079,622.5$, $z = -3.02$, $p = .002$; JF- $U = 1,152,962.5$, $z = -.015$, $p = .988$
In sum, H6 is only supported for $NNS$, but not $JF$. Female broadcasters are more likely to demonstrate nonneutral nonverbal behaviors compared to male broadcasters, which is consistent with previous research that women tend to be more expressive than males. However, the overall emotionality of broadcasters’ nonverbal neutrality ($JF$) does not vary by gender, meaning both genders are similar in their negative valence of coverage.

**H7: Race of journalist**

To examine H7, which states nonverbal behavior will vary significantly based on the race of the journalist, an ANOVA was conducted (Table 9). Race had four categories: *white*, *Black*, *Asian*, and *Hispanic*. $NNS$ met skewness and kurtosis assumptions, but some $JF$ categories did not. Levene’s test was significant for both dependent variables so Welch’s ANOVAs were used.

H7 is supported for $NNS$ since race was significant, where Black journalists were the most neutral and Asian journalists were the least neutral. H7 is not supported for $JF$ since it was not statistically significant. Looking at the statistics, Welch’s ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by journalists’ race for the $NNS$ [Welch’s $F(3, 356.42) = 4.37, p = .01$, partial $\eta^2 = .004$], but not for $JF$ [Welch’s $F(3, 370.17) = 2.22, p = .09$]. There was an increase in mean $NNS$ (meaning less neutral) from Black ($M=3.15$, $SD=1.70$), to *white* ($M=3.30$, $SD=1.69$), to *Hispanic* ($M=3.57$, $SD=1.47$), to *Asian* ($M=3.59$, $SD=1.59$). Games-Howell post-hoc tests showed a mean $NNS$ increase from Black to Asian (.42, 95% CI [.06, .78]) race groups was significant ($p = .01$), but differences between other race groups were not.11

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11 Kruskal-Wallis H test showed there was a statistically significant difference in $NNS$, but not $JF$, between the races of broadcasters, $NNS - \chi^2(3) = 11.62, p = .01$, with similar mean ranks as the ANOVA. $JF - \chi^2(3) = 5.63, p = .13$ with similar mean ranks as the ANOVA.
In sum, findings suggest there is no difference in emotionality of reaction during the events between races, but overall neutrality is affected by the race of the broadcaster.

<table>
<thead>
<tr>
<th>Table 9</th>
<th>H7: Analysis of Variance Results for Nonverbal Neutrality and Journalist Race</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td>Black M(SD)</td>
</tr>
<tr>
<td>NNS</td>
<td>3.15 (1.70)</td>
</tr>
<tr>
<td>JF</td>
<td>-0.04 (.17)</td>
</tr>
</tbody>
</table>

Note. Significance indicated by * p = .01.

**H8: Journalistic role performance**

H8 states there will be a significant difference between the neutrality of journalists’ behavior when performing different roles. Additionally, H8a predicts broadcasters performing disseminator roles will be the most neutral, while H8b predicts those performing an adversarial role will be the least neutral nonverbally. To test H8, an ANOVA was conducted (Table 10). Role performance was categorized as disseminator, or sharing objective information; interpretative, or connecting current facts to larger social issues; adversarial, or acting as a watchdog; and populist-mobilizer, or working to bring a community together through common resolution. Skewness and kurtosis assumptions were met for NNS, but not for all JF categories. Welch’s ANOVAs were used since Levene’s tests were significant.

Findings indicate support for H8, H8a and H8b, for NNS. Journalists performing the role of disseminator were most likely to show nonverbal neutrality, while those performing an adversarial or “watchdog” role were least likely to show nonverbal neutrality. Looking more closely at the data, Welch’s ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by journalists’ role performance for NNS [Welch’s F(3,
997.96) = 200.36, \( p < .001 \), partial \( \eta^2 = .15 \], and \( JF \) [Welch’s \( F(3, 940.29) = 14.95, \ p < .001 \], partial \( \eta^2 = .02 \)]. There was an increase in mean \( NNS \) (meaning it becomes less neutral) from the disseminator role (\( M=2.64, SD=1.60 \)), to interpretive (\( M=3.27, SD=1.56 \)), to populist-mobilizer (\( M=3.52, SD=1.68 \)), to adversarial (\( M=4.65, SD=1.42 \)). Games-Howell post-hoc tests showed the mean \( NNS \) increase from disseminator to interpretative roles (.63, 95% CI [.46, .80]) was significant (\( p < .001 \)), as well as disseminator to adversarial (2.00, 95% CI [1.80, 2.22], \( p < .001 \), disseminator to populist-mobilizer (.88, 95% CI [.61, 1.15], \( p < .001 \)), interpretative to adversarial (1.38, 95% CI [1.18, 1.57], \( p < .001 \), and adversarial to populist-mobilizer (1.13, 95% CI [.84, 1.41], \( p < .001 \)). Interpretive to populist-mobilizer roles was not significant.

\( H8 \) is also supported for \( JF \), as are \( H8a \) and \( H8b \). These findings indicate journalists performing a disseminator role are most likely to show neutrality, while those performing an adversarial role are most likely to display negatively valenced emotions like sadness, anger, fear, and disgust. Looking at the statistics, the mean \( JF \) progressed further from zero, and thus more negatively valenced, from disseminator (\( M=-.03, SD=.16 \)), to interpretative (\( M=-.05, SD=.22 \), to populist-mobilizer (\( M=-.07, SD=.22 \)), to adversarial (\( M=-.13, SD=.30 \)) role performance groups. Games-Howell post-hoc tests showed a mean \( JF \) difference from disseminator to adversarial roles (.09, 95% CI [.06, .13]), which was significant (\( p < .001 \)), as well as a significant difference from interpretative to adversarial (.08, 95% CI [.04, .12], \( p < .001 \), and populist-mobilizer to adversarial (.06, 95% CI [.01, .11], \( p = .007 \)). No other groups were significant. \( ^{12} \)

Results are consistent across \( NNS \) and \( JF \), which is the first finding with similar results. For both \( NNS \) and \( JF \), journalists appear more neutral when playing the more passive

\( ^{12} \) Kruskal-Wallis \( H \) tests showed there was a statistically significant difference in \( NNS \) and \( JF \) between role performance groups, \( NNS - \chi^2(3) = 458.46, p < .001 \), with similar mean ranks as the ANOVA. \( JF - \chi^2(3) = 53.12, p < .001 \) with similar mean ranks as the ANOVA.
disseminator role and less neutral when playing an adversarial or “watchdog” role. These findings are consistent with BECV predictions that social situation shapes nonverbal behavior.

Table 10

<table>
<thead>
<tr>
<th>DV</th>
<th>Disseminator M(SD)</th>
<th>Interpretative M(SD)</th>
<th>Populist-mobilizer M(SD)</th>
<th>Adversarial M(SD)</th>
<th>Welch’s F</th>
<th>d.f</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>2.64(1.60)</td>
<td>3.27(1.56)</td>
<td>3.52(1.56)</td>
<td>4.65 (1.42)</td>
<td>200.36*</td>
<td>3, 997.96</td>
</tr>
<tr>
<td>JF</td>
<td>-.03(.16)</td>
<td>-.05(.22)</td>
<td>-.07(.22)</td>
<td>-.13 (.30)</td>
<td>14.95*</td>
<td>3, 940.29</td>
</tr>
</tbody>
</table>

Note. Significance indicated by * p < .001.

**H9: Episodic vs. thematic framing of shooting event**

To test H9, which states journalists framing information episodically will display more nonneutral nonverbal behavior than journalists framing information thematically, an ANOVA was conducted (Table 11). Frames were categorized as very episodic, or those dealing only with the current event; somewhat episodic, or those that are mostly about current events but bring in context from a few other events; somewhat thematic, or those that are mostly about broader issues, while using the current event as context; or very thematic, those that only address broader issues with no context of the current event. Skewness was met for all categories of NNS and JF, but kurtosis assumptions were only met for NNS. Levene’s test was significant for both variables so Welch’s ANOVAs were used.

H9 was supported for NNS: Journalists were most likely to appear neutral when the event was framed episodically (focused specifically on the event), and they were least likely to appear neutral when the event was framed thematically (focused on broader issues). Looking at the statistics, Welch’s ANOVA results show there was a significant difference in the nonverbal
neutrality of broadcasters by journalists’ framing for NNS \(F(3, 316.53) = 111.69, p < .001,\) partial \(\eta^2 = .09\], and JF [Welch’s \(F(3, 298.90) = 8.32, p < .001,\) partial \(\eta^2 = .02\)]. Journalists became less neutral (meaning an increase in mean NNS) as framing became more thematic: from very episodic (\(M=3.00, SD=1.63\)), to somewhat episodic (\(M=3.96, SD=1.49\)), to somewhat thematic (\(M=3.97, SD=1.61\)), to very thematic (\(M=4.95, SD=1.43\)). Games-Howell post-hoc tests showed a mean NNS increase from very episodic to somewhat episodic groups was significant (.96, 95% CI [.77, 1.15], \(p < .001\)), as well as very episodic to somewhat thematic (.97, 95% CI [.73, 1.20], \(p < .001\)), very episodic to very thematic (1.94, 95% CI [1.51, 2.38], \(p < .001\)), somewhat episodic to very thematic (.99, 95% CI [.53, 1.44], \(p < .001\)), and somewhat thematic to very thematic (.98, 95% CI [.50, 1.45], \(p < .001\)) framing groups. Somewhat episodic to somewhat thematic framing groups were not significant.

H9 was supported for JF. Like NNS, coverage became less neutral, and more negatively valenced, as the framing of the shooting event became more thematic and less focused on the facts of the specific event. Looking at the statistics, the mean JF progressed further from zero, and thus became more negatively valenced, from very episodic (\(M=-.05, SD=.20\)), to somewhat episodic (\(M=-.07, SD=.24\)), to somewhat thematic (\(M=-.09, SD=.24\)), to very thematic (\(M=-.21, SD=.41\)). Games-Howell post-hoc tests showed mean JF difference between very episodic to somewhat thematic (.04, 95% CI [.01, .08]) framing was significant \(p = .01\), as well as very episodic to very thematic (.16, 95% CI [.04, .29], \(p = .004\) and somewhat episodic to very thematic (.14, 95% CI [.01, .26], \(p = .02\)). No other group differences were significant.\(^{13}\)

\(^{13}\) Kruskal-Wallis H tests showed there was a statistically significant difference in NNS and JF between frames, NNS - \(\chi^2(3) = 276.14, p < .001\), with similar mean ranks as the ANOVA. JF - \(\chi^2(3) = 19.74, p < .001\) with similar mean ranks as the ANOVA.
This suggests the more episodic the framing of the event, the more neutral the nonverbal behavior will be, regardless of whether measuring muscle movements or valence; alternatively, the more thematic the framing of the event, the less likely the nonverbal behavior will be neutral and the more unfavorable the reactions. Findings are consistent with BECV.

Table 11

<table>
<thead>
<tr>
<th>DV</th>
<th>Very episodic M(SD)</th>
<th>Somewhat episodic M(SD)</th>
<th>Somewhat thematic M(SD)</th>
<th>Very thematic M(SD)</th>
<th>Welch’s F</th>
<th>d.f</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>3.00(1.63)</td>
<td>3.96(1.49)</td>
<td>3.97(1.61)</td>
<td>4.95(1.43)</td>
<td>111.69*</td>
<td>3, 316.53</td>
</tr>
<tr>
<td>JF</td>
<td>-.05(.20)</td>
<td>-.07(.24)</td>
<td>-.09(.24)</td>
<td>-.21(.41)</td>
<td>8.32*</td>
<td>3, 298.09</td>
</tr>
</tbody>
</table>

Note. Significance indicated by * p < .001.

RQ1: Topics of news coverage

RQ1 asks whether topics of coverage predict the neutrality of nonverbal behavior of the journalist. To answer RQ1, a one-way ANOVA was conducted (Table 12). Topics were categorized as facts, which denotes discussing the details of the scene, events of what happened, the shooter, or weapons used; policy, which includes discussions of gun laws, mental health regulations, and ways to increase school safety; reactions, which includes how the community is coping, national reaction, and condolence statements from politicians; and first-hand accounts, which includes witness and survivor accounts. NNS met skewness and kurtosis assumptions, but JF did not. Because the Levene’s test was significant, a Welch’s ANOVA was used.

Findings for NNS indicate broadcasters are least neutral nonverbally when covering policy topics, but their nonverbal behaviors are most neutral when covering facts about the event. Looking at the data, Welch’s ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by topic, both for NNS [Welch’s F(3, 1156.97) = 85.90, p <
.001, partial $\eta^2 = .07$] and $JF$ [Welch’s $F(3, 1079.09) = 8.70, p < .001, partial \eta^2 = .01$].

There was an increase in mean $NNS$ from the $facts$ topic group ($M=2.95, SD=1.67$) to $reactions$ ($M=3.23, SD=1.53$) to $first-hand accounts$ ($M=3.35; SD=1.65$) to $policy$ ($M=4.11, SD=1.57$).

$Facts$ were the most neutral, and $policy$ was the least neutral nonverbally. Games-Howell post hoc analysis revealed that the mean increase from $facts$ to $policy$ (1.16, 95% CI [$.97, 1.34]$) was significant ($p < .001$), as well as the increase from $facts$ to $reactions$ ($.28, 95\% CI [.09, .48], p = .001$), $facts$ to $first-hand accounts$ ($.40, 95\% CI [.15, .65], p < .001$), $policy$ to $reactions$ (.87, 95% CI [.65, 1.09], $p < .001$), $policy$ to $first-hand accounts$ (.76, 95% CI [.48, 1.03], $p < .001$).

The difference between $reactions$ and $first-hand accounts$ was not significant.

$JF$ results show that broadcasters are most neutral when discussing facts about the event, but they are least neutral and most unfavorable when discussing policy, similar to $NNS$ findings. This indicates journalists discussing policy issues are most likely to display negative emotions of fear, anger, sadness, or disgust. Mean $JF$ progressed further from zero (became more negatively valenced) from $facts$ ($M= -.04, SD= .19$), to $reactions$ ($M= -.05, SD= .19$), to $first-hand accounts$ ($M= -.07, SD= .27$), to $policy$ ($M= -.10, SD= .26$). Games-Howell post hoc analysis revealed mean $JF$ difference from $facts$ to $policy$ (.05, 95% CI [.03, .08]) was significant ($p < .001$), as well as the mean $JF$ difference from $reactions$ to $policy$ (.05, 95% CI [.02, .08], $p=.001$). No other relationships were significant.\footnote{Kruskal-Wallis H tests showed there was a statistically significant difference in $NNS$ and $JF$ between topics, $NNS - \chi^2(3) = 230.26, p < .001$, with similar mean ranks as the ANOVA. $JF - \chi^2(3) = 25.23, p < .001$ with similar mean ranks as the ANOVA.}

The findings indicate topic of coverage influences nonverbal neutrality. As broadcasters discuss various aspects of the event, they are more likely to remain neutral when sticking to the facts, while their nonverbal neutrality decreases when discussing policy. This is consistent with
BECV, as the social context shapes nonverbal behavior. It is also consistent with framing findings from H9 that journalists discussing issues that go beyond the specific facts tend to appear less neutral nonverbally.

<table>
<thead>
<tr>
<th>Table 12</th>
<th>RQ1: Analysis of Variance Results for Nonverbal Neutrality and Topics of Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variables</td>
<td>Facts of shooting M(SD)</td>
</tr>
<tr>
<td>NNS</td>
<td>2.95(1.66)</td>
</tr>
<tr>
<td>JF</td>
<td>-.04(.19)</td>
</tr>
</tbody>
</table>

Note. Significance indicated by * p < .001.

**RQ2: Sources of information**

RQ2 asks whether source of information affects the neutrality of nonverbal behavior of the journalist. An ANOVA was conducted to assess RQ3. The categories of source included officials, which includes elected officials, police, first responders, and school officials; experts, including legal, law enforcement and mental health experts, and interest or lobby group representatives; communities, including survivors, witnesses, their families, family members or acquaintances of the shooters, community members of affected area, or man-on-street/national; victim of previous event, which was anyone affected by a previous school shooting; journalists, either other media sources or the journalist reporting as a first-person witness; and no source given, when a source was not explicitly cited. Neither NNS nor JF fully met skewness and kurtosis assumptions. Levene’s test was significant for JF, so a Welch’s ANOVA was used, but it was not significant for NNS (p = .34) so a traditional ANOVA was conducted.
RQ2 findings suggest broadcasters’ nonverbal behaviors in terms of NNS differ based on source; the most neutral presentations involved no sources, while the least neutral presentations involved journalists as sources, such as citing themselves as a first-person witness or other media outlets. Notably, neutrality also tends to be higher when officials serve as sources and lower when experts serve as sources. ANOVA results show there was a significant difference in the nonverbal neutrality of broadcasters by source, both for the NNS \[F(5, 3171) = 51.04, p < .001, \text{partial } \eta^2 = .07\] and JF \[\text{Welch’s } F(5, 442.12) = 52.50, p < .001, \text{partial } \eta^2 = .02\]. There was an increase in mean NNS (meaning less neutral) from no source \((M=2.77, SD=1.67)\), to officials \((M=3.14, SD=1.62)\), to communities \((M=3.37; SD=1.57)\), to previous victims \((M=3.81, SD=1.44)\), to experts \((M=3.88, SD=1.63)\), to journalists \((M=4.41, SD=1.52)\) source groups.

Tukey’s post hoc analysis shows the mean difference from officials to experts \((.74, 95\% \text{ CI } [.47, 1.01])\) was significant \((p < .001)\), as well as the increase from communities to experts \((.51, 95\% \text{ CI } [.22, .80], p < .001)\), experts to journalists \((.53, 95\% \text{ CI } [.15, .90]), p = .001\), no source to experts \((1.11, 95\% \text{ CI } [.82, 1.40], p < .001)\), communities to officials \((.22, 95\% \text{ CI } [.00, .45], p = .049)\), communities to journalists \((1.04, 95\% \text{ CI } [.70, 1.38], p < .001)\), no source to communities \((.60, 95\% \text{ CI } [.82, 1.40], p < .001)\), previous victims to officials \((.66, 95\% \text{ CI } [.01, 1.32], p = .04)\), no source to previous victims \((1.04, 95\% \text{ CI } [.37, 1.70], p < .001)\), officials to journalists \((.37, 95\% \text{ CI } [.15, .60], p < .001)\), no source to journalists \((1.64, 95\% \text{ CI } [.37, 1.70], p < .001)\). No other group differences were significant.

For the JF analysis, nonverbal neutrality differed based on source of information, with the most nonverbally neutral reports being sourced to officials or when no source is cited, and the most negative nonverbal expressions when sourcing other journalists or themselves. Looking at the statistics, there was an increase in mean JF (meaning more negatively valenced) from
official ($M=-.04, SD=.18$) to no source ($M=-.05, SD=.18$), communities ($M=-.05, SD=.25$),
previous victim ($M=-.06, SD=.26$), experts ($M=-.09, SD=.27$), and journalists ($M=-.13, SD=.27$).
Games-Howell post hoc analysis revealed mean JF difference from officials to journalists (.09, 
95% CI [.04, .14]) was significant ($p < .001$), as well as from communities to journalists (.08, 
95% CI [.02, .13], $p = .001$), no source to experts (.05, 95% CI [.004, .09], $p = .02$), and no 
source to journalists (.09, 95% CI [.03, .14], $p < .001$). No other relationships were statistically 
significant.\footnote{Kruskal-Wallis H tests showed there was a statistically significant difference in NNS and JF between sources, 
NNS - $\chi^2(5) = 233.35, p < .001$, with similar mean ranks as the ANOVA. JF - $\chi^2(5) = 43.99, p < .001$ with similar 
mean ranks as the ANOVA.}

Overall, findings suggest the routine practice of sourcing officials contributes to more 
neutral presentations of nonverbal behavior during crises, although citing no source was the most 
neutral for NNS. It is also interesting to note broadcasters who source and talk to those most 
affected by the trauma, communities, were more neutral nonverbally than those journalists 
sourcing experts and journalists. These findings are generally consistent with BECV.

<table>
<thead>
<tr>
<th>DV</th>
<th>No source M(SD)</th>
<th>Officials M(SD)</th>
<th>Communities M(SD)</th>
<th>Previous victims M(SD)</th>
<th>Experts M(SD)</th>
<th>Journalists M(SD)</th>
<th>F</th>
<th>d.f</th>
</tr>
</thead>
<tbody>
<tr>
<td>NNS</td>
<td>2.77 (1.67)</td>
<td>3.14 (1.63)</td>
<td>3.37 (1.57)</td>
<td>3.81 (1.44)</td>
<td>3.88 (1.64)</td>
<td>4.41 (1.52)</td>
<td>51.04*</td>
<td>5, 3171</td>
</tr>
<tr>
<td>JF</td>
<td>-.05 (.18)</td>
<td>-.04 (.18)</td>
<td>-.05 (.25)</td>
<td>-.06 (.26)</td>
<td>-.09 (.27)</td>
<td>-.13 (.27)</td>
<td>Welch’s 6.96*</td>
<td>5, 428.17</td>
</tr>
</tbody>
</table>

\textit{Note}. Significance indicated by * $p < .001$. 

\footnote{Kruskal-Wallis H tests showed there was a statistically significant difference in NNS and JF between sources, 
NNS - $\chi^2(5) = 233.35, p < .001$, with similar mean ranks as the ANOVA. JF - $\chi^2(5) = 43.99, p < .001$ with similar 
mean ranks as the ANOVA.}
RQ3: Individual level factors by Graber’s stages of coverage

RQ3 asks how the relationships between individual-level factors and neutrality of nonverbal behavior vary across Graber’s three stages. Graber’s (2002) theory predicts how neutrality varies as journalistic work patterns shift and trauma impacts journalists differently over time, across the three stages. While results of H5 suggest stages are not significant direct predictors of nonverbal variability, they could help build understanding of how the influences of journalists’ work contexts (the nature of the event, proximity to the event, etc.) on journalists’ neutrality may changes as the news coverage unfolds. To test this, two-way ANOVAs were conducted. While analysis of all main effects were conducted, only the coefficients for stages of coverage are reported here, since, logically, stages as a higher-order variable (social typification), will moderate the effects of individual-level variables, rather than the other way around.

Age of shooting victims*Stages of coverage. For NNS, residual analysis was performed to test assumptions of the two-way ANOVA. Skewness was within the -1 to 1 range for all categories, as was kurtosis, except stage three*youngest victims. However, tests of normality were significant ($p < .05$) as determined by a Shapiro-Wilk’s test, suggesting assumptions of normality were not met. Levene’s test of equality of error variances was significant ($p < .05$). The two-way ANOVA is robust enough to deal with violations, especially with large datasets (Jaccard, 1998), but results for NNS should be interpreted cautiously, as should other two-way ANOVA results below where normality assumptions were not met.

Results of the two-way ANOVA show a significant interaction between age of victims and stages of coverage for NNS, $F(4, 3168) = 5.03, p < .001$, partial $\eta^2=.01$. There was a main effect for age groups [$F(2, 3168)=28.94, p < .001$] and stages of coverage [$F(2, 3168)=20.08, p < .001$]. A significant difference in NNS by age of victim was found for the second
9.21, \( p < .001\) and third stage \([F(2, 3168)=26.57, p < .001, \text{partial } \eta^2 = .02]\), but not the first \([F(2, 3168)=2.95, p = .05]\).

Interpreting these findings, the difference in neutrality by age of victim is the most dramatic in the third stage of coverage, with the mean NNS much higher (less neutral) for coverage of shootings with mid-range victims \((M=4.10, SD=.09)\) than for shootings with younger victims \((M=3.11, SD=.08)\) or older victims \((M=3.23, SD=.09)\). A similar and statistically significant pattern is found in the second stage of coverage. The results suggest that the influence of age of victim on level of nonverbal neutrality depends on the stage of coverage, where events with younger victims are most neutral in the first stage and least neutral in the third. BET-based predictions that events with younger victims would lead journalists to be less neutral and Graber’s predictions about stage two (the interpretive stage) being the least neutral are not supported in these findings. See Figure 1 for the line graph of this two-way ANOVA.

*Figure 1. NNS Means of Age of Victims by Stage of Coverage*
For JF, residual analysis was performed to test assumptions. Skewness was within range for all categories except stage one*youngest and stage three*youngest. No kurtosis measures were within range. Tests of normality were significant (p < .05) as determined by a Shapiro-Wilk’s test, suggesting assumptions of normality were not met. Levene’s test of equality of error variances was significant (p < .05).

Results of the two-way ANOVA show a significant interaction between age of victims and stages of coverage for JF, F(4, 3168) = 3.13, p = .01. There was also a main effect for victim age groups [F(2, 3168) = 5.78, p = .003], but not stage of coverage [F(2, 3168) = .17, p = .85]. A significant difference in JF by age of victim was found for the third stage [F(2, 3168) = 8.80, p < .001] but not the first [F(2, 3168)=1.17, p = .31] or second stage [F(2, 3168)=2.78, p = .06]. In the third stage of coverage, the difference in neutrality by age of victim is the most negatively valenced for coverage of shootings with the youngest victims (M=-.09, SD=.01) compared to shootings with both oldest (M=-.03, SD=.01) and mid-range aged victims (M=-.07, SD=.01).

Interpreting these findings, it is in the third stage of coverage that broadcasters’ nonverbal behavior is most dramatically negative when covering younger victims, and these unfavorable reactions are strongest for events with young victims. Findings overall are consistent with BET predictions that shootings with younger victims will lead journalists to react more negatively, but instead of seeing the most negative nonverbal expressions in stage two as Graber predicts, these findings show the most negative reactions in the third stage. See results in Figure 2 below.
Number of deaths*Stages of coverage. For NNS, skewness was within range for all categories; kurtosis was met for all categories except stage one*highest and stage three*lowest. The Shapiro-Wilk’s test of normality was significant (p < .05), suggesting assumptions of normality were not met. Levene’s test of equality of error variances was significant (p < .05).

Results of the two-way ANOVA show a significant interaction between number of deaths and stages of coverage for NNS, $F(4, 3168) = 89.56, p < .001$, partial $\eta^2 = .01$. Main effects were found for number of deaths [$F(2, 3168) = 7.03, p = .001$] and stages of coverage [$F(2, 3168) = 16.83, p < .001$]. A significant difference in NNS by number of victims was found for the second [$F(2, 3168) = 17.12, p < .001$] and third stage [$F(2, 3168) = 4.82, p = .01$], but not the first [$F(2, 3168) = 2.65, p = .07$].
In the second stage, events with the lowest number of victims were least neutral (highest NNS) ($M=3.65$, $SD=.09$), compared to shootings with the highest number of victims ($M=2.96$, $SD=.08$) or mid-range number of victims ($M=3.23$, $SD=.09$). This goes against BET-based predictions of events with more severe death tolls having less neutral coverage since those events with the lowest numbers of deaths is the least neutral.

For the third stage, however, the events that were least neutral (highest NNS) were those with mid-range number of victims ($M=3.72$, $SD=.08$), compared to those with the highest ($M=3.57$, $SD=.09$) and lowest ($M=3.33$, $SD=.09$) number of victims. This shows that the severity of the event by the number of deaths has the greatest effect in the third stage of coverage, rather than the second as Graber and trauma literature predict. See Figure 3.

*Figure 3. NNS Means by Number of Deaths by Stage of Coverage*
For JF, skewness was within range for all categories except stage one*lowest deaths, stage one*highest deaths, stage two*highest deaths, and stage two *middle deaths. No categories were within range for kurtosis. The Shapiro-Wilk’s test normality was also significant (p < .05), and Levene’s test of equality of error variances was significant (p < .05).

Results of the two-way ANOVA show there was a significant interaction between number of deaths and stages of coverage for JF, \( F(4, 3168) = 5.387, p < .001 \), partial \( \eta^2 = .01 \). No main effects were found for number of deaths \( [F(2, 3168) = 1.57, p = .21] \) or stage of coverage \( [F(2, 3168)] = .09, p = .91] \). There was a significant difference in JF for coverage of shootings with different death rates for the first stage \( [F(2, 3168) = 5.64, p = .004] \) and third stage \( [F(2, 3168) = 3.09, p = .046] \), but not the second stage \( [F(2, 3168) = 2.40, p = .09] \).

For the first stage, events with the lowest number of deaths had the lowest JF, or most negative nonverbal valence \( (M = -.08, SD = .01) \), compared to those with the highest \( (M = -.07, SD = .02) \) and mid-range \( (M = -.03, SD = .01) \) number of deaths. This is not consistent with BET-based predictions that events with more deaths will lead to more negative nonverbal behavior.

For the third stage, however, events with the highest number of deaths had the most negative JF or highest number of negative expressions \( (M = -.09, SD = .01) \), compared to those with the mid-range \( (M = -.06, SD = .01) \) and lowest \( (M = -.04, SD = .01) \) number of deaths. This reflects the BET-based predictions about influence of severity on emotion, but not Graber’s prediction that the second stage will be the least neutral. See Figure 4.
Given the similarity of the findings for both severity factors (age and number of victims), post-hoc chi-squares were run to see if there were associations between typification factors (role performance, framing, topic, and source) and these severity factors (age of and number of victims). Outputs were grouped by stages for reflections across the stages of coverage. For all typifications, there was a significant, but small, association between the severity factors and typifications. More objective typifications (disseminator role performance, episodic framing, facts, and officials as sources) were most common for younger victims and higher deaths (more traumatic situations) in the first stage, and less objective typifications (adversarial role performance, thematic framing, policy topics, and journalists as sources) were more common in the later stages. This suggests journalists rely on more objective practices in more severe cases earlier in the coverage and rely less on objective practices in later stages of severe crises.
**Location*Stages of Coverage.** For NNS, skewness and kurtosis were met for all categories. The Shapiro-Wilk's test of normality was significant \( p < .05 \), and Levene's test of equality of error variances was significant \( p < .05 \).

Results of the two-way ANOVA show a significant interaction between location and stages of coverage for NNS, \( F(6, 3165) = 4.40, p < .001 \). However, no main effects were found for either stages of coverage or location. For stages of coverage, there was a significant difference in NNS for reporters proximity for the first \( F(3, 3165) = 3.73, p = .01, \text{partial } \eta^2 = .004 \) and second stage \( F(3, 3165) = 4.82, p = .002, \text{partial } \eta^2 = .01 \), but not the third \( F(3, 3165) = 2.53, p = .06 \). For the first stage, NNS was highest (least neutral) for broadcasters reporting from a secondary scene \( (M=3.56, SD=.50) \), compared to those on scene \( (M=3.47, SD=.13) \), in a newsroom \( (M=3.08, SD=.06) \), or at an alternative scene \( (M=2.75, SD=.24) \).

Interpreting these findings, they appear consistent with BET-based predictions that nonverbal behavior will be more influenced by trauma effects, as sites close to the shooting are more likely traumatic. However, this happens in the first stage of coverage and not in the second stage as Graber and trauma literature predict.

For the second stage, journalists reporting from an alternative scene were least neutral (highest NNS) \( (M=3.46, SD=.21) \), compared to those reporting from the newsroom \( (M=3.38, SD=.07) \), secondary scene \( (M=3.32, SD=.17) \), and on scene \( (M=3.00, SD=.08) \). This suggests that by the second stage, broadcasters who are closer to the scene become more neutral than those reporting further away from the trauma. This does not follow the predicted timeline from Graber's theory, but it is consistent with BET research that suggests those who violate cultural display rules may perform masking techniques later to hide their emotions. See Figure 5.
For JF, results of the two-way ANOVA show there was not a significant interaction between location and stages of coverage for JF, $F(6, 3165) = 1.67, p = .13$. There were no main effects for location [$F(3, 3165) = 2.60, p = .05$] or stages of coverage [$F(2, 3165) = .97, p = .38$] either. Therefore, results suggest nonverbal behavior as measured by JF does not differ significantly by location between stages of coverage.

**Affiliation*Stages of Coverage.** For NNS, all categories were within -1 to 1 range for skewness and kurtosis. The Shapiro-Wilk’s test of normality were significant ($p < .05$), and Levene’s test of equality of error variances was significant ($p < .05$).

Results of the two-way ANOVA show there was a significant interaction between affiliation and stages of coverage for NNS, $F(2, 3171) = 6.44, p = .002$. There was not a statistically significant main effect found for either affiliation or stages of coverage. There was a
significant difference in NNS for stages of coverage for the first \( F(1, 3171) = 7.48, p = .01 \), and third stage \( F(1, 3171) = 5.27, p = .02 \), but not the second \( F(1, 3171) = .151, p = .70 \).

Interpreting these findings, for the first stage, local broadcasters were the least neutral (highest NNS) \( (M=3.50, SD=.14) \), compared to national broadcasters \( (M=3.08, SD=.06) \). This is consistent with BET predictions that those more emotionally connected to a community will be less neutral in their nonverbal behaviors. However, it does not occur in the second stage as Graber predicts, but instead during the first stage.

The opposite pattern was seen in the third stage, where national broadcasters \( (M=3.60, SD=.06) \) were less neutral than local broadcasters \( (M=3.28, SD=.13) \). This is consistent with BET-based predictions that as time goes on in the news coverage, journalists more emotionally close to the community affected will work to mask their true emotions in their nonverbal behavior. See Figure 6.

Figure 6. NNS Mean for Affiliation by Stage of Coverage
For JF, skewness was within range for all categories except for stage one*local and stage two*local. Kurtosis was not met for any categories. The Shapiro-Wilk’s test normality was significant (p < .05), and Levene’s test of equality of error variances was significant (p < .05).

Results of the two-way ANOVA show there was a statistically significant interaction between affiliation and stages of coverage for JF, \( F(2, 3171) = 17.18, p < .001 \). There was a main effect for stages of coverage \( [F(2, 3171) = 7.07, p = .001] \) but not affiliation \( [F(1, 3171) = .28, p = .60] \). There was a significant difference in JF for stages of coverage for the first \( [F(1, 3171) = 19.29, p < .001] \), and third stage \( [F(1, 3171) = 15.08, p < .001] \), but not the second \( [F(1, 3171) = .01, p = .94] \). For the first stage, mean JF was most negative and thus the least neutral, for local broadcasters (\( M=-.13, SD=.02 \)), compared to national broadcasters (\( M=-.05, SD=.01 \)).

Interpreting these results, this is not consistent with BET predictions that those more tied to the community, and presumably more emotionally connected to the community, will experience effects of trauma more in their nonverbal communication. The opposite pattern was found in the third stage, though, where the mean JF was most negative and thus the least neutral, for national broadcasters (\( M=-.08, SD=.01 \)), compared to local broadcasters (\( M=.002, SD=.02 \)). This is consistent with BET theory, which suggests those closer to the event emotionally would begin nonverbal masking as coverage continues. This suggests local journalists react more negatively in stage one, while they are the most neutral in stage three; alternatively, national journalists react more negatively in stage three, while they are the most neutral in stage one. This is not consistent with Graber’s predictions about stages. See Figure 7 for this.
To sum up findings of RQ3, it appears for more traumatic events (those with younger victims and higher death tolls), journalists display more nonverbal neutrality during the more chaotic early coverage stage, but they tend to display the least neutrality during the third coverage stage. However, factors of proximity (being closer to the scene or more emotionally connected to the community) leads to less neutrality in the first, more chaotic stage. Also, the second stage is generally not the least neutral stage, counter to Graber’s predictions.

**RQ4: Assessing relative importance of factors influencing neutrality (multiple regression)**

RQ4 asks which factors among the individual and social levels are most important in understanding variability of journalists’ nonverbal neutrality. A hierarchical multiple regression was conducted for both NNS and JF. Hierarchical multiple regressions allow prediction of a dependent variable based on multiple independent variables, entering the IVs into the equation in
an order of theoretical importance. This allows for control of the effects of any covariates, as well as assessing causal effects of IVs when predicting the DV.

Independent variables at the ordinal or nominal level were recoded as dummy variables. The ordinal-level variables, age of victims, number of deaths, and physical proximity, were recoded into dichotomous variables. Age was split into 1-oldest (Virginia Tech, Umpqua, and Santa Fe) and 0-youngest (Parkland, Columbine, and Sandy Hook) victims. Number of deaths was recoded into 1-highest (Virginia Tech, Sandy Hook, Parkland) and 0-lowest (Columbine, Santa Fe, Umpqua) number of deaths. Physical proximity was recoded into 1-furthest (alternative scene and newsroom) and 0-closest (scene and secondary scene).

For the nominal categories of race, role, topic, stage and source, a dummy coding strategy was used where a reference category was chosen based on which category was most common in terms of journalistic practice. The other categories of that IV were then recoded into a dichotomous variable of 1-category, 0-other; the reference category was left out of the analysis. The resulting beta coefficients indicate the difference in NNS or JF for each of the dichotomous dummy variables in comparison to the omitted reference category. For stage, stage one was chosen as the reference category because it is the first in the timeline. For race, white was chosen as the reference category since there are more white journalists than minority journalists in newsrooms (RTDNA, 2019), and it allows for comparisons of each minority group against a common reference. For role performance, disseminator was chosen for the reference category since it is the most common in objective journalism practice (Weaver, Willnat, & Wilhoit, 2019). For topic, facts was chosen for the reference category since objectivity norm definitions often rely on the sharing of neutral facts (Schudson, 2001); for source, officials was chosen as the
reference category since journalists use official sources more than any other in typical practice (Skovsgaard et al., 2013).

Regression assumptions were tested. For NNS, the Durbin-Watson statistic was 1.51, well within the 0-4 range (Berry, 1993), meeting the assumption of independent observations. Examination of scatterplots of residuals versus unstandardized predicted values indicated data met linearity assumptions. No correlations were larger than .70 and tolerance values were greater than .10, indicating no multicollinearity among independent variables. Studentized deleted residuals, leverage values, influential points, and assumptions of normality were studied, and assumptions were met.

The full model of demographic, individual-level, stage, and typification-level characteristics to predict NNS (Model 4) was significant, $F(22, 3154) = 35.73, p < .001$; adjusted $R^2$ of .20. Blocks of variables were entered. Typification variables have the strongest influence on nonverbal neutrality of journalists, followed by individual-level factors, and then stages of coverage. Specifically, the addition of the typification factors to the prediction of NNS (Model 4) led to a statistically significant increase in $R^2$ of .19, $F(12, 3154) = 52.53, p < .001$. The addition of stage of coverage factors to the prediction of NNS (Model 3) led to a significant increase in $R^2$ of .04, $F(2, 3166) = 18.61, p < .001$. The addition of individual-level factors to predict NNS (Model 2) also led to a significant increase in $R^2$ of .03, $F(3, 3168) = 24.66, p < .001$.

Table 18 reports the unstandardized ($B$) and standardized ($\beta$) regression coefficients for individual predictors in the four models, using NNS as the dependent variable. When the typification factors are added in the fourth model, 13 factors explained additional variance in NNS. Of those, role performance, specifically the adversarial role, explained the largest portion with a moderately strong effect ($\beta = .33, p < .001$), such that broadcasters performing adversarial
roles were much less neutral (higher NNS) than those performing disseminator roles. Similarly, broadcasters performing interpretative roles ($\beta = .14, p < .001$) and those performing populist-mobilizer roles ($\beta = .14, p < .001$) are predicted to be less neutral than those performing disseminator roles, which suggests journalists performing the disseminator role are the most neutral nonverbally.

Three source categories significantly explained variance in NNS: expert ($\beta = .04, p < .05$), no source ($\beta = -.07, p < .001$), and journalist ($\beta = .13, p < .001$). This suggests broadcasters who use no source will display more neutral nonverbal behavior than those using officials as sources. Alternatively, those using experts and journalists as sources will display less neutral nonverbal behavior than will journalists using official sources. Therefore, the strongest factors in the model -- role performance and source -- are typification factors, suggesting more consistency with BECV-related variables.

However, two individual-level variables, age of victims and number of deaths, were still significant when stages of coverage and typification-level factors were added to the model. This suggests these factors, which are conceptually linked to individual reactions to traumatic stimuli (consistent with the BET approach), continue to hold predictive importance even when controlling for all other factors. The age of victims factor shows less neutral coverage for events with younger victims compared to older victims, which is consistent with BET predictions; these findings differ from those found in the one-way ANOVA in H1, which is likely caused by having to dichotomize the variable into younger and older, rather than three distinctions of age. Affiliation did not follow the predicted BET pattern, since national broadcasters, who are less emotionally connected to the communities affected, were less neutral than local broadcasters.
It’s worth noting that in the full model, race, particularly for Black and Hispanic journalists, and gender (females less neutral than males) continued to be significant even when controlling for all other factors. This suggests these demographic factors have predictive importance in terms of nonverbal neutrality. Additionally, it is important to note the regression did not find significance for stages of coverage, providing no support here for Graber’s stages of crisis coverage theory (2002).

Table 14
*RQ5: Hierarchical multiple regression results for NNS: Negative coefficients=more neutrality*

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
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<td>Role, Adversarial</td>
<td>Role, Populist-mobilizer</td>
<td>Topic, Policy</td>
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<td>(0-Episodically; 1-Thematically)</td>
<td>(0-Disseminator; 1-Interpretative)</td>
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<td>.21*</td>
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Note. $R^2 = .20 (p > .001)$; $B$ – Unstandardized Coefficient Beta; $\beta$ – Standardized Coefficients Beta; $N=3,177$; 
*p < .05; **p < .01; ***p < .001

Regression assumptions were tested for $JF$. The Durbin-Watson statistic was 1.78, well within the 0-4 range, meaning it met an assumption of independent observations. Examination of scatterplots of residuals vs. unstandardized predicted values indicated data met linearity assumptions. No correlations were larger than .70 and tolerance values were greater than .10, indicating no multicollinearity among independent variables. Studentized deleted residuals,
leverage values, influential points, and assumptions of normality were studied and assumptions were met.

For JF, the full model of demographic, individual-level, stages, and typification-level characteristics to predict JF (Model 4) was significant, $F(22, 3154) = 5.15, p < .001$; adjusted $R^2$ of .03. Blocks of variables were entered. Typification-level factors have the strongest influence on the negative nonverbal reaction of journalists, compared to individual-level and stage factors, which did not significantly predict variation in the negative reactions of broadcast journalists. Specifically, the addition of typification-level factors to the prediction of JF (Model 4) led to a significant increase in $R^2$ of .04, $F(12, 3154) = 8.61, p < .001$. However, the addition of individual-level factors (Model 2) did not lead to a significant increase in $R^2$, $F(3, 3168) = 1.33, p = .26$, and the addition of the stage factor (Model 3) did not lead to a statistically significant increase in $R^2$ either, $F(2, 3166) = .50, p = .61$. Table 19 reports the unstandardized ($B$) and standardized ($\beta$) regression coefficients for the four models using JF as the dependent variable.

When typification-level factors were added in Model 4, race=Black ($\beta=.04, p < .05$) was significant, along with four others: role=adversarial ($\beta=-.13, p < .001$); journalist as a source ($\beta=-.08, p < .001$); expert source ($\beta=-.04, p < .05$); and location ($\beta=.06, p < .01$). Adversarial role enactment explained the largest amount of variance but still with a relatively weak effect, where broadcasters performing an adversarial role had a more negative JF, and thus more negative nonverbal reaction, than broadcasters performing a disseminator role. Broadcasters who used journalists or experts as sources also had a weak effect on JF variance, where those reporting with journalists or experts as sources were more likely to have a negative JF, and thus be more emotionally negative in their nonverbal reactions, than those using officials as sources. These findings suggest typification influences of role performance and source are the strongest
predictors of emotional valence of nonverbal reactions, which shows greater consistency with BECV. These findings are similar to those of NNS, above.

The individual-level factor of location (or physical proximity), had a weak effect on JF variance even when typification and stage variables were added: Broadcast journalists closer in physical proximity to the shooting event were more likely to have a negative JF, and thus have a more negative reaction nonverbally, than those further from the shooting event. This suggests the strongest individual-level predictor of emotional valence was location.

It’s worth noting that in the full model, race, specifically for Black journalists, remains significant even when all other variables are considered. This suggests a stronger than expected racial factor in nonverbal neutrality.

Additionally, the stages of coverage were not significant in the JF model, similar to the NNS model, offering no support for Graber’s stages of crisis coverage. See Table 19 for full details on each regression model.

<table>
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<th>Table 15</th>
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<td>RQ5: Hierarchical multiple regression results for JF: Negative coefficients=less neutrality</td>
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</tbody>
</table>

*Note. $R^2 = .03$ (p < .001); $B$ – Unstandardized Coefficient Beta; $\beta$ – Standardized Coefficients Beta; $N = 3,177$ *p < .05; **p < .01; ***p < .001
Table 16 offers a summary of the findings from the proposed hypotheses and research questions.

<table>
<thead>
<tr>
<th>Hypothesis/Research Question</th>
<th>Finding summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: The younger the age group of the victims in the event, the less neutral the nonverbal behavior of broadcast journalists will be immediately following the crisis.</td>
<td>Not supported: Both NNS and JF vary significantly based on age of victim, but the hypothesis that journalists would be less neutral covering younger victims held only for JF.</td>
</tr>
<tr>
<td>H2: The more deaths from the event, the less neutral the nonverbal behavior of broadcast journalists will be immediately following the crisis.</td>
<td>Not supported: NNS varies significantly based on number of deaths, but not in the hypothesized pattern since events with lower deaths are most neutral. JF is not significant.</td>
</tr>
<tr>
<td>H3: The closer a journalist is physically to the location of the crisis scene, the less neutral their nonverbal behavior will be immediately following the crisis.</td>
<td>Not supported: NNS and JF are not significant.</td>
</tr>
<tr>
<td>H4: Local journalists will be less neutral in their nonverbal behaviors than national journalists immediately following the crisis.</td>
<td>Not supported: NNS and JF are not significant.</td>
</tr>
<tr>
<td>H5: The nonverbal behavior of journalists will follow an inverted U pattern, where reports at the beginning and end of the event will present more neutral nonverbal behaviors than the middle of the event.</td>
<td>Not supported: NNS shows significant differences between stages, but the predicted inverted U pattern is not found; instead, stages get progressively less neutral. JF is not significant.</td>
</tr>
<tr>
<td>H6: Female journalists will be less neutral in their nonverbal behaviors than male journalists immediately following the crisis.</td>
<td>Supported for NNS, not JF: NNS shows female broadcasters are significantly less neutral than males. JF is not significant.</td>
</tr>
<tr>
<td>H7: Nonverbal behavior will vary significantly based on the race of the journalist.</td>
<td>Supported for NNS, not JF: Race is a significant factor for NNS, where Black broadcasters are the most neutral and Asian broadcasters are the least neutral. JF is not significant.</td>
</tr>
<tr>
<td>H8: There will be a significant difference between the neutrality of journalists’ behavior performing different roles.</td>
<td>Supported: NNS and JF show significant variations between roles.</td>
</tr>
<tr>
<td><strong>H8a</strong>: Broadcasters performing the disseminator role will be the most neutral nonverbally.</td>
<td><strong>Supported</strong>: <em>NNS</em> and <em>JF</em> are the most neutral nonverbally when broadcasters perform disseminator roles.</td>
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<tr>
<td><strong>H8b</strong>: Broadcasters performing the adversarial role will be the least neutral nonverbally.</td>
<td><strong>Supported</strong>: <em>NNS</em> and <em>JF</em> are the least neutral when broadcasters perform adversarial roles.</td>
</tr>
<tr>
<td><strong>H9</strong>: Journalists framing information episodically will be more neutral nonverbally than journalists framing information thematically.</td>
<td><strong>Supported</strong>: <em>NNS</em> and <em>JF</em> are most neutral when broadcasters frame coverage episodically and least neutral when they frame coverage thematically.</td>
</tr>
<tr>
<td><strong>RQ1</strong>: How do the topics of coverage affect the neutrality of nonverbal behavior of the broadcast journalist immediately following the crisis?</td>
<td><em>NNS</em> and <em>JF</em> are most neutral when broadcasters are discussing topics of facts; <em>NNS</em> and <em>JF</em> are least neutral when broadcasters are discussing topics of policy.</td>
</tr>
<tr>
<td><strong>RQ2</strong>: How does the type of source the broadcast journalist is citing affect the neutrality of nonverbal behavior of the broadcast journalist immediately following the crisis?</td>
<td><em>NNS</em> and <em>JF</em> are most neutral when broadcasters are sourcing no source or officials; <em>NNS</em> and <em>JF</em> are least neutral when broadcasters are sourcing experts or journalists.</td>
</tr>
<tr>
<td><strong>RQ3</strong>: What interaction effects are there between individual-level influences and the three stages of crisis on the nonverbal neutrality of broadcasters?</td>
<td>Stages of coverage provide mediating influence on interactions between most categories of individual-level influences for <em>NNS</em> and <em>JF</em>.</td>
</tr>
<tr>
<td><strong>RQ4</strong>: Which factors among the individual and social level best predict variability of the neutrality of nonverbal behavior of broadcast journalists?</td>
<td>Typifications factors, especially role performance and source, are the strongest predictors of <em>NNS</em> and <em>JF</em>. In NNS, individual-level variables of age and number of victims as well as race and gender of journalist, remain significant in the full model. For JF, individual-level variables of location and race of journalist, remain significant in the full model. Stages of coverage factors are not significant in either model.</td>
</tr>
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</table>
CHAPTER 5.

CONCLUSION

This study advances Graber’s (2002) stages of crisis coverage theory through the application of two nonverbal theories, basic emotions theory (BET) and behavioral ecology of facial expressions (BECV), as they relate to broadcasters’ nonverbal communication during crisis. It examines the factors that influence variability in journalists’ nonverbal neutrality and emotionality. Graber’s theory shows how journalists work when facing emotional trauma, predicting patterns of behavior. This study builds on that framework to show the various factors, at both the individual and social level, that affect the nonverbal reactions of journalists in these situations, and thus overall neutrality. Since nonverbal communication has the ability to convey bias and influence the audience (Banning & Coleman, 2009; Miller, Coleman, & Granberg, 2010; Deavours, 2020a), it is important for scholars to better understand what shapes the nonverbal behaviors of journalists in these situations, a gap in the theoretical framework this research helps to fill.

A broad view of the findings suggests overall, broadcast journalists are less likely to adhere to the professional norm of neutrality in their nonverbal behavior during crises. In looking at means for the two dimensions of nonverbal neutrality, \textit{NNS} and \textit{JF}, broadcasters show more nonneutral movements than neutral ones and display more negatively valenced reactions in those behaviors than neutral or positive emotions. This suggests deviance from the norm of nonverbal neutrality, and this study has sought explanations for those deviations through exploration of individual and social level factors of influence.
The factors that cause the most variance in both dimensions of nonverbal neutrality are typifications. Since journalism is a profession that relies on standards of practice and normative behavior as a distinguishing factor (Schudson, 2001), these typifications of work impact all aspects of the newsgathering process. This study shows those standards of practice and their impact on objectivity extend to nonverbal behavior. Typifications allow broadcasters to have increased certainty in uncertain situations (Tuchman, 1972), so it is understandable that as journalists face trauma and crisis, they may rely more heavily on what they know – the socially constructed professional norms they use in doing work. Depending on the adherence of that typification to objectivity standards, nonverbal neutrality varies.

According to the regressions in RQ4, role performance is one of the strongest predictors of nonverbal neutrality, both in terms of neutrality of movement and valence of behavior. Role performance is linked to role conceptualization, and the way a journalist thinks about his or her work can greatly influence the desire to adhere to certain professional standards, especially objectivity (Weaver, Willnat & Wilhoit, 2019). H8 finds NNS and JF vary significantly based on what role a journalist is performing, where disseminator roles are the most neutral and adversarial roles are the least neutral. Broadcasters performing roles that emphasize objectivity as a central function of work, like disseminators, are more likely to work to remain neutral nonverbally even in crisis. Those performing roles that allow for greater subjectivity, like adversarial, are less likely to remain nonverbally neutral. This suggests even though most standards of objectivity and neutrality do not explicitly discuss nonverbal behavior, journalists still vary nonverbal communication based on these professional norms. These findings also support a BECV approach, which predicts journalists are not merely reacting to stimuli; they are
also working, consciously or unconsciously, to shape their nonverbal behaviors to conform to social and professional expectations.

The influence of typification factors is further emphasized through another strong predictor of neutrality: source. While one may intuitively expect journalists to be more emotional when speaking to victims and those affected by crisis, RQ2 finds journalists show no statistical difference in emotional valence whether they are talking to victims or officials. Instead, it is when journalists are talking to experts of policy reform or speaking from their personal experiences that they show significantly less neutrality. This likely happens because journalists are often trained to interview and speak to victims neutrally in everyday situations like car crashes and smaller-scale crimes, beginning early in journalism school; so when journalists need to speak to victims during crises, they rely on standard typifications of practice that are more neutral. Yet, having journalism students or early career professionals involved in discussions of policy or providing their first-person witness accounts is less routinized in journalism (Aitamurto & Varma, 2018); when journalists are left to discuss or interview expert sources on these policy issues, they may have less of a typified framework to do so objectively. When journalists serve as their own sources and cite their own experience, or use expert sources to interpret policy, they put themselves in contexts for which they have less training or preparation in terms of practicing objectivity norms; because they do not have that typified, routinized experience from which to draw from, they may be more likely to display less neutral nonverbal behavior.

Topics is the final typification that showed influence on both NNS and JF (see RQ1). Broadcasters who discussed facts were most likely to be nonverbally neutral, while journalists who were discussing topics of policy were the most likely to be nonneutral and negatively valenced in their nonverbal expressions. Since the objectivity norm outlines reliance on facts as a
key element of its definition, this has external validity. Policy topics were a significant predictor of NNS and JF in both regression models (see Tables 14 & 15). A key function of objectivity is to help journalists avoid swaying political debate (Vos, 2011), which is why policy topics being the least neutral is interesting. Studies suggest nonneutral nonverbal presentations are prevalent in political journalism as well (Banning & Coleman, 2010), so these findings may have implications beyond just crisis journalism. It also suggests broadcasters may have less of a framework to rely upon in crisis when discussing political or cultural issues and their solutions, which may lead to less neutral nonverbal communication.

Findings were mixed for framing, a typification factor that significantly influenced NNS and JF (see H9) but was not significant in the regression when controlling for all factors. Journalists who framed their coverage to focus on the event itself in an episodic way were more likely to display neutral nonverbal behavior, while journalists who covered more thematic issues, such as those involving policy or proliferation of school shootings, were more likely to display nonneutral behavior, both in terms of muscle movement and emotional valence. Framing experts (Iyengar, 1991) suggest episodic topics will be covered more insularly, and this allows journalists to focus on facts of the case, leading to more objective coverage; alternatively, thematic coverage encourages journalists to step away from the event and move toward related policies, social issues, and connections between events, which may be more subjective and speculative. Frame was not significant in the regression when other actors were controlled; findings are therefore mixed, but findings here suggest the influence of episodic-thematic framing warrants further study.

These findings support a link between the typified practices of objectivity and nonverbal neutrality, something previously studied more in terms of written and spoken communication.
This suggests broadcasters need to be more aware of their nonverbal behaviors and their potential to impact bias perceptions. In addition, these typification findings establish evidence that broadcasters who follow professional norms in crisis are more likely to be neutral. Berkowitz (1992) says during “what-a-story” coverage, where uncertainty may be higher due to the unusual context of the story, broadcasters will rely on typifications to control their work and be more efficient. As similar types of crisis events, like school shootings, occur, these patterns of how to do work become solidified and so routine that journalists often unconsciously replicate those practices. This is speculation, but it may be a coping mechanism, similar to research in psychology that shows when faced with vicarious traumatization, crisis workers will rigidly follow routines (Phipps & Byrne, 2003; Collins & Long, 2003). Future studies should explore other routine practices of journalism, such as breaking news or live coverage, to see if these patterns hold for these typifications as well. This is further support for BECV, which suggests social expectations, rather than emotional reaction to stimuli, influence nonverbal communication most.

However, journalists are not robots, bound to professional norms of work alone; they are human with the individual autonomy to make decisions and react. That means journalists are also being influenced by individual-level factors, although findings suggest to a lesser degree than social factors, according to regressions. Some individual-level factors were significant, though, suggesting some BET-predicted nonverbal reactions to traumatic stimuli.

NNS and JF varied significantly by age of victims. BET leads to the expectation that the more severe a crisis seems, the more the trauma will impact the nonverbal neutrality of the broadcaster (Ekman, 1984; 1999); trauma research suggests the younger the age of a victim, the more severe that crisis is perceived (Rogers & Davies, 2007). Results from H1 support these
conclusions for valence of emotional expression (JF), where broadcasters reporting from events with younger victims are more likely to display negative emotional reactions, such as anger, sadness, contempt, disgust, or fear. This supports a BET perspective, suggesting the severity event affects the emotional displays of journalists. The same pattern is not seen for NNS in the ANOVA findings, where events with mid-range victims are the most nonneutral. However, when the three categories of age (youngest, mid-range, and oldest) were recoded as a dichotomous variable in the NNS regression model, the findings flip, and events with younger victims have higher NNS and thus less neutral coverage than events with older victims. This is consistent with BET. Since broadcasters likely do not think of age in three distinct categories, but rather the more simplified older and younger victims, this may be the better, more valid measure. This also suggests future researchers need to consider how they are measuring the age of victims. Age of victims was not significant in the final regression model for JF, again pointing to a stronger influence of other factors once typifications, demographics, and stages are considered. This suggests an interplay between these individual and social variables.

The number of victims is also a measure of severity in crisis, but findings do not support predictions from trauma theory or BET. JF is not significantly affected by the number of victims, while NNS does vary significantly, but not in the predicted direction. While more deaths should mean less neutral behavior according to BET and trauma research (Xu & Li, 2012), events with the lowest number of deaths have the highest NNS and thus the least neutral coverage; this is seen in the NNS regression model as well, where number of victims remains significant even when all other factors are considered, but not in the expected direction (see Table 14). There are a number of potential explanations for the lack of variability for JF and for higher death rate correlating with more neutrality for NNS. These include journalists relying more heavily on
objective typification routines during severe events, and the ability for journalists to compartmentalize and be desensitized to death (Phipps & Byrne, 2003; Collins & Long, 2003). Also, journalists may not know the true death toll until later in coverage as details about the event continue to come out.

Another individual level factor was proximity, conceptualized in terms of physical, emotional, and chronemic closeness to the event. Analysis for physical proximity (H3) showed no significance for either NNS or JF. However, physical proximity, or location, was a significant, although weak, predictor of JF in the regression model (Table 15), where those closer to the scene were less neutral than those further away. Because the regression model used a dichotomous variable rather than the four categories of location that the ANOVA did, this may have influenced its predictive strength. But the overall prediction of BET is seen: the closer to trauma, the more negative the expressions of the broadcaster may be. This supports a BET approach, where journalists show more negativity in their nonverbal expressions because they are reacting to the traumatic stimuli around them.

The second factor of proximity, emotional proximity -- conceptualized as “affiliation” or whether the broadcaster was local or national -- was not significant for NNS or JF when other factors were included (see H4). However, affiliation was a significant, although weak, predictor of NNS in the regression model (Table 14). Yet, it was national rather than local broadcasters who were the least neutral. This finding is inconsistent with BET.

The third factor of proximity, chronemic proximity or stage of coverage, was not significant for JF or in the regression models. It was significant in the ANOVA for NNS but not in the multiple regression. However, in ANOVA results, the predicted pattern was not seen. Instead of the inverted U-pattern (where the second stage is the least neutral, first stage is mid-
neutral, and third stage is most neutral), these findings show the third stage is the least neutral while the first stage is the most neutral, getting progressively less neutral as time passes. Despite finding support for distinct stages of coverage, there is no indication of broadcasters returning to more neutral levels in later stages of coverage as Graber (2002) predicts in the stages of crisis coverage theory and that Coleman and Wu’s (2006) found in their study of 9/11 coverage. Looking at stages by event (see Tables 7 & 8), there is only one instance in each of the measurements (Parkland for NNS and Umpqua for JF) where that pattern is found. This suggests the predicted theoretical pattern does not hold for every type of crisis. However, it is possible that an inverted U shape would have emerged if a wider range of hours had been sampled for these cases. Perhaps broadcasters reporting during school shooting coverage, which is becoming increasingly routine and complex, need more time to return to professional standards of objectivity. Coleman and Wu (2006) used 9/11 as a case study to empirically test Graber’s theory. 9/11 was a terrorist event with a clear outside enemy, potentially allowing for a more unified media message in the third stage. Alternatively, school shootings may not have a culprit that is as clearly agreed-upon or defined. This may suggest a need for longer adversarial and interpretative stages to debate what people, organizations, and policies are most to blame for the crisis. A political split in messaging may lead to a longer period of non-neutrality, and so extend the pattern further out, chronemically. Future studies could extend the timing of the sample to see when nonverbal neutrality returns later, as Graber and vicarious traumatization research predict.

Demographic variables of gender and race were significant. Results from H6 show female broadcasters are more nonverbally nonneutral than males for NNS, and this factor remains significant in the regression model when other factors are added (see Table 14). Yet, it is not
significant for JF, either in H6 or the JF regression model, suggesting the difference is not in emotionality, but in the muscle movements expressed. This supports previous research that finds women tend to be more expressive than males (Hall, 1984), and it may also suggest nonverbal neutrality is influenced more by the social norms of gender than by individual gender traits. It may also suggest that women are more strongly constrained by journalism professional norms than men. They may use them as a way to overcome their minority status in newsrooms and legitimize their place in the profession by following normative practices (Tuchman, 1978).

Similarly, race, particularly for Black reporters compared to white reporters, remains significant in both the NNS and JF regression models, when considering all other variables. These findings bolster previous research showing cultural norms for racial groups affect overall expressiveness (Matsumoto, 1993). As with women, Black journalists might feel more constrained by professional norms of objectivity, feeling pressure based on discrimination to be less autonomous and to follow professional norms (Tuchman, 1978). Future studies should explore potential explanations for these nonverbal differences of broadcaster gender and race.

These findings the influence of individual-level factors is moderator by social-level factors. Other multi-level analysis studies find this interplay between levels as well (i.e. Shoemaker & Reese, 2014). This is especially evident in the findings of RQ4, which looks at how NNS and JF vary by individual factors by stage. Factors that were not significant in the one-way ANOVAs (like number of deaths for JF; location for NNS; and affiliation for NNS and JF) were significant when considering stages of coverage. For the severity factors (age and number of victims), the two-way results together with post-hoc chi squares show more objective typification factors (like disseminator role performance, episodic framing, facts-based topics, and official sources) are associated with more severe cases and in earlier stages. This could point to
journalists using these objective practices more often when cases are more severe, a way of coping with the trauma. In the face of the initial chaos and uncertainty of a school shooting, broadcasters may rely more heavily on typifications to get the job done, compartmentalizing their feelings in order to work more efficiently. This is one of the benefits of typifications (Tuchman, 1972; Berkowitz, 1992): They allow crisis workers to run on autopilot so they can function despite trauma. Yet, as time goes on, they display less neutral behavior, whether because of the effects of the trauma catching up to them, or due to the increased reliance on less objective typifications like adversarial role performance, policy-driven topics, and expert-sourced coverage. Since these factors of typification also predict less neutral behavior, it is unsurprising then that the stages themselves would also be less neutral as time progresses (seen in findings for NNS in H5). This suggests broadcasters are able to control their nonverbal behaviors in earlier stages by adhering to traditional work routines that encourage objectivity, especially in more severe cases, but as the event progresses, they are less likely to follow these patterns. Therefore, Graber’s conceptualizations of stages should take typifications of work patterns into account, rather than relying solely only on eight-hour time periods.

Additionally, these more severe cases may become exceptions for standard practices. They allow for less neutral presentations, and so they appear to be ‘gray space’ in the normally black-and-white conceptions of the professional norm of neutrality. In qualitative interviews with professional journalists, Deavours (2020e) found members of the industry tend to give exceptions to journalists who show emotion while reporting on events with young victims and instances of high death rates. While these journalists expected their professional peers to eventually return to standard expectations of neutrality, respondents were more understanding when journalists showed emotions or biased behaviors in these cases, suggesting ongoing
boundary negotiation with nonverbal neutrality norms. As individuals help construct social norms, these predictors at the individual level could be interacting with the social-level factors, and reliance on norms may vary in certain cases. Media sociologists should explore this interrelationship further in future research.

However, emotional influence of trauma has an impact when looking across stages as well. Results in RQ4 for proximity factors of location and affiliation suggest vicarious traumatization may still affect nonverbal neutrality, both for facial movements and emotional valence, where broadcasters initially have nonneutral reactions to the events when they are more proximal to them. As the effects of that trauma decline, perhaps because desensitization occurs or because they revert to more objective practices, the broadcasters who were initially nonneutral and negatively valenced work to become more neutral in their nonverbal presentations. Alternatively, those not as close to the event start more neutral, especially in contrast to the sometimes overt displays of emotion expressed by local journalists or those closer to the scene; but in later stages, those less close become less neutral, perhaps because of an increased reliance on less objective typification practices (like adversarial role performance, thematic framing, policy topics, and journalists as sources), which are seen more in later stages in the post-hoc chi-squares.

This is evident in qualitative assessments of the data as well. For instance, during Columbine, there is a two-box shot, where the anchors in the newsroom on the left of the screen and
the reporter who is on the scene at the school appears on the right of the screen (see Figure 8). As the reporter is describing how challenging it has been for her as a parent to watch, she begins to cry uncontrollably; the anchors are visibly uncomfortable with the overt display of emotion, telling her to “collect herself” as they quickly turn discussions to facts about the investigation. As broadcasters closer to the trauma, whether physically or emotionally, become overwhelmed emotionally, they display “emotional leakage,” (Ekman & Friesen, 1969), where a desire to adhere to display rules of a culture is overridden by autonomic reactions to stimuli; meanwhile, those further away work harder to appear neutral in contrast. Yet, in later stages, the effects of the trauma seem to decrease, allowing broadcasters closer to the trauma work to do exactly what the anchors in the Columbine clip suggest – collect themselves and revert back to standard objective typifications. This provides evidence for BET and vicarious trauma-related effects, despite the stronger influence of BECV-related factors in the total regression models.

These factors are important to consider for these events because there is the potential for professional norms to routinize and become implicitly understood expectations for future events, shifts in the negotiated boundaries of professional norms. Looking across events (see Table 2), earlier events like Columbine, Virginia Tech, and Sandy Hook have lower nonverbal neutrality scores, suggesting more neutral presentations, while those that occurred later like Umpqua, Santa Fe, and Parkland have higher scores and thus less neutral presentations. This potentially shows as these events continue and become more routine, journalists may adhere to nonverbal neutrality standards less and less, although there are too few cases to know if this is part of a larger pattern. More cases are needed to see if this continues to generalize across time. If this were representative of a larger pattern, it could be because of the increased need for thematic connections as more shootings happen, frustrations of the events continuing without policy
change, and/or the emotional toll of reporting on continued traumatic events. Additionally, as professional boundaries of neutrality in a previous event shift to allow for less neutral behavior to be seen as more acceptable, journalists may not work as hard to control their nonverbal movements to meet those original standards of objectivity, relying on the most recent normative boundaries. This supports a BECV approach, which would suggest that as standards of acceptable neutrality changes in the field, so too will the nonverbal behaviors to meet those goals in future events.

Overall, these results show broadcasters display more nonneutral nonverbal behaviors and negative expressions compared to neutral ones overall. Typifications are the strongest predictor of that variability, regardless of whether measuring muscle movements or emotional valence. Yet, there is still evidence of the effects of vicarious traumatization present, suggesting an interplay between individual and social levels. This suggests academics and media professionals need to consider the impacts of factors at all levels of analysis in order to better understand nonverbal neutrality during crisis.

These findings have implications for the journalism industry. Despite working during traumatic, emotional events, broadcasters heavily rely on routine standards of practice, which have the strongest influence on their nonverbal neutrality. Reliance on these routine practices could be a coping mechanism for those experiencing emotional trauma, a way of compartmentalizing and focusing for efficiency – a primary purpose of typifications (Berkowitz, 1992). It could also be that journalists understand expected standards of practice, including nonverbal neutrality, as a taken-for-granted professional norm and work, often unconsciously, to meet those standards in their own reporting despite what is going on around them. This study
suggests broadcasters need to be more aware of how their nonverbal communication can affect their objectivity.

Educators and media consultants should work to train broadcasters in nonverbal management, working to control or conceal nonneutral nonverbal behaviors that would not conform to professional norms of neutrality, especially in typifications that tend to be less neutrality like policy discussions. Since previous scholarship has found this variance in political settings (i.e. Seiter et al., 2009; Banning & Coleman, 2009; Zimmerman, 2014), it is likely these differences are not solely reserved for emotional crisis contexts alone, but are a concept that scholars and professionals need to be aware of in all forms of journalism. Since the behaviors of network journalists, the elite of the field, are explored here, these normative patterns may trickle down to other forms of journalist practice to those in lower markets or positions that may model their behaviors.

News organizations should consider how particular patterns of work, such as role conception, sources, topics, and framing, can affect the overall neutrality of their crisis coverage as well. As broadcast organizations work to build crisis coverage plans, factors at both the individual and social level must be considered with strong emphasis on expectations for neutrality. Like emergency personnel, journalists must develop emotionally neutral ways of coping with trauma, and that may mean relying even more heavily on typifications that support objective standards of practice.

This research does not assume, however, that nonverbal neutrality is the best or only way of reporting during crisis. Instead, it uses neutrality as the current norm of practice. As journalists, particularly broadcasters, negotiate the boundaries of objectivity and neutrality in the industry, nonverbal communication must be considered as well. Just as objectivity scholars
suggest true objectivity is not possible to achieve (Reese, 1990), the same can be said for
nonverbal neutrality – completely neutral communication is rare and often out of place in crisis
contexts. This research suggests professional boundaries should continue to be negotiated in
order to enable nonverbal behavior that is compassionate and human in the face of tragedy, while
still remaining politically objective in its presentation, a closer representation of objectivity in its
modern form.

However, these findings suggest the opposite is happening in school shooting coverage.
Broadcasters recounting the experiences of traumatized victims inside the school and how
communities are coping with devastating losses are more neutral nonverbally than those
discussing political issues, like gun control, mental health, and safety in schools. Broadcasters
who are talking to victims, their families, and the communities affected are more neutral
nonverbally than those talking to experts and policy influencers. This seems antithetic to the
norm of objectivity that importantly informs American journalism. At least for broadcast
journalism, prior study suggests journalists favor a neutral approach to covering politics, even
when they are covering emotional crises (Deavours, 2020e). Yet, broadcasters are not doing so
through their nonverbal behavior in the cases studied in this research project. This suggests the
industry and academia need to consider the practical implications of this research for crisis
coverage – should such coverage more closely align with their desire to be objective, particularly
when addressing political aspects of crisis journalism? Unfortunately, it seems mass shootings
and other man-made crises will continue to proliferate, and as audiences trust journalists less for
news, a stronger call to examine objective practices during these situations is necessary.

Beyond the practical implications for the field, this study offers methodological paths for
scholars wishing to study nonverbal news communication. Conceptualizing nonverbal behavior
as both movement and valence, the study integrates the two dominant theories of nonverbal communication, BET and BECV, in journalism nonverbal scholarship. The findings suggest these constructs are distinct, providing further evidence for nonverbal scholars who argue the distinctions of these theories. It points to the need for researchers to be clear in their conceptualizations and measurements of nonverbal behavior. Since the outcomes of both NNS and JF are often different and sometimes even contrary to one another, it suggests the need for additional examination of how scholars are defining and measuring nonverbal neutrality. In addition, scholars should utilize other ways of measuring nonverbal expression of broadcasters, such as FACS or computer coding, which could help expand these findings. Future scholars can use this project to inform advancements in nonverbal theory as they apply to media.

Additionally, this study contributes theoretically to both journalism and nonverbal scholarship. This is one of the first studies to apply BECV and BET approaches to the field of journalism, which helps extend those theories to a new context. The study suggests a stronger influence of BECV-related factors on nonverbal neutrality, where broadcasters modify their nonverbal behaviors, whether consciously or not, in order to comply with the socially-constructed standards of the industry. It also suggests even in emotional, traumatic circumstances where reaction-based factors are significant, there are other, often stronger social factors like roles, sources, and topics that continue to influence the individual level, evidence of an ongoing interplay between these levels. For journalism scholarship, BECV approaches seem more applicable since the professionalization at the social level of individual workers appears to constrain the emotional, stimuli-based reactions that BET scholars have found in general populations. Yet, scholars should be aware of the predictive power of individual, trauma-based stimuli on individual journalists, especially as they apply to the normative exceptions journalists
provide one another when they deviate from the professional standards because of factors (like event severity) that cause vicarious traumatization. These findings indicate a need for theoretical change, though studies of other types of news events are needed in order to clarify the problems of existing theoretical approaches.

Also, the findings suggest objectivity is understood and enacted not only by what journalists say, but how they say it. Those journalistic practices that encourage objectivity, such as covering the facts, sourcing through officials, framing coverage episodically, and performing the disseminator role, also predict neutral nonverbal behavior. This should encourage future scholars to study neutrality and objectivity nonverbally, not only linguistically and verbally.

Additionally, this study suggests ways to refine and extend Graber’s (2002) stages of crisis coverage theory, offering additional contexts through which future researchers can explore objectivity in crisis contexts. This study answered Coleman and Wu’s (2006) call to explore nonverbal neutrality in non-terrorism crisis contexts, in this case – school shootings, and it found notable differences. This suggests the need for further examination in future scholarship. Findings also indicate a refinement to the theoretical conceptualizations of stages is needed so that they reflect typifications used in journalistic work, rather than only periods of time. For example, knowing what types of sources the journalist uses and when they are used may improve ability to predict neutrality in the coverage. Researchers should continue to explore the various influences in other crisis contexts, such as natural disasters, and even non-crisis journalism to better understand the routines of crisis coverage and their effect on nonverbal neutrality.

In conclusion, the results of this study help confirm previous findings (i.e. Coleman & Wu, 2006; Zimmerman, 2014) that nonverbal displays of broadcasters vary significantly, despite journalists’ efforts to maintain certain standards of neutrality. By adding these factors of analysis
across various levels, the findings provide a starting place for other researchers to continue to explore influences on nonverbal communication of broadcasters. Providing a more comprehensive approach to understanding journalistic neutrality through the application of nonverbal theories, this study contributes to a better understanding of the patterns of how journalists present crisis, the communication conveyed beyond words.
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APPENDIX

Appendix A – Content Analysis Coding Protocol

For each unit of analysis you will be given the following information already in your codebook:

- Unit #
- Event (1-Columbine, 2-Virginia Tech, 3-Sandy Hook, 4-Umpqua, 5-Parkland, 6-Santa Fe)
- Date of unit (Month Day Year)
- Year of the event
- Time unit aired (Eastern)
- Network of unit (1-ABC; 2-CBS; 3-NBC; 4-MSNBC; 5-CNN; 6-FOX News; 7-undetermined)
- Digital archive link (Sandy Hook, Umpqua, Parkland, Santa Fe) or DVD #s (Columbine, Virginia Tech)
- Timecode of the clip
- Hour of event - 1-24, where first 60 minutes of coverage is coded as 1, second 60 minutes from event is coded as 2, etc.
- Average age of victims for event (calculated median age for each event)(1-youngest (Sandy Hook/Columbine), 2-middle (Parkland/Santa Fe), 3-oldest (VT, Umpqua)
- Number of victims for event (ratio number from 0-32 for the number of people killed)
- Number of deaths, ranked (1-highest (Virginia Tech & Sandy Hook); 2-middle (Parkland & Columbine); 3-lowest (Santa Fe & Umpqua)
- Live -1; Taped 2

How to code:
1. For Sandy Hook, Umpqua, Parkland and Santa Fe digital coding: Open 15-minute clip based on unit #
   For Columbine, Virginia Tech DVD coding: Use disc to determine date and hour of newscast disc based on unit #
2. Go to timecode on clip; code only for the timecode provided
3. Turn off all sound. Watch the clip once.
4. Code for how long in seconds the clip is. Reminder, no clip should be shorter than four seconds long.
5. Watch the clip a second time with the sound off.
6. Determine the nonverbal behavior for the six dimensions below. Ensure sound is off. You may rewind or replay the unit as many times as needed in order to access these six characteristics.

**Please write positive, negative or neutral as words – do not use numeric expressions here**

- Eyebrows
  - Negative if lowered or furrowed toward middle; movement is below neutral position
  - Positive if raised up or not furrowed; movement is above neutral position
  - Neutral if normal or expressionless; there is no movement, eyebrows are in neutral position
Mouth and lips
- Negative if corners contracted or pulled back as if in a grimace, tight, or frowning; movement is below neutral position
- Positive if raised, or retracted and raised as if smiling laughing; movement is above neutral position
- Neutral if normal or non-expressive; there is no movement, mouth/lips are in neutral position

Head
- Negative if head turned facing downward as if dejected or tired; head is tilted below neutral position
- Positive if head or chin pointed up; head is tilted above neutral position
- Neutral if normally positioned or straightforward; there is no movement, head is in neutral position

Overall face
- Negative if serious, intense, unhappy, or worried; facial muscles are turned downward from neutral position
- Positive if happy, lighthearted, calm, or peaceful; facial muscles are turned upward from neutral position
- Neutral if normal or expressionless; there is no movement, facial muscles are in neutral position

Overall body
- Negative if stiff or tense, the speaker is leaning forward as if hunched over; the body is below the neutral position
- Positive if relaxed, the speaker is leaning backward as if open and inviting; the body is above the neutral position
- Neutral if normal or expressionless; the body is straight, not leaning and in neutral position

Overall gesturing
- Negative if journalist engaged in a lot of gesturing, hand-waving, or so forth at shoulder level or above; hands and arms are moving below neutral position
- Positive if small expressions with hands at waist level or below shoulder level; hands and arms are moving above neutral position
- Neutral if none; hands and arms are not moving, they are in neutral position

IMPORTANT: Once nonverbal codes are complete for the unit, you cannot go back and change your answers.

7. Turn sound on. Replay the unit to code for the following aspects.
8. Code for the journalist’s gender.
   1. Female - a female person; a woman or a girl; an individual of the sex that is typically capable of bearing young or producing eggs
2. **Male** - a man or a boy; an individual of the sex that is typically capable of producing small, usually motile gametes (such as sperm) which fertilize the eggs of a female

3. **Undetermined** - cannot determine if the journalist is male or female
   1. **Note:** if this is coded, please make a note in the notes section of why the determination is not possible

Code for the journalist’s race.

1. **White** – A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
2. **African American** – A person having origins in any of the Black racial groups of Africa.
3. **Asian** – A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
4. **Hispanic** - Person is of Hispanic origin or not.
5. **Native Islander** - combines Native Hawaiian, Pacific Islander, American Indian, and Alaska Native definitions from U.S. Census Bureau
   - **Native Hawaiian or Other Pacific Islander** – A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
   - **American Indian or Alaska Native** – A person having origins in any of the original peoples of North and South America (including Central America) and who maintains tribal affiliation or community attachment.
6. **Undetermined** - coder cannot distinguish any race of the journalist from this list
   1. **Note:** if you code undetermined, please include in notes why you are unable to tell.

Code for the **affiliation** of the journalist.

1. **Local** - The journalist appears to be working for a local affiliate (typically station name will include a W or K at the beginning). This can be discerned from verbal and visual cues (a signout for the reporter, mic flag, etc.)
2. **National** - The journalist appears to be working for a national affiliate - ABC News, CBS News, Fox News, NBC News, CNN, MSNBC. This can be discerned from verbal and visual cues (a signout for the reporter, mic flag, etc.)
3. **Undetermined** - It is not clear whether the reporter is affiliated with a national or local news organization.
   1. **Note:** if this is coded, please make a note in the notes section of why the determination is not possible

Code for the **location** of the journalist.

1. **TV station/newsroom** - Journalists are on news set, anchor desk, in newsroom, at their newsroom location
2. In the field, not in the state of the event - A journalist is not inside the newsroom, but is not in the state where the event took place. (examples: White House; NRA offices; previous school shooting location, etc)

3. Secondary scene- Journalist is in the same state that the shooting took place, but not at the school or event staging area. (examples: a community vigil at a local church, shooter’s home, etc.)

4. Primary scene - This is the school or staging area where the event took place. Locations where families meet up with victims immediately following an event would be included as a primary scene.

5. Undetermined - It cannot be determined where the journalist is reporting from
   1. Note: if this is coded, please make a note in the notes section of why the determination is not possible

13. Code for the role performance of the journalist. Pick one. If there is more than one role present, pick the one that seems most prevalent.
   1. Dissemination - emphasizes the fast relay of information to the public without commentary
   2. Interpretative - analyzes the complexity of the issue, addressing policies, and investigating official claims; adds commentary and interpretation of events
   3. Adversarial - places the media as watchdog to business or officials, offering alternative viewpoints; watchdog for the government, protecting the country from outside influences, such as terrorists, enemy countries, or laws/policies that contribute to hurting the nation
   4. Populist-mobilizer - lets people express their views, develops intellectual and cultural interests, motivates people to get involved, and points to possible solutions; works to bring community back to “normal”/status quo
   5. Undetermined - no role could be determined.
      a. Note: if this is coded, please make a note in the notes section of why the determination is not possible

14. Code for the topic of the report. Pick only one. If the journalist covers more than one topic in the unit, pick the topic that is most prominent.
   1. The events of the shooting (basic facts)
   2. The suspect (facts, details on his background, mental health, potential motive, etc.)
   3. The weapons used (including descriptions of what the weapons used were capable of and the laws for that particular weapon)
   4. Law enforcement and the scene (facts or statements about the ongoing investigation)
   5. Gun laws (not specific to the event but more broadly speaking)
   6. Mental health regulations (not specific to the event but more broadly speaking)
   7. Community coping (how the surrounding area is dealing with the tragedy; this does not include national reaction or those with weak ties to the community)
8. National reactions (how the United States and international communities are responding to the event; does not include the local community or those with strong ties)
9. Witness statements (those who were nearby, but not in the school at the time of the shooting; those in school at the time of the shooting are considered “survivors”)
10. Survivor personal stories (those who were in the school at the time of the shooting, but not those who were witnessing events outside of the school such as a neighbor)
11. Details of the victims (those shot or killed during the event)
12. Politician statements (includes politicians (elected or not) and advocacy groups; statements specifically about gun laws or mental health regulations should be categorized to those categories)
13. School safety (generally what schools can do to keep students safe, regulations needed to increase security, or discussions of the school’s current security protocols)
   1. Note: if this is coded, please make a note in the notes section of why the determination is not possible

15) Code the frame of the event.
   Episodic frames are those that deal with only the event itself as a singular episode. Thematic frames are those that deal with broader issues beyond the singular event, connecting the event to broader issues. If a story includes both frames, see which one is stronger. If there is equal representation of frames, choose 3, but do not do this unless both categories are clearly equal.
   1. Entirely episodic
   2. Most episodic with some thematic elements
   3. Equal parts episodic and thematic
   4. Mostly thematic with some episodic elements
   5. Entirely thematic

16) Code for the source of the information in the report. Pick only one. If the journalist mentions more than one source in the unit, pick the source that is most prominent.
   1. Elected official (a government officer who has been elected to their position such as the president, governor, mayor, etc.)
   2. School official (an official who represents the affected school)
   3. Law enforcement official (official who actively represents a law enforcement agency at any level (police, sheriff, FBI, etc.)
   4. First responder (such as firefighter or medic, not law enforcement)
   5. Legal expert (such as lawyer, political analyst, academic in politics/law)
   6. Law enforcement expert (not currently active in law enforcement but speaks to the operations of officials, such as police/FBI analyst, former law enforcement officials, academic in fields of criminology, etc.)
   7. Mental health expert (speaks to analysis of mental health issues including a psychiatrist, counselor, mental health advocacy group, academic in field of psychiatry, etc.)
8. Survivor (someone who was on the scene of the event and survived the shooting, such as a student who escaped the scene)
9. Witness of event (someone who was close to the event or those involved but who was not on the scene of the shooting)
10. Family member or friend of victim/survivor (this is someone closely related to a victim/survivor of the event such as a parent of a student or a friend of a victim who died)
11. Family member/acquaintance suspect (someone who is speaking to knowing the shooter(s))
12. Community member of current event (someone in the affected community but not directly related to a victim/survivor/shooter(s), nor an elected official; an example would be a pastor who speaks to how the city is coping with the tragedy)
13. Survivor/victim/family of previous incident (someone who survived or is speaking about a friend/family member who died during a previous school shooting, such as a Columbine survivor, family member of a person who died in another shooting)
14. Interest group/lobby representative (a group of people seeking to influence public policy on basis of a particular common interest or concern (e.g. NRA, Coalition to Stop Gun Violence, ACLU, etc.; this does not include mental health advocacy groups)
15. Man-on-the-street (MOS) (someone who does not fit into any of the above categories, but is providing their personal opinion on the event, such as someone in another city talking about their fear of something similar happening in their school)
16. Journalist serving as first person eyewitness (this is a journalist who is discussing their personal experience while covering the crisis)
17. Another journalist or media outlet is sighted
18. Unconfirmed source (the journalist specifically states that the source is anonymous, confidential, or unconfirmed; this does not apply to information shared without a source)
19. Undetermined (coder unable to determine what category the source belongs to, but a source is used)
   1. Note: if this is coded, please make a note in the notes section of why the determination is not possible
20. Information has no source. The information is not attributed to anyone or any institution.

PS Researcher note – Collapse Source categories by creating new variable and recoding...

1. Official
   • 1. Elected officials
   • 2. School officials
   • 3. Law enforcement officials
   • 4. First responders

2. Experts
   • 5. Legal experts
6. Law enforcement experts
7. Mental health experts
14. Interest groups/lobbyists

3. Communities
8. Survivor
9. Witness
10. Family member victims
11. Family member/acquaintance suspect
12. Community member of event
15. MOS/national reaction

4. Victim of previous event - originally #13
5. Journalists
16. First person account
17. Other media sources
6. No source given - originally #20

17) Determine the **stage** of coverage. Based on the time of the unit (see the provided time) and the stages for the particular event (Columbine, Virginia Tech, etc), determine the stage of coverage. Reminder, all times are listed in Eastern Time Zone. Most of the units (although not all) are in Pacific time, so adjust time zones accordingly. For instance, if something happened at 3 p.m. Eastern Time, your unit may say 12:00 p.m. Pacific.

For all units, code “1” for stage 1, “2” for stage 2, and “3” for stage 3.

- **Columbine**
  - Stage 1 - April 20, 1999 1:00p.m. - 8:59 p.m.
  - Stage 2 - 9:00p.m. - April 21, 1999 4:59 a.m.
  - Stage 3 - 5:00 a.m. - 12:50 p.m.

- **Virginia Tech**
  - Stage 1 - April 16, 2007 7:00 a.m. - 2:59 p.m.
  - Stage 2 - 3:00p.m. - 10:59 p.m.
  - Stage 3 - 11:00p.m. - April 17, 2007 6:59 a.m.

- **Sandy Hook**
  - Stage 1 - December 14, 2012 9:30 a.m. - 5:29 p.m.
  - Stage 2 - 5:30 p.m. - December 15, 2012 1:29 a.m.
  - Stage 3 - 1:30 a.m. - 9:29 a.m.

- **Umpqua**
  - Stage 1 - October 1, 2015 1:30 p.m. - 9:29 p.m.
  - Stage 2 - 9:30 p.m. - October 2, 2015 5:29 a.m.
  - Stage 3 - 5:30 a.m. - 1:29 p.m.

- **Parkland**
  - Stage 1 - February 14, 2018 2:00 p.m. - 9:59 p.m.
  - Stage 2 - 10:00 p.m. - February 15, 2018 5:59 a.m.
  - Stage 3 - 6:00 a.m. - 1:59 p.m.

- **Santa Fe**
  - Stage 1 - May 18, 2018 8:30 a.m. - 4:29 p.m.
  - Stage 2 - 4:30 p.m. - 12:29 a.m.
  - Stage 3 - May 19, 2018 12:30 a.m. - 8:29 a.m.

18) Repeat all steps for the next unit, being sure to turn sound off for the nonverbal coding and turning it back on for the other categories.