



Content Analysis in the Research Field of Strategic Health Communication

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1 Introduction

Health Communication refers to “any type of human communication whose content is concerned with health” (Rogers 1996, p. 15) while strategic communication can be defined as “the purposeful, normative use of communication functions and discourse processes by organizations to accomplish their missions, visions, and core values” (Heath et al. 2018, p. 1). The main characteristic of strategic communication is the communicator: an organization (in the broadest understanding) operating in the fields of management, marketing, public relations, technical communication, political communication, and information/social marketing campaigns (Hallahan et al. 2007). Strategic health communication can entail for example health campaigns and public service announcements (PSAs), public relations by health organizations and pharmaceutical companies, health policies and lobbying for health issues as well as advertisements of prescription and non-prescription drugs.

“Research concerning health communication is often problem-based, focusing on identifying, examining, and solving health care and health promotion issues” (Kreps 2014, p. 567). It has been conducted within a variety of disciplines, e.g., public health, nursing sciences, health psychology, economic sciences (social marketing), epidemiology, medicine and sociology. Based on the interdisciplinarity and different

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research traditions, health communication research investigates a broad scope of research questions and is based on a wide variety of theoretical concepts (Freimuth et al. 2006; Kim et al. 2010).

Since the 1970 s, (strategic) health communication has increasingly become an area of interest for communication scholars, emerging from the U.S. and expanding rapidly (Kreps 2014). In Asia and Europe, health communication is a younger but also a fast-growing discipline within communication sciences (for Asia: Paek et al. 2010b; for Europe: Schulz and Hartung 2010). There are strong intersections with research on [risk communication](#), crisis communication (e.g., Vos and Buckner, 2016) and [strategic science communication](#).

In strategic health communication research, two areas have been explored traditionally: patient-provider communication and mass media campaigns (Dutta 2018; [for health communication in news/journalism, see part 2](#) of this handbook; for intersections e.g., Elbarazi et al. 2016).

2 Frequent Designs

Patient-provider communication is generally analyzed by discourse analysis due to its nature of interpersonal communication, using recordings (standardized observation, audio/video) and (quantitative/qualitative) surveys (Ha and Longnecker 2010). Hence, this contribution will focus on mass communication research instead of studies on micro level communication.

Research of mass media campaigns on health issues is mostly empirical and conducted via surveys/interviews (Freimuth et al. 2006; Hannawa et al. 2015) and/or quasi- or experimental designs (Freimuth et al. 2006; T. L. Thompson et al. 2014), using both qualitative and quantitative approaches (Kreps 2014), often focusing on effects (Hannawa et al. 2015). Although there is a larger body of quantitative research (Freimuth et al. 2006), the application of qualitative research designs is gaining ground. Also, mixed method designs combining two or more methods and both qualitative and quantitative approaches are more frequently used lately (Baumann et al. 2019; T. L. Thompson et al. 2014). Observational studies and physiological measurements (i.e., blood pressure, electrodermal activity, heart rate, facial expressions, etc.) in health campaign research are scarce (e.g., Suckfüll et al. 2014). However, there lies a high potential within and they are in demand (Baumann et al. 2019). Eye-tracking studies used to be rare but have been explored increasingly during the last ten years (King et al. 2019; e.g., Reifegerste et al. 2016).

While content analyses are far less common than surveys in health communication research in general, they have been conducted on a broad variety of topics in health communication (Freimuth et al. 2006; Hannawa et al. 2015; Tian and Robinson 2014). Three (interdependent) areas using this method frequently can be identified: health campaigns, health information, and pharmaceutical communication.

Health campaigns are, equivalent to public communication campaigns according to Atkin and Rice (2013), “purposive attempts to inform or influence behaviors in large audiences within a specified time period using an organized set of communication activities and featuring an array of mediated messages in multiple channels generally to produce noncommercial benefits to individuals and society” (p. 3) concerning health topics. These may include content analyses of health campaigns and PSAs on addictive behaviors, e.g., tobacco (Paek 2010a) and illicit drug use (Stephenson and Quick, 2005), prevention measures, e.g., HIV/AIDS (Freimuth et al. 1990), vaccination (Journault et al. 2020), road safety (DeJong and Atkin, 1995; Slater 1999), and cancer awareness (Diddi and Lundy 2017; Lenoir et al. 2017), family/child welfare, e.g., alcohol during pregnancy (Parackal, Parackal et al. 2017), and domestic violence (Reis et al. 2020), as well as general health promotion, e.g., nutrition (Zhang et al. 2017).

Strategic health information is characterized by an organizational communicator and may include off- and online content. In contrast to health campaigns, they either tend to be communicated through one channel only, are not defined by the dissemination within a limited period and/or are communication efforts of health organizations in acute health issues (e.g., Ebola virus) via social media. Content analysis is the most prevalent research method in this area of health communication (Beaunoyer et al. 2017; Chou et al. 2013), but the body of research is – esp. for offline-information – not overwhelmingly large. Offline health information includes for example information brochures/pamphlets in waiting areas of medical practices (e.g., Corcoran and Ahmad 2016; Kline and Mattson 2000), and may also be referred to as “small media”. Online health information includes for example websites on diseases/syndromes or healthy living (e.g., Baek and Yu 2009) by governmental or non-governmental organizations, health apps (e.g., Ming et al. 2020) and social media activities of health organizations (e.g., Dalrymple et al. 2016; Guidry et al. 2017; Vos and Buckner 2016; Young et al. 2018).

Pharmaceutical communication includes for example promotion of non-prescription drugs to the public (“over the counter medication”, OTC) and direct-to-consumer advertising of prescription drugs (DTCA; e.g., Alkazemi and van Stee 2020; Avery et al. 2012; Brownfield et al. 2004; Dan 2019; Frosch et al. 2007; Kaphingst et al. 2004). Content analysis has been a frequently used method since the beginning of empirical research on pharmaceutical advertising (Kopp and Bang 2000). In most countries, DTCA is banned and disease awareness advertisements (DAA) have recently become an alternative, but few studies have explored DAAs to date (Hall et al. 2009).

Often, the analyses employ a case study design, and are sometimes accompanied by social network analysis (e.g., Moukarzel et al. 2020; Schlichthorst et al. 2019). Automated content analysis/sentiment analysis seems fairly new in this field, but has been conducted also within health campaign research, usually to collect data on audience responses to strategic health communication measures (Ahmed et al. 2018; Chu et al. 2019a; Chu et al. 2019; Gomes and Casais, 2018; Kessler and Schmidt-Weitmann 2019; Parackal et al. 2017).

3 Main Constructs

Content analysis research in strategic health communication is very diverse, maybe due to the interdisciplinarity, maybe because of the many theoretical constructs or, in some cases, the lack thereof (Freimuth et al. 2006; Hannawa et al. 2015; Kim et al. 2010). In few studies, the same or similar category systems or frames of references are being used. However, concentrating on research within the three strategic health communication fields identified above, the following constructs for health campaigns, health information and pharmaceutical communication can be found:

1. *emotional appeals within strategic message design*: In strategic health communication, message design analyses often explore emotional appeals. Fear appeals have been investigated most often, using the categories threat (seriousness, susceptibility) and efficacy (self-efficacy, response efficacy) in different contexts and deriving from various theories like protection motivation theory, the health belief model as well as the parallel response model: Smith (1997) looks at immunization intervention messages to examine the national usage of fear appeals using the categories above and adding the level of fear message quality (absence, statement or demonstration of fear appeal). She finds an almost equal amount of threat and efficacy appeals within the immunization messages, but a low message quality level of self-efficacy appeals which are considered crucial to the adoption of healthy behavior. Kline und Mattson (2000) analyze breast self-examination pamphlets, using like Smith (1997) the variables severity (called “seriousness” at Smith’s) and susceptibility (i.e., general statistics and risk factors) for threat, and response efficacy and self-efficacy for efficacy appeals. They find an imbalance of threat to efficacy appeals with threat being emphasized, leading to a less persuasive message. Sheer und Chen (2008) expand the four-component-approach and add variables specific to Chinese cultural values to examine OTC-advertisement in regard to validity. Within the efficacy appeals, they discover “other efficacy” which refers to a third party and attest the four message design elements a “high degree of cross-cultural validity” (p. 950) resulting in an extended fear message model.
2. *ethical health messages*: Ethical visual and verbal message design elements are the research focus of Coleman und Major (2014). They analyze ethical frames (individual responsibility, harm reduction), ethical primes (stereotyping, i.e., gender primes and racial/cultural primes) and negative emotion frames, as well as the variables race/ethnicity of people portrayed and health issue within visual and verbal elements of PSAs. The major findings are AIDS/HIV as the main health issue, at least one ethically questionable visual or verbal frame or prime in almost all PSAs (97,3 %) with individual responsibility being the most prevalent frame (80 %), occurring mostly verbally and not visually. In contrast, gender stereotyping arose two times

more often in visual than in verbal frames. Racial and ethnical primes are low (8 %), but black people are depicted disproportionally often in AIDS/HIV PSAs compared to the actual infection/illness rates. A comparison of misleading information in OTC and DTC advertisements is conducted by Faerber und Kreling (2014), evaluating the truthfulness of the major claim. In DTCA, they find more objectively true claims, and fewer false claims than in OTC ads.

3. *balanced information on risk and benefit*: Balanced information on the benefits and risks of a medication are an FDA requirement for pharmaceutical advertisement in the United States of America. Therefore, Avery et al. (2012) focus on fair balance of risk information to benefit information in DTC antidepressant ads and discover an imbalance toward more attention on benefits than risks – but there is a notable improvement over time. Alkazemi und van Stee (2020) conduct a content analysis on eDTCA (prescription medication websites) investigating the categories visual elements, textual elements, social media, user-centric content and nature of the health condition. Results include a higher likeliness of a positive tone on websites of chronic conditions compared to acute health conditions websites. Surprisingly, and conflicting with results from previous studies, the readability of risk information ranks higher than benefit information. The disclosure of major risks in televised DTCA is the research focus of Sullivan et al. (2019). They evaluate general ad characteristics, risks presented during the major statement, understandability, quantitative information, audio characteristics as well as visual characteristics. Findings show for example an increase of the length of the major risk statements compared to previous research, which might lead to negative consequences for the recipients. About half of the ads use a positive image during the major risk statement, possibly distracting the audience from the risk information.
4. *linguistic and semantic characteristics*: Beaunoyer et al. (2017) offer an overview of seven tools to analyze the dimensions readability, emotional content, understandability and usability for online health information: They describe the SAM (Suitability Assessment of Materials), SAM+CAM (Suitability and Comprehensibility Assessment of Materials), BIDS (Bernier Instructional Design Scale), DISCERN, TEMPtED (Tool to Evaluate Materials Used in Patient Education), Health literacy INDEX, and PEMAT (Patient Education Material Assessment Tool). Understandability and usability are the most common dimensions to assess comprehensibility; they are intertwined as only an information understood can be an information of use (Beaunoyer et al. 2017). For example, using the SAM+CAM allows to examine suitability and comprehensibility of online health information. It includes the categories content, literacy demand, numeracy (numeric literacy), graphic material, layout/typography and learning stimulation/motivation (cf. Helitzer et al. 2009) and was developed to assess cervical cancer prevention materials. The results show a high reading level and a need to adjust ease of use and comprehensibility.

5. *other message design elements*: Strategic health messages contain apart from the message itself also information on the communicator, the audience and the disseminating channel (Bonfadelli and Friemel 2020; Tian and Robinson 2014). Journault et al. (2020) focused on the communicator of Lyme disease information websites, comparing different organization's accuracy of health information. They observe divergences and contradictory information as well as inaccurate information and suggest further research. Freimuth et al.'s (1990) content analysis of televised AIDS PSAs examines – amongst other objectives – specific message design to reach targeted audiences. Findings reveal that the messages aim rather at the general audience than the high-risk group. Guidry et al. (2017) look at the disseminating channel, comparing health organizations usage of Instagram and Twitter during the Ebola crisis. They attest Instagram a higher potential in health crisis communication than Twitter.

4 Research Desiderata

The overarching research goal for content analyses in strategic health communication is a commonly used standard of main constructs or category systems and a “catalogue” of message design elements (cf. Morrison et al. 2005). This catalogue would offer an alternative to self-reported effects, strengthen mixed-method approaches and serve as a research instrument (e.g., using physiological methods) as well as a campaign design tool. As this contribution has shown, there are many research gaps on the way to this goal. The lack of theoretical foundation in published health communication research (Freimuth et al. 2006; Hannawa et al. 2015; Kim et al. 2010) might be a contributing factor to the missing “overarching framework” that would lead “into a coherent field of study” (Hannawa et al. 2014, p. 956), also enabling desired meta-analyses (Noar 2006).

One step on the way to a catalogue of message design elements are more theory-based studies. Furthermore, future research on strategic health communication should build on existing category systems – a goal we strive for with this handbook – and extend them. New analytic categories developed in close collaboration with existing ones to construct coding frames that could be applied to textual, visual and audio data would be desirable, also leading possibly to more automated content analyses and meta-analyses in the field. Ideally, codebooks will be made widely available (open access).

There are many gaps in message design research which might be narrowed by content analysis approaches instead of using surveys. For example, research on fear appeals – mostly using self-reports – has a longstanding tradition and still produces heterogeneous results, leading to no final answer on the question how to use fear appeals best in strategic health communication (Ruiter et al. 2014). These results may be explained by adding new aspects to the categories “threat” and “efficacy”: There may be an underlying mix of emotional appeals involved, but other negative emotions and all positive emotions have been neglected within this research area; fear and its intensity

levels might be influenced by other message design elements like frame/primes or testimonials/celebrities (cf. Knoll and Matthes 2017). Intended and unintended effects of strategic health communication may be understood better by investigating intrinsic message contents (cf. Cho and Salmon 2007).

Comparisons between different communicators are surprisingly scarce, as the communicating organization is a key characteristic in strategic communication. Also, ethical issues are often overlooked in strategic health communication, esp. in campaigns, but are an important area of research as shown by Coleman and Major (2014). Cross-cultural validity (e.g., on fear appeals) is still a seldomly researched topic (cf. Baek and Yu 2009; Sheer and Chen 2008). Furthermore, strategic health communication research could benefit greatly from analyses of visual and audio components in addition to text as shown by Dan (2019), who investigated visual-verbal mismatches as a deception technique in DTCA. Also, DAA research is rare due to its novelty: More research is here urgently needed as DAA might be a gateway to lifting DTCA bans.

If we understand the depth and the subtle differences within the content itself, we might be able to understand effects in their entirety. Future research implementing content analyses with these goals and gaps in mind will hopefully contribute to a better understanding and application of strategic health communication.

References

- Ahmed, W., Bath, P. A., Sbaffi, L., & Demartini, G. (2018). Measuring the effect of public health campaigns on Twitter: The case of World Autism Awareness Day. In G. Chowdhury, J. McLeod, V. Gillet, & P. Willett (Eds.), *Lecture Notes in Computer Science: Vol. 10766, Transforming digital worlds* (pp. 10–16). Cham: Springer International Publishing; Imprint: Springer.
- Alkazemi, M. F., & van Stee, S. K. (2020). Electronic direct-to-consumer advertising of pharmaceuticals: An assessment of textual and visual content of websites. *Health Education Research, 35*(2), 134–151. <https://doi.org/10.1093/her/cyaa004>
- Atkin, C. K., & Rice, R. E. (2013). Theory and principles of public communication campaigns. In R. E. Rice & C. K. Atkin (Eds.), *Public communication campaigns* (pp. 3–19). Los Angeles: Sage.
- Avery, R. J., Eisenberg, M., & Simon, K. I. (2012). Fair balance in direct-to-consumer antidepressant print and television advertising, 1995–2007. *Journal of Health Communication, 17*(3), 250–277. <https://doi.org/10.1080/10810730.2011.585698>
- Baek, T. H., & Yu, H. (2009). Online health promotion strategies and appeals in the USA and South Korea: A content analysis of weight-loss websites. *Asian Journal of Communication, 19*(1), 18–38.
- Baumann, E., Finne, E., & Ort, A. (2019). Methoden der Gesundheitskommunikation [Methods of health communication]. In C. Rossmann & M. R. Hastall (Eds.), *Handbuch der Gesundheitskommunikation. Kommunikationswissenschaftliche Perspektiven [Handbook of health communication. Communication science perspectives]* (1st ed., pp. 29–41). Wiesbaden: Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-10727-7_3

- Beaunoyer, E., Arsenault, M., Lomanowska, A. M., & Guitton, M. J. (2017). Understanding online health information: Evaluation, tools, and strategies. *Patient Education and Counseling*, *100*(2), 183–189. <https://doi.org/10.1016/j.pec.2016.08.028>
- Bonfadelli, H., & Friemel, T. N. (2020). *Kommunikationskampagnen im Gesundheitsbereich; Grundlagen und Anwendungen [Communication campaigns in the health sector: Basics and applications]*. Herbert von Halem Verlag.
- Brownfield, E. D., Bernhardt, J. M., Phan, J. L., Williams, M. V., & Parker, R. M. (2004). Direct-to-consumer drug advertisements on network television: An exploration of quantity, frequency, and placement. *Journal of Health Communication*, *9*(6), 491–497.
- Cho, H., & Salmon, C. T. (2007). Unintended effects of health communication campaigns. *Journal of Communication*, *57*(2), 293–317. <https://doi.org/10.1111/j.1460-2466.2007.00344.x>
- Chou, W. S., Prestin, A., Lyons, C., & Wen, K. (2013). Web 2.0 for health promotion: Reviewing the current evidence. *American Journal of Public Health*, *103*(1), e9–18. <https://doi.org/10.2105/AJPH.2012.301071>
- Chu, K.-H., Allem, J.-P., Unger, J. B., Cruz, T. B., Akbarpour, M., & Kirkpatrick, M. G. (2019). Strategies to find audience segments on Twitter for e-cigarette education campaigns. *Addictive Behaviors*, *91*, 222–226. <https://doi.org/10.1016/j.addbeh.2018.11.015>
- Chu, K.-H., Colditz, J., Malik, M., Yates, T., & Primack, B. (2019). Identifying key target audiences for public health campaigns: Leveraging machine learning in the case of hookah tobacco smoking. *Journal of Medical Internet Research*, *21*(7), e12443.
- Coleman, R., & Major, L. H. (2014). Ethical health communication: A content analysis of predominant frames and primes in public service announcements. *Journal of Mass Media Ethics*, *29*(2), 91–107.
- Corcoran, N., & Ahmad, F. (2016). The readability and suitability of sexual health promotion leaflets. *Patient Education and Counseling*, *99*(2), 284–286. <https://doi.org/10.1016/j.pec.2015.09.003>
- Dalrymple, K. E., Young, R., & Tully, M. (2016). “Facts, not fear”: Negotiating uncertainty on social media during the 2014 Ebola crisis. *Science Communication*, *38*(4), 442–467. <https://doi.org/10.1177/1075547016655546>
- Dan, V. (2019). Audiences in the dark: Deception in pharmaceutical advertising through verbal-visual mismatches. In *The Palgrave handbook of deceptive communication* (pp. 839–855). Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-319-96334-1_43
- DeJong, W., & Atkin, C. K. (1995). A review of national television PSA campaigns for preventing alcohol-impaired driving, 1987-1992. *Journal of Public Health Policy*, *16*(1), 59.
- Diddi, P., & Lundy, L. K. (2017). Organizational Twitter use: Content analysis of tweets during Breast Cancer Awareness Month. *Journal of Health Communication*, *22*(3), 243–253. <https://doi.org/10.1080/10810730.2016.1266716>
- Dutta, M. J. [M. J.] (2018). Health communication. In *The international encyclopedia of strategic communication* (pp. 1–13). American Cancer Society. <https://doi.org/10.1002/9781119010722.iesc0082>
- Elbarazi, I., Raheel, H., Cummings, K., & Loney, T. (2016). A content analysis of Arabic and English newspapers before, during, and after the Human Papillomavirus vaccination campaign in the United Arab Emirates. *Frontiers in Public Health*, *4*, 176.
- Faerber, A. E., & Kreling, D. H. (2014). Content analysis of false and misleading claims in television advertising for prescription and nonprescription drugs. *Journal of General Internal Medicine*, *29*(1), 110–118. <https://doi.org/10.1007/s11606-013-2604-0>
- Freimuth, V. S., Hammond, S. L., Edgar, T., & Monahan, J. L. (1990). Reaching those at risk. *Communication Research*, *17*(6), 775–791.

- Freimuth, V. S., Massett, H. A., & Meltzer, W. (2006). A descriptive analysis of 10 years of research published in the Journal of Health Communication. *Journal of Health Communication, 11*(1), 11–20.
- Frosch, D. L., Krueger, P. M., Hornik, R. C., Cronholm, P. F., & Barg, F. K. (2007). Creating demand for prescription drugs: A content analysis of television direct-to-consumer advertising. *The Annals of Family Medicine, 5*(1), 6–13.
- Gomes, R. F., & Casais, B. (2018). Feelings generated by threat appeals in social marketing: text and emoji analysis of user reactions to anorexia nervosa campaigns in social media. *International Review on Public and Nonprofit Marketing, 15*(4), 591–607.
- Guidry, J. P., Jin, Y., Orr, C. A., Messner, M., & Meganck, S. (2017). Ebola on Instagram and Twitter: How health organizations address the health crisis in their social media engagement. *Public Relations Review, 43*(3), 477–486. <https://doi.org/10.1016/j.pubrev.2017.04.009>
- Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: A review. *Ochsner Journal, 10*(1), 38–43.
- Hall, D. V., Jones, S. C., & Iverson, D. C. (2009). Content analysis of disease awareness advertisements in popular Australian women's magazines. *Medical Journal of Australia, 191*(11-12), 625–629.
- Hallahan, K., Holtzhausen, D., van Ruler, B., Verčič, D., & Sriramesh, K. (2007). Defining strategic communication. *International Journal of Strategic Communication, 1*(1), 3–35.
- Hannawa, A. F., García-Jiménez, L., Candrian, C., Rossmann, C., & Schulz, P. J. (2015). Identifying the field of health communication. *Journal of Health Communication, 20*(5), 521–530. <https://doi.org/10.1080/10810730.2014.999891>
- Hannawa, A. F., Kreps, G. L., Paek, H.-J., Schulz, P. J., Smith, S., & Street, R. L. (2014). Emerging issues and future directions of the field of health communication. *Health Communication, 29*(10), 955–961. <https://doi.org/10.1080/10410236.2013.814959>
- Heath, R. L., Johansen, W., Hallahan, K., Steyn, B., Falkheimer, J., & Raupp, J. J. C. (2018). Strategic communication. In *The international encyclopedia of strategic communication* (pp. 1–24). American Cancer Society. <https://doi.org/10.1002/9781119010722.iesc0172>
- Helitzer, D., Hollis, C., Cotner, J., & Oestreicher, N. (2009). Health literacy demands of written health information materials: An assessment of cervical cancer prevention materials. *Cancer Control: Journal of the Moffitt Cancer Center, 16*(1), 70–78.
- Journault, A.-A., Richard, L., & Aenishaenslin, C. (2020). Lyme disease prevention: A content analysis of Canadian patient group and government websites. *Zoonoses and Public Health, 67*(2), 177–185. <https://doi.org/10.1111/zph.12669>
- Kaphingst, K. A., DeJong, W., Rudd, R. E., & Daltroy, L. H. (2004). A content analysis of direct-to-consumer television prescription drug advertisements. *Journal of Health Communication, 9*(6), 515–528.
- Kessler, S. H., & Schmidt-Weitmann, S. (2019). Diseases and emotions: an automated content analysis of health narratives in inquiries to an online health consultation service. *Health Communication, 1*–10. <https://doi.org/10.1080/10410236.2019.1673950>.
- Kim, J.-N., Park, S.-C., Yoo, S.-W., & Shen, H. (2010). Mapping health communication scholarship: Breadth, depth, and agenda of published research in health communication. *Health Communication, 25*(6-7), 487–503.
- King, A. J., Bol, N., Cummins, R. G., & John, K. K. (2019). Improving visual behavior research in communication science: an overview, review, and reporting recommendations for using eye-tracking methods. *Communication Methods and Measures, 13*(3), 149–177. <https://doi.org/10.1080/19312458.2018.1558194>
- Kline, K. N., & Mattson, M. (2000). Breast self-examination pamphlets: A content analysis grounded in fear appeal research. *Health Communication, 12*(1), 1–21.

- Knoll, J., & Matthes, J. (2017). The effectiveness of celebrity endorsements: A meta-analysis. *Journal of the Academy of Marketing Science*, 45(1), 55–75. <https://doi.org/10.1007/s11747-016-0503-8>
- Kopp, S. W., & Bang, H. K. (2000). Benefit and risk information in prescription drug advertising: review of empirical studies and marketing implications. *Health Marketing Quarterly*, 17(3), 39–56.
- Kreps, G. L. (2014). Health communication, history of. In T. L. Thompson (Ed.), *Encyclopedia of health communication* (pp. 567–571). Thousand Oaks, CA: SAGE Reference.
- Lenoir, P., Moulahi, B., Azé, J., Bringay, S., Mercier, G., & Carbonnel, F. (2017). Raising awareness about cervical cancer using Twitter: Content analysis of the 2015 #SmearForSmear Campaign. *Journal of Medical Internet Research*, 19(10), e344.
- Ming, L. C., Untong, N., Aliudin, N. A., Osili, N., Kifli, N., Tan, C. S., Goh, H. P. (2020). Mobile health apps on COVID-19 launched in the early days of the pandemic: Content analysis and review. *JMIR MHealth and UHealth*, 8(9), e19796.
- Morrison, F. P., Kukafka, R., & Johnson, S. B. (2005). Analyzing the structure and content of public health messages. *AMIA Annual Symposium Proceedings, 2005*, 540–544.
- Moukarzel, S., Rehm, M., & Daly, A. J. (2020). Breastfeeding promotion on Twitter: A social network and content analysis approach. *Maternal & Child Nutrition*, 16(4), e13053. <https://doi.org/10.1111/mcn.13053>
- Noar, S. M. (2006). In pursuit of cumulative knowledge in health communication: The role of meta-analysis. *Health Communication*, 20(2), 169–175.
- Paek, H.-J., Kim, K., & Hove, T. (2010). Content analysis of antismoking videos on YouTube: Message sensation value, message appeals, and their relationships with viewer responses. *Health Education Research*, 25(6), 1085–1099. <https://doi.org/10.1093/her/cyq063>
- Paek, H.-J., Lee, A. L., Jeong, S.-H., Wang, J., & Dutta, M. J. (2010). The emerging landscape of health communication in Asia: Theoretical contributions, methodological questions, and applied collaborations. *Health Communication*, 25(6-7), 552–559.
- Parackal, M., Parackal, S., Eusebius, S., & Mather, D. (2017). The use of Facebook advertising for communicating public health messages: A campaign against drinking during pregnancy in New Zealand. *JMIR Public Health and Surveillance*, 3(3), e49.
- Reifegerste, D., Kessler, S. H., & Guenther, L. (2016). Bewegt durch Bilder? Der Einfluss von Aufmerksamkeit und Hintergrundmotiv [Moved by pictures? The influence of attention and background motif]. In A.-L. Camerini, R. Ludolph, & F. Rothenfluh (Eds.), *Reihe Medien + Gesundheit: Band 13, Gesundheitskommunikation im Spannungsfeld zwischen Theorie und Praxis [Health communication in the area of tension between theory and practice]* (1st ed., pp. 131–141). Baden-Baden: Nomos
- Reis, E., Arriaga, P., Moleiro, C., & Hospital, X. (2020). Pictorial campaigns on intimate partner violence focusing on victimized men: A systematic content analysis. *Frontiers in Psychology*, 11, 1450. <https://doi.org/10.3389/fpsyg.2020.01450>
- Rogers, E. M. (1996). The field of health communication today: An up-to-date report. *Journal of Health Communication*, 1(1), 15–23.
- Ruiter, R. A. C., Kessels, L. T. E., Peters, G.-J. Y., & Kok, G. (2014). Sixty years of fear appeal research: Current state of the evidence. *International Journal of Psychology*, 49(2), 63–70. <https://doi.org/10.1002/ijop.12042>
- Schlichthorst, M., King, K., Reifels, L., Phelps, A., & Pirkis, J. (2019). Using social media networks to engage men in conversations on masculinity and suicide: Content analysis of man up Facebook campaign data. *Social Media + Society*, 5(4), 205630511988001.
- Schulz, P. J., & Hartung, U. (2010). Health communication research in Europe: An emerging field. *Health Communication*, 25(6-7), 548–551.

- Sheer, V. C., & Chen, L. (2008). Intrinsic characteristics of health-related fear appeals from Chinese print OTC ads: implications for fear message construction. *International Journal of Communication*, 936–958.
- Slater, M. D. (1999). Drinking and driving PSAs: a content analysis of behavioral influence strategies. *Journal of Alcohol and Drug Education*, 44(3), 68–81. *Journal of Alcohol and Drug Education*, 44(3), 68.
- Smith, S. L. (1997). The effective use of fear appeals in persuasive immunization: An analysis of national immunization intervention messages. *Journal of Applied Communication Research*, 25(4), 264–292.
- Stephenson, M. T., & Quick, B. L. (2005). Parent ads in the National Youth Anti-Drug Media Campaign. *Journal of Health Communication*, 10(8), 701–710.
- Suckfüll, M., Schmidt, J., & Reuter, M. (2014). Emotionen in der Präventionskommunikation [Emotions in prevention communication]. In E. Baumann, M. R. Hastall, C. Rossmann, & A. E. Sowka (Eds.), *Reihe Medien + Gesundheit: Vol. 9. Gesundheitskommunikation als Forschungsfeld der Kommunikations- und Medienwissenschaft [Health communication as a research area of communication science and media studies]* (1st ed., pp. 78–91). Baden-Baden: Nomos.
- Sullivan, H. W., Aikin, K. J., & Poehlman, J. (2019). Communicating risk information in direct-to-consumer prescription drug television ads: A content analysis. *Health Communication*, 34(2), 212–219. <https://doi.org/10.1080/10410236.2017.1399509>
- Thompson, T. L., Cusella, L. P., & Southwell, B. G. (2014). Method matters. In B. B. Whaley (Ed.), *Research methods in health communication: Principles and application* (pp. 4–17). New York, NY: Routledge.
- Tian, Y., & Robinson, J. D. (2014). Content analysis of health communication. In B. B. Whaley (Ed.), *Research methods in health communication: Principles and application* (pp. 190–212). New York, NY: Routledge.
- Vos, S. C., & Buckner, M. M. (2016). Social media messages in an emerging health crisis: Tweeting bird flu. *Journal of Health Communication*, 21(3), 301–308. <https://doi.org/10.1080/10810730.2015.1064495>
- Young, R., Tully, M., & Dalrymple, K. E. (2018). #Engagement: use of Twitter chats to construct nominal participatory spaces during health crises. *Information, Communication & Society*, 21(4), 499–515. <https://doi.org/10.1080/1369118X.2017.1301518>
- Zhang, X., Baker, K., Pember, S., & Bissell, K. (2017). Persuading me to eat healthy: A content analysis of YouTube public service announcements grounded in the health belief model. *Southern Communication Journal*, 82(1), 38–51.

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