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Erica Scharrer

*University of Massachusetts Amherst*

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## Documenting the “Mediated Message:” The Art and Science of Content Analysis Research

*Erica Scharrer<sup>1</sup>*

As media consumers, we are often struck by the content features of what we encounter on television, film, radio, the newspaper, the Internet, in print, and in video games. Content can make us laugh, cry, fearful, angry, or joyful. It can make us feel connected to others or it can make us feel isolated or distant. It can inform us and it can persuade us. It is always teaching us something about the world around us, and the events and people—as well as the values, experiences, and points of view—that make up that world. What, exactly, we encounter through news and entertainment outlets, as well as what we ourselves create and distribute, has much to tell about our culture and the world in which we live.

Content analysis is a social scientific tool that allows for the documentation of the content features of the media and other cultural artifacts in order to better understand them, to determine whether the content we encounter represents broad patterns or is more idiosyncratic in nature, and to begin to consider how and why content features function as they do as cultural products with particular uses, users, and audiences. The method examines the artifacts of culture as an important locus of inquiry in their own right and also has the potential to reveal a great deal about both why and how those cultural artifacts take the shape they do and how individuals might create, use, and/or be influenced by them.

Content analysis has a special place in the field of Communication and Media Studies, since an understanding of messages sent and received through technological means and the

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<sup>1</sup> Erica Scharrer, Professor, Department of Communication, University of Massachusetts-Amherst. Email: [scharrer@comm.umass.edu](mailto:scharrer@comm.umass.edu)

meaning making engaged in by both content creators and content consumers is a foundational aspect of the discipline. The method illuminates and potentially interrogates those messages, thereby lending insights into the very heart of the communicative process. To borrow from the phrasing in the title of the Shoemaker and Reese (1991, 1996, 2014) seminal book, content can be considered, therefore, to be a message or series of messages that is/are “mediated” in both meanings of the term, distributed through media channels and inevitably altered as a result of this intermediary step.

The shift of the individual from audience member to content producer in the face of mobile and Internet technologies only makes the need for content analysis more acute and the possibilities more interesting. With a greater array of content creators that goes well beyond the traditional large media conglomerates that have historically had the means to distribute messages to audiences to now include individuals themselves, how does content change? Systematic study is needed to provide an answer.

### **The Art and Science of Content Analysis**

Many textbooks exist that outline the logic and the pragmatic considerations of quantitative content analysis research design. Klaus Krippendorff’s *Content Analysis: An Introduction to Its Methodology* (2013); Daniel Riffe, Stephen Lacy, and Frederick G. Fico’s *Analyzing Media Messages: Using Quantitative Content Analysis in Research* (2014); and Kimberley Neuendorf’s *Content Analysis Guidebook* (2002) have long been essential reading on the “how to” of the methodology as well as on the underlying assumptions behind its use. Krippendorff’s (2013) definition of content analysis—“a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (p. 24)—reveals the central

position for the logic of the scientific method with its emphasis on observation, validity, and reliability. Indeed, content analysts know that they must be systematic in every stage of the process, beginning with making unitizing decisions (determining the unit of analysis in the research design and figuring out how to know whether any available content meets the definition necessary to be observed and documented) and sampling decisions (deciding, among the universe of units, on which limited set will be observed). The ways in which they operationalize their concepts must also be clear, comprehensive, and systematic, and judgments of coders about how to apply those operationalizations to the content they encounter must be consistently made and mathematically tested to ensure a high rate of agreement among multiple coders. Of course, the statistical analysis that proceeds from this point in the process of content analysis design is governed by hypothesis testing, research question exploration, description, explanation and inference, all clear markers of the scientific method that defines the methodology.

Thus, pioneers and practitioners of content analysis point out ways in which the method is, indeed, a science with precise rules, standardized steps, and systematic approaches. The principles and practices of content analysis methodology that include sound sampling toward the goal of generalizability, conceptualization and operationalization of variables to work toward reliability and validity, and intercoder agreement to make some claim on objectivity and replicability all speak directly to the science of the method. Yet, despite the standardization of the steps involved in carrying out content analysis and its close relationship to quantitative methods, there is room in the method, as well, I argue, for a bit of art in the process, a modest degree of subjectivity, creativity, and interpretation.

In some of my prior studies, for instance, I have combined the quantitative approach to the study of media content with a discussion of qualitative exemplars to illustrate not just the quantity

of particular portrayals but the vividness, tone, and tenor—the qualities—of a subset as well. In Scharrer (2002), for instance, I examined the treatment of Hillary Rodham Clinton in newspaper coverage during the time of her transition from First Lady of the United States to candidate for the U.S. Senate. The study uses a systematic sampling technique to randomly select from the full population of U.S. newspaper articles archived in the LexisNexis database produced using the search term “Hillary (Rodham) Clinton” that circulated between the unofficial and official announcement of her Senate run, resulting in 342 articles. An additional 96 articles about Senate candidate opponent Rudy Giuliani that ran concurrently with a subsection of the Clinton stories was also systematically sampled to allow for comparisons. The quantitative results of the study found that the majority of criticism printed in the news coverage of both Senate candidates pertained to the issues at hand, thereby showing the press performing its watchdog role, questioning the candidates’ stances on the economy, foreign affairs, and other issues. The campaigns themselves were also subject to scrutiny in the press, especially for Clinton, comprising 32% of all negative statements about Clinton and 16% of all negative statements about Giuliani in the sample. Yet beyond those general parallels, disparities surfaced in the themes that elicited negative coverage by candidate, with 16.6% of all negative statements about Clinton calling into question her likelihood of winning, 15% bringing up her “carpetbagger” status (both, therefore, challenging the legitimacy of her candidacy), as well as 11.9% critiquing Clinton for violating traditional gender roles (for instance, by being too careerist) or, conversely, for not being sufficiently feminist (for instance, for putting up with President Clinton’s affairs).

Qualitative exemplars examined alongside these numerical estimations shed further light on these and other sources of “bad press” that Hillary Clinton was attracting at the time. Although it occupied only a small percentage of the coverage analyzed in the sample (4.3% of all negative

statements about Clinton among the 342 articles), for instance, the qualitative quotes that implied it was audacious for Clinton to run for elected office at all provided some of the most vivid illustrations of critique in the press during the period. For instance, *Washington Post* columnist Judy Mann wrote that “Mrs. Clinton is turning her back ... on the very great honor that the American people bestowed upon her when they made her husband president” and E. J. Dionne, appearing in the *Denver Post*, called Clinton’s move from First Lady to Senator “the most improbable political leap in our history.” I interpreted these remarks as clear indicators of negative fallout for Clinton’s crossing of traditional boundaries. Similarly, the qualitative data on the more explicitly gender-related comments Clinton received in news coverage, although comprising just 11.9% of all the negative statements garnered in the sample, are evocative, as well, as seen in reporter David Daley’s claim in the *Milwaukee Journal Sentinel* on December 19, 1999 that some members of the public find Clinton to be “a frustrating feminist who mocked Tammy Wynette for standing by her man, then did just that during the humiliating impeachment drama” or in this quote from author Danielle Crittenden, in a *Boston Globe* article on December 26, 1999: “Whether you’re a Democrat or a Republican, you have to be sick of this Lady Macbeth character we now have in the White House, and look forward to having a First Lady who will be happy in the traditional role and secure in a good marriage.” By integrating quantitative data with qualitative exemplars, the meaning behind the numbers that surfaces from a solely quantitative approach to content analysis can be enhanced, thereby bolstering, as well, the validity of the study.

In other content analysis studies, the art form of the methodology is made apparent in relatively subjective interpretations of content that—through careful coder training and the application of the coding scheme to sample content to work continually toward shared understandings of the application of major concepts—can eventually result in a convergence of

coding decisions necessary to meet intercoder reliability standards. In doing so, content analytic researchers need not rely fully on manifest aspects of content that nearly everyone would agree on given their surface-level presence, but also can extend into observations of more latent aspects of media depictions, those that require some interpretation and judgment regarding their coding, so long as the latter are sufficiently precise in definition as to render agreement among multiple coders. (Note here that this view diverges from the advice of Riffe and colleagues (2014), who suggest quantitative content analysis limit itself to manifest forms.)

In my study of gender and violence in video game ads (Scharrer, 2004, outlined in more detail in a subsequent section, below), I was interested in exploring whether print ads that marketed video games would differ in their depictions of male and female video game characters. Some variables were relatively straightforward to code, including how much of their bodies the attire of the characters revealed. But, I also asked coders to note the attractiveness of the primary characters appearing in the ads from 1 (not attractive at all, intentionally disgusting or repulsive looking) to 5 (extremely attractive, very beautiful or exceptionally handsome characters), a request open to a fair degree of subjectivity. Coders also noted the sexiness of each primary character—from 1 (not sexy at all, not intended to be a sexual being, no emphasis on sexuality) to 5 (highly sexualized, emphasis on sexual body parts or provocatively posed)—again, a coding decision spurring potentially differential interpretation on the part of the coders. I do recall extensive discussion of these judgments in the training of the six graduate student coders, but with time and practice using sample content and the coding instrument, we were able to arrive at just-this-side of acceptable 66% agreement for the sexiness variable and 70% for the attractiveness variable across each of the pairs of the coders. These were the lowest intercoder agreement coefficients among the 27 variables coded in the study, thereby showing the ongoing challenge of reliably coding latent

variables that require extrapolation and interpretation beyond the surface-level dimensions of content. And yet, they are validated by additional variables that also tapped into the sexualization and appearance of the characters and that produced higher rates of intercoder agreement.

In a different study, my graduate students and I examined the interplay between aggression and humor in television commercials, prompted by the observation that movie trailers, promos for television programs, and depictions of accidents and injury in commercials for products and services are a less studied but still important source of potential audience exposure to aggression that is difficult to anticipate or avoid (Scharrer, Bergstrom, Paradise, & Ren, 2006). (More personally, my own experience as a mother concerned about my child's exposure to the content of ads that popped up unexpectedly during even "family friendly" programming fueled this particular study.) Sampling 536 primetime commercial messages that featured injury to characters and/or aggression, unitized from the well over 4,000 ads that appeared in the week of primetime programming from which this sample was selected, the coding scheme required "determining if the commercials featuring aggression or injury were intended to be humorous to the viewing audience...indicated by circling yes, no, or uncertain" (p. 624). Another variable required making note of whether the humorous element of the commercial derived from one of three "grand theories" of humor: incongruity (laughing at the unexpected), superiority (derision or parody), or psychoanalysis (an explanation for why we tend to laugh at other people's pain or discomfort). In this study, despite the inherent subjectivity involved in determining whether something is funny and why it's funny, Scott's pi intercoder reliability coefficients, averaged across all coder-by-coder pairs among the three graduate student coders, was a respectable .88 for humorous intent of the commercial, likely enhanced by the yes or no nature of the question. The type of grand humor theory variable was also sufficiently reliable at a Scott's pi of .78. From these examples, therefore,



we see that with careful definitions of concepts and operationalizations and sufficient training, even relatively subjective coding decisions can be made somewhat uniformly among trained coders and can lend depth to the aspects of content that are the subject of content analysis research.

### **The Politics of Content Analysis**

Content analysis can be used to expose the limits of mainstream commercial media and its means of representing individuals, social groups, issues, and events. In doing so, I argue that we can consider the use of the method to be a political act of challenging and potentially disrupting the status quo, a possibility more often associated with critical social science and qualitative methods than with positivism and quantitative social science (Gunter, 2000). Indeed, in a scenario in which cold, hard numbers and the scientific method often carry with them the force of authority, a content analysis can be used as evidence to reveal biases, distortions, and problematic portrayals in media content to set the stage to advocate for more fair, accurate, and nuanced depictions. It can also be used to identify sources of positive and forward-thinking depictions that should be applauded for their sensitivity, complexity, nuance, and accuracy.

Pamela J. Shoemaker and colleagues were pioneers in examining the determinants of newsworthiness that explain the prominence of particular items that will become “the news” amid the massive number of events and other possible entries into the news media agenda. The body of scholarship that extends from these analyses points to many sources of influence at play in the creation and distribution of the news media agenda, including the event’s perceived deviance and social significance as key factors (Shoemaker & Cohen, 2006) within the wider gatekeeping process (Shoemaker & Vos, 2009). A wealth of meticulously conceived and rigorous empirical observations across a number of decades, from early studies by Shoemaker, Danielian, and

Brendlinger (1991) to more recent analyses by Zhang, Shoemaker, and Wang (2013), provide the empirical basis on which this ongoing theory building rests, regarding the ways in which what becomes “the message” sent to news audiences is mediated, modified, and molded by forces and factors that range from those individuals to those more ideological in nature (Shoemaker & Reese, 2014). The resulting consideration of news formation as a construction whose final form takes shape in large part from the structural formations imposed by an advertising-based commercial system in a context of economic competition and rapid conglomeration of ownership at the same time that it considers micro-level judgments of individuals involved in the news gathering process as well as meso-level factors, such as organizational norms and cultures in the newsroom, is a prime example, I would argue, of the ways in which content analysis can be used to illuminate the limits and opportunities of existing social structures and systems of power.

In my own work, I have a series of studies of representations of gender in media content whose findings, taken together, point toward the narrowness of the ways in which gender roles are represented in entertainment media content that ranges in from video games ads (Scharrer, 2004), to police and detective television programs (Scharrer, 2001a, 2012), to wide-circulating pornography (Bridges, Wosnitzer, Scharrer, Sun, & Liberman, 2010; Sun, Bridges, Wosnitzer, Scharrer, & Liberman, 2008), to commercials featuring housework and domestic chores (Scharrer, Kim, Lin, & Liu, 2006). Yet, at the same time, some aspects of these studies show evidence of progress away from restrictive roles and toward greater fluidity among gender depictions compared to past analyses. In either case, whether depictions can generally be considered restrictive or more open or—more likely—some combination thereof, content analysis methodology is useful in revealing systems of social order, norms, and values at a particular moment of cultural context.

In Scharrer (2012), for instance, various markers of masculinity were examined among the major male characters in the ever-popular police and detective television genre over time. Sampling “every police or detective drama from the first dramatic programs broadcast on television to those offered at the turn of the millennium on broadcast or cable rated among the top 15 for at least one year in the total run of the program,” (p. 94), with the exception of some missing data not accessible through the television archive, the process resulted in a sample size of 210 major male characters that were the unit of analysis for the study. Results found stable and high levels of physical aggression and somewhat lower but also consistent rates of verbal aggression carried out by those male characters over time, thereby demonstrating the persistent link between masculinity and aggression in the genre. There was a trend from the 1950s through the 1980s toward greater emotional sensitivity among male characters, however, as well as movement away from the isolated, loner depiction accompanied by emotional stoicism toward more social integration and emotional expression. Yet, the programs from the 1990s—the most recent decade examined in the study—showed a return to a greater degree of isolation and stoicism among the major male characters. The study unveiled, therefore, some stable components of this enduringly popular genre and its treatment of masculinity as well as some ways in which masculine gender roles have generally shifted over time away from a more traditional notion of masculinity toward a newer, more sensitive form, and then took a regressive step back in the final decade examined.

Scharrer, Kim, Lin, and Liu (2006) studied 477 commercials appearing within a week of primetime network television programming, coding every commercial airing during that heavily viewed time slot that featured a depiction of housework performed in and around the home. Findings revealed that the male characters carried out many fewer chores, performed them less satisfactorily, and elicited a negative response from other characters for their housework efforts

more often than female characters. In fact, the performance of chores by men was frequently depicted as humorous, with male characters more likely than females to be poked fun at due to their chore performance, reinforcing the ostensible limits to domesticity associated with masculinity. Here we see a relatively restrictive role for men, depicted as ineffectual and rather uninvolved in domestic life.

Scharrer (2004) obtained a sample of print ads for video games by subscribing to major video game fan magazines for a period of six months. Every ad for a video game, console, or gaming equipment within those magazine issues was coded, resulting in a sample size of just over 1,000 ads, 96% of which were for games themselves. Results showed male characters outnumbered female characters by more than a 3:1 ratio, just over half of the ads (55%) contained a depiction of at least one act of violence, and there was an average of 2.49 weapons, 1.52 violent acts, 2.17 violent words, and 0.85 violent threats per ad. Female characters were more scantily clad and were rated by coders as both more attractive and sexier than male characters (recall from the paragraphs above the borderline reliability of these attractiveness and sexiness measures). Male characters were determined to be more muscular, and although the number of male humans depicted in the ads was not related to the violence variables, those ads with masculine non-humans (robots, monsters, and other anthropomorphized beings) were more likely to have violent words and images. In this study, we see a reliance on the sexualization and ornamentation of women in this media form as well as a severe underrepresentation of female characters appearing in the ads. We also see the consistent presence for violence and aggression in the manner in which video games are marketed, and some indication of the relatively greater tendency to associate masculine non-human characters with the use of violent words and actions.

Finally, in two interrelated studies (Bridges et al., 2010; Sun et al., 2008), I was the methodologist working with an interdisciplinary team of psychologists and media studies scholars to examine the ways in which men and women were presented within a sample of 50 randomly selected top-selling and most frequently rented “adult” films according to a compilation maintained by Adult Video News. We found a total of 3,375 acts that met our definition of aggression in the study, and found that males perpetrated 70% and females were on the receiving end of an overwhelming 94% of the total number of aggressive acts. In only 2.7% of the total number of aggressive acts did the recipient of the aggression express pain or displeasure, thereby sending a facilitative message about aggression within the context of sexual activity to the audience, and female recipients of aggression were less likely than male recipients to express displeasure in response to aggression.

The implications of this work in light of the socialization potential of media are socially significant and suggest that gender stereotypes persist among many forms of our cultural artifacts well into the most recent decades. Yet, there are aspects of each of these studies that also can be construed as progress toward more flexibility and freedom in gender role enactment within the characters that appear in popular media forms. The content analysis methodology employed in these studies and others allows for important observations of the messages about gender—as well as about a host of other themes and topics in the wider literature, of course—that audiences receive through media. With media use at very high levels among the public and given the role of the media in both reflecting and shaping social norms and behaviors, these are important inquiries with critical political implications.

### **Considering Media Content as a Dependent Variable**

Shoemaker and Reese's path-breaking book, *Mediating the message: Theories of influence on mass media content* (1991; 1996; retitled to *Mediating the message in the twenty-first century: A media sociology perspective* for its third edition in 2014), was a landmark contribution to the scholarly practice of considering the forces and factors that are at play in the creation of media messages, resulting in messages being imbued with the particular features and attributes we later encounter as audiences. Not satisfied with taking media content as a given or merely as a starting place preceding effects, as is so often the case in communication research, Shoemaker and Reese delivered a groundbreaking explanation of the spheres of influence ranging from micro-level processes to macro-level cultural conditions and used their own scholarship to put that explanation into practice in analyses of the news environment.

Of course, the hierarchy of influences on news media content is just one application of a larger theme championed in Shoemaker's larger body of work. Decades ago, Shoemaker and Reese (1990, p. 650) wrote, "The media are not just channels. Media impose their own organizational, institutional and ideological logic on information, shaping it into a product that offers a specific view of social reality. We cannot fully understand the effects of that version of reality if we do not understand the forces that shape it." Today those words still ring true, and perhaps the greatest legacy of Shoemaker's work is its theorization and empirical exploration of precisely this, the interplay of influences that result in media content taking the shape that is packaged and delivered to audiences, a critically important inquiry that can be applied to any form of media content, including both news and entertainment forms.

In my research, using the premise established by Shoemaker and colleagues that the principles and practices that shape news and entertainment content should be the subject of rigorous social science inquiry, I have theorized about the ways in which entertainment television

content both reflects and helps shape social norms, as seen in a number of studies in which television content is compared against real-world social patterns. In Scharrer, Kim, et al. (2006), for example, my co-authors and I compare and contrast the performance of domestic duties among heterosexual couples in the United States with the depictions of the same among characters appearing in commercials airing during primetime television. While real-world statistics show increased domestic responsibilities of males in U.S. households with heterosexual couples, they also continue to demonstrate that the females in that context still spend more time engaged in such activity. Amid the depictions on commercials examined through content analysis, we found nearly twice as many female characters engaged in chores in and around the house than male characters, and—perhaps most interestingly—we found that half of the domestic chores taken on by male characters ended up being depicted as humorously inept. Thus, the television world is out of step with many aspects of the modern realities of U.S. households, and gives short shrift to the real-world fathers and other adult men who do more and more (but still not most) of the child care, cleaning, cooking, and other duties to maintain the family and the home.

In an earlier content analysis study, I examined the depiction of father figures in televised sitcoms from the 1950s through the 1990s, theorizing that the rise in economic status of women in the U.S. workforce as seen through national social statistics was concurrent with the evolution of sitcom dads from the sage and measured parental figures of the *Father Knows Best* era to the bumbling buffoon dads of *The Simpsons*, *Married with Children*, *Home Improvement* and other more recent shows (Scharrer, 2001b). This study positions humor and joke telling as a manifestation of power between mother figures and father figures, as well as between the father figure and other characters, in domestic situation comedies centered on family life. Within the 136 episodes of 29 domestic sitcoms rated among the top 25 programs at the time of their viewing, the

study finds a linear increase in the depiction of “foolishness”—defined by a series of semantic differential adjective pairs judged holistically across the episode—over time from the 1950s to the 1990s, and an increase in the overall proportion of jokes in the episodes made at the expense of the father as well as in the specific proportion of jokes told by the mother at the expense of the father. The argument put forth in the study is that this television depiction can be considered a dependent variable shaped by the changing economic realities of U.S. families in which mothers increasingly joined fathers as breadwinners, thereby undermining fathers’ previously privileged status. In other words, I argue, when fathers were the sole breadwinners, their economic role in the household was so critically important that perhaps they were above scrutiny and criticism, a situation disrupted by the emerging economic power of wives and mothers.

### **Connecting Content and Effects**

James A. Anderson (2012) suggests, “Content analysis can play an important (and often neglected) part in audience effects studies...Most effects studies are rather cavalier in the selection of content with the researcher selecting the content with an ‘of course it’s true’ approach that this content is violent, sexy, gender based or whatever the issue. It would be much better if we adopted a more sophisticated analysis of the content and could point to the properties by which the genre claim is made” (p. 279). Anderson’s words are reminiscent of similar observations made by Shoemaker and Reese (1990) over two decades prior, in which they outlined four particular ways of integrating the study of media content with the study of media effects: greater specificity in effects studies measuring media exposure that shows what content features such exposure encompasses, more sound social science in content analysis itself (better standardization, greater claims to both reliability and validity), deeper understanding of what factors among those that influence media



content are most important from the audience reception point of view, and additional exploration of how much audience members know about the factors that influence media content.

Influenced a great deal by this line of thinking, my own dissertation work involved conducting two interrelated studies on the topic of hypermasculinity and violence in media. Under the guidance of a dissertation committee comprised of George Comstock, Pamela J. Shoemaker, and Carol Liebler, I performed a content analysis of the relative presence or absence of the indicators of hypermasculinity (Mosher & Sirkin, 1984)—sensation seeking, emotional control/toughness, romantic/sexual callousness, and a reliance on violence or aggression—among major male characters in police and detective television programs over time (Scharrer, 2001a). From that analysis of 75 episodes of 29 programs and 321 characters, I chose the single most aggressive and hypermasculine example, an episode of the television program *Miami Vice*, to serve as the treatment group stimulus in the experiment I conducted to determine whether exposure to content that combines violence with the tough and callous hypermasculine male character might trigger an aggressive response among college-aged males (Scharrer, 2001c). In doing so, the goal of integration of content and effects was, I hope, achieved.

### **Conclusions and New Trends in Content Analysis: Interactive Media and Big Data**

New media forms represent both new opportunities and new challenges for content analysis. One challenge is the dynamic nature of interactive media. How can one claim to say something essential about media content if that content changes based on the ways in which users interface with it? Indeed, one of the defining features of newer technologies is the customizable ways in which the decisions of users negotiating various features and affordances change what is presented to the user on the screen.

Video games are a prime example of interactive media that can be difficult to tie down long enough to sustain reliable systematic content analysis (Schmierbach, 2009). If you and I play the same opening screens of *Call of Duty Black Ops III*, for instance, we will see different content depending on how we navigate our avatar in the virtual world. Researchers have taken various strategies in an attempt to address or circumvent this problem. In my own case, I opted for circumventing the dynamic and interactive nature of video games entirely and decided, instead, to study the static features of the ways in which games are advertised in video game fan magazines (Scharrer, 2004), as described above. Others have recorded periods of game play to assess the presence and absence of content features (Downs & Smith, 2010; Williams, Martins, Consalvo & Ivory, 2009), and yet, even these analyses are, of course, shaped by the decisions of the players themselves. Indeed, Matthews and Weaver (2013) found considerable differences in the instances of violence derived by relatively skilled compared to unskilled video game players after recording their play of a *Call of Duty* and a *Grand Theft Auto* game. Specifically, Matthews and Weaver found those with more video game playing skill and experience played these games in a manner that produced more violence in the resulting content than those with less playing skill and experience, thereby demonstrating important variability in what can be considered to be “content” in video games.

The massive amounts of data produced by social media and other information sources in the digital age also pose particular opportunities and obstacles for scholars interested in the systematic documentation of cultural artifacts. The age of “big data” generated by Facebook, Twitter, and other sources and the corresponding development of computer algorithms to capture and describe those data are a relatively new but already important component of social scientific explorations of messages circulating in contemporary discourse. Computers can be used to not

only identify the presence of particular words and phrases within huge stores of data, but they can also provide information about tone through sentiment analysis and they can shed light on context through cluster analysis and on relationships between and among multiple sources of content through social network analysis (Grimmer & Stewart, 2013; Lacy, Watson, Riffe, & Lovejoy, 2015; Zamith & Lewis, 2015). Although the lure of automaticity and the command of huge samples can produce highly (perhaps technically even purely) reliable results on a host of topics, scholars and practitioners of these approaches caution against replacing human coders too soon, given human coders' unique ability to understand more complex textual structures, connotations, meanings, and inferences (Lacy et al., 2015; Zamith & Lewis, 2015).

Analyses of the content produced through social media and other Internet sources also reflect the move away from media companies and corporate conglomerates as the sole or perhaps primary producers of what becomes known as media content toward the ability of everyday citizens to create and distribute content themselves in the digital age. YouTube is, of course, a prime contemporary outlet for blogs, web video, and other citizen-produced content, and a cursory glance through recent published articles shows a number of content analyses of the web channel, representing a wide range of topics investigated among videos posted to the site and the comments they elicit, from those pertaining to health topics such as obesity (Yoo & Kim, 2012) or organ transplants (Tian, 2010), to those pertaining to identity and diversity (Kopacz & Lawton, 2013) and teenage sexuality (Cunningham, 2014).

Whether one considers newer forms of media or those that have been around for decades and whether one incorporates more recent techniques in the systematic study of content or those more traditional and longstanding in nature, all signs point to continued growth and critical importance for the documentation of "the message" sent through technological means. Rigorous

social science in the exploration of not just what becomes media content but also how that content develops and for whom and how it matters continues to be timely and socially significant. I have argued in this chapter that the blending of scientific objectivity with an acknowledgement of power, politics, context and subjectivity in content analysis methodology can result in scholarship that both reflects the social and cultural context in which it is produced and also has the potential to spur social change.

Despite the near-revolutionary advancements in the media landscape that have taken place since its writing, I end with a quote from a *Journalism Quarterly* piece by Shoemaker and Reese published in 1990, that is just as relevant today as it was at the time of its publication. It's a call for social scientists to continue to pursue the systematic study of media content.

If we are to understand the role of the mass media in shaping social processes and peoples' lives, we must do more to bring media content into our studies. It isn't enough to study only exposure to, use of, attention to, attitudes about, or effects of the mass media. We must study what people are exposing themselves to, using, attending to, thinking about, or being affected by. Although many content analyses have been carried out on newspapers, television, and magazines, these have been largely descriptive and are not often linked in any systematic way to either the forces that created the content or to its effects. We must integrate the study of mass media content with the study of mass media effects, a step that will facilitate the growth of mass communication theories. (Shoemaker & Reese, 1990, p. 649)

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