

YouTube, Google, Facebook: 21st Century Online Video Research and Research Ethics

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Abstract: Since the early 2000s, the proliferation of cameras in devices such as mobile phones, closed-circuit television (CCTV), or body cameras has led to a sharp increase in video recordings of human interaction and behavior. Through websites that employ user-generated content (e.g., YouTube) and live streaming sites (e.g., GeoCam), access to such videos virtually is at the fingertips of social science researchers. Online video data offer great potential for social science research to study an array of human interaction and behavior, but they also raise ethical questions to which existing guidelines and publications only provide partial answers. In our article we address this gap, drawing on existing ethical discussions and applying them to the use of online video data. We examine five areas in which online video research raises specific questions or promises unique potentials: informed consent, analytic opportunities, privacy, transparency, and minimizing harm to participants. We discuss their interplay and how these areas can inform practitioners, reviewers, and interested readers of online video studies when evaluating the ethical standing of a study. With this study, we contribute to an informed and transparent discussion about ethics in online video research.

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1. Introduction

The Internet creates ever-new opportunities for researchers to observe human behavior. One key area that has profited from this development is research using video data. An ever-expanding pool of visual data (i.e., moving or still images) is being produced with mobile phone cameras, CCTV, body cameras, and drones. The simultaneous advent of user-generated-content websites made many of these data easily accessible. For example, in 2013, 31% of online adults posted a video to a website, and on YouTube alone, more than one hundred hours of video material are uploaded every minute (ANDERSON, 2015). Many of these videos document real-life social situations and interactions. Thus, online video research can be an attractive, time- and cost-efficient alternative to self-recording videos (KISSMANN, 2009; KNOBLAUCH, 2012; TUMA, SCHNETTLER & KNOBLAUCH, 2013) and to accessing video data through third parties such as police, or the courts (LEVINE, TAYLOR & BEST, 2011; LINDEGAARD, DE VRIES & BERNASCO, 2018). This development promises to fuel an already vital field of qualitative (but also quantitative) social science research that employs video data—e.g., on violent altercations (COLLINS, 2008), atrocities (KLUSEMANN, 2009), protest violence (NASSAUER, 2016, 2018a), or street fights (LEVINE et al., 2011), human-machine interaction (ANTHONY, KIM & FINDLATER, 2013), and robberies (LINDEGAARD et al., 2018; NASSAUER, 2018b). [1]

The potential of accessing video data online may also entail ethical challenges (SALGANIK, 2017, p.288; VON UNGER, DILGER & SCHÖNHUTH, 2016, §6). Video data accessed online can compound ethical challenges from participant observation, for example, regarding privacy rights (VON UNGER et al., 2016, §11); online research, for example, regarding informed consent (MARKHAM & BUCHANAN, 2012, p.3); and offline video data, for example, regarding confidentiality (WILES et al., 2008). Existing ethical codes and guidelines often cannot keep pace with technological developments and the new research opportunities they offer (SALGANIK, 2017, p.10). Ethical concerns so far have rarely been discussed in publications based on online video research (e.g., ANTHONY et al., 2013; NASSAUER, 2018b). Hence, online video research requires a systematic reflection of research ethics: What ethical concerns arise when using visual data sources that are openly accessible to anyone on the Internet? What role do ethical concerns such as informed consent, or confidentiality play in such research contexts? And how can reviewers and interested readers of online video data publications assess a study's ethical standing? [2]

In this article, we address these questions. Whereas legal aspects (e.g., data protection legislation) and standards of good scientific practice are also part of research ethics (e.g., American Sociological Association [ASA], 1999; Deutsche Gesellschaft für Soziologie [DGS] & Berufsverband Deutscher Soziologinnen und Soziologen [BDS], 2017; Rat für Sozial und Wirtschaftsdaten [RATSWD], 2017), we focus on issues pertaining to the protection of study subjects when using online video data. In Section 2, we briefly discuss what characterizes online video

research and which existing literature can serve as points of departure to reflect on research ethics when analyzing videos accessed online. We outline key ethical concerns in online video data analysis in Section 3, to serve as a basis for an informed and transparent discussion about ethics in online video research: informed consent, unique opportunity, privacy, transparency, and minimizing potential harm to participants. Addressing the lack of ethical discussions regarding online video data, we introduce criteria based on general ethical principles and ethical discussions in other fields and for other types of data. In line with the notion that principles in research ethics should be understood as "prima facie" (VON UNGER, 2014, p.18), we suggest that different challenges and benefits have to be weighed against each other when assessing research ethics. In Section 4, we conclude with an outlook on future developments of online video research. [3]

2. Points of Departure

2.1 What is online video research?

With the umbrella term online video research, we refer to any research that uses videos or other visual data as the main data material and collects this material from online sources. Such video data can be combined with a number of quite different analytic approaches—e.g., interpretative analyses common in visual studies and videography (KISSMANN, 2009; KNOBLAUCH 2012; KNOBLAUCH, BAER, LAURIER, PETSCHKE & SCHNETTLER, 2008; TUMA et al., 2013); analyses of interactional patterns and situational dynamics as in video data analysis (NASSAUER, 2018a; NASSAUER & LEGEWIE, 2018); or analyses of communication, as in multimodal interaction analysis (e.g., NORRIS, 2004). Whereas these approaches differ in their aims and analytic foci, they share challenges in research ethics if they use video data accessed online. [4]

Because researchers relying on online video data do not themselves record these data, they are not in contact with their research subjects (for an exception see, e.g., ANTHONY et al., 2013). Instead, the main sources for online access to videos are video sharing platforms such as YouTube or LiveLeaks, social networks such as Facebook, Instagram, or Twitter, or live CCTV websites such as GeoCam. Thus, researchers are not dealing with research participants, but rather research subjects with whom they usually do not directly interact or whom they might never be in contact with. This approach to data collection not only changes techniques for assessing and improving data validity (NASSAUER & LEGEWIE, 2018) but also has implications for research ethics. [5]

2.2 Research ethics: Areas, principles, and relevant research fields

Research ethics refer to the application of ethical principles to the research process as a reflection of moral rules and values (VON UNGER, 2014, p.18). Some core concerns have been defined across national contexts: protecting participants from harm, avoiding conflict of interest and misrepresentation, respecting common laws, and adhering to standards such as professional competence and nondiscrimination (ASA, 1999; British Psychological Society [BPS], 2014; British Sociological Association [BSA], 2017a; RATSWD, 2017). Codes of research ethics further agree in urging scholars to go beyond mere avoidance of illegal behavior, which means that ethical standards for researchers are higher than for other users of online data (e.g., companies using online data for commercial purposes). Other issues in research ethics are discussed differently according to national context. Ethical guidelines in the United States and the United Kingdom suggest research should serve the public good and the well-being of society (ASA, 1999; BSA, 2017a), and stress that studies might be considered beneficial even if they entail other ethical concerns. German research ethics codes (at least in sociology) do not include these aspects (VON UNGER, 2014, p.19). A further key difference in codes of research ethics stems from divergent legislation on privacy rights. And finally, research ethics are evaluated and monitored quite differently across countries; for instance, in the US institutional review boards have to approve research with human subjects, whereas in Germany such obligatory institutionalized ethics review does not exist outside selected disciplines and institutions (VON UNGER, 2014). Institutionalized ethics review boards are currently being developed and implemented in Germany (RATSWD, 2017; VON UNGER et al., 2016). [6]

The necessary assessment of research ethics concerning the use of online video data can draw on a broad base of existing work. As a detailed, general discussion of research ethics is beyond the scope of this paper and already has received extensive attention from scholars and institutional actors, we briefly summarize how three fields of research can contribute to an evaluation of ethics in online video research: overall key areas for ethical reflection, ethical principles to conduct assessments, and the literature on research ethics in related fields. [7]

General ethical areas are discussed in a number of publications (e.g., MAUTHNER, BIRCH, MILLNER & JESSOP, 2012; VON UNGER, NARIMANI & M'BAYO, 2014) and official guidelines (e.g., for the field of sociology, ASA, 1999; BSA, 2017a; DGS & BDS, 2017; RATSWD, 2017). These provide the overall frame of reference for reflections on online video research. We identify five ethical areas that are discussed in variety of contexts and that we apply to online video research in this article: 1. informed consent implies that a persons' personality rights and rights to informational self-determination are guaranteed (SUMNER, 2006, p.96; RATSWD, 2017, p.14); 2. unique opportunities refers to whether a method offers exceptional potential for social science research (RATSWD, 2017, p.13); 3. privacy means personal information collected during research does not become public or accessible to people it was not intended for (GEBEL et al., 2015, § 8-9); 4. transparency means that all goals, procedures,

and data are as accessible to the public as possible (DAVIDSON, 2006, p.49; SALGANIK, 2017, p.300; TILLEY & WOODTHORPE, 2011, p.207); and 5. minimizing harm means that study participants should not be harmed or disadvantaged in any way through the study (SALGANIK, 2017, p.204). [8]

These five areas stem from four ethical principles: beneficence, respect for people, justice, and respect for law and public interest. SALGANIK (2017, p.296) provides a succinct summary of these areas in the context of digital social sciences. Beneficence means that a study's benefits should outweigh its risks, and that researchers should always try to minimize the risks involved for participants or research subjects (see also RATSWD, 2017, p.10; SUMNER, 2006, p.96). Respect for persons refers to acknowledging peoples' right to self-determination, as well as their personality and privacy rights (GEBEL et al., 2015, §8-9; SALGANIK, 2017, p.295). Justice refers to a fair distribution of a study's risks and benefits (SALGANIK, 2017, p.298). Respect for law and public interest refers to compliance to existing law and transparency-based accountability of research (p.300). These notions should be applied during the entire research process, including field access, data collection, analysis, and presentation of findings (VON UNGER et al., 2016, §13). Yet, these principles are often defined by changing consensus and, since different ethical principles tend to contradict each other in practice, ethical areas and principles always have to be evaluated in relation to each other and weighed against each other in the context of a specific study (VON UNGER, 2014, p.18). [9]

Last, to evaluate online video data research, three related fields of research could provide insights into specific benefits and ethical challenges: participant observation, offline visual studies and videography, and non-video online research. Each field shares some characteristics with online video research that translate into certain lessons learned regarding research ethics and can therefore provide specific reference points for our discussion. [10]

Participant observation faces similar issues as online video research because it entails providing detailed accounts of behaviors of specific actors and groups, as well as descriptions of social and physical contexts. The approach can therefore result in challenges to a study subject's privacy rights (RATSWD 2017, p.19; VON UNGER et al., 2016, §12-13; WILES, CLARK & POSSER, 2011). Visual studies and videography face similar issues because they use video data that can often threaten confidentiality (e.g., TUMA et al., 2013; WILES et al., 2011). Online research faces similar issues because it uses mostly found data, and thus raises questions regarding the public/private dichotomy, informed consent, and informational risk (BSA, 2017b; MARKHAM & BUCHANAN, 2012; NISSENBAUM, 2009; ZIMMER, 2010). [11]

In conclusion, five areas and four principles may serve as the frame of reference for evaluating research ethics in online video research. In addition, three specific fields of research provide important insights that we will draw on to reflect on research ethics in online video research. In the following sections, we apply these

insights to discuss particular challenges, risks, and benefits of online video research, providing examples and in depth discussions throughout. [12]

3. Ethics in Online Video Research

Research ethics are continuous, not binary, meaning a study is usually not 100 percent ethical or unethical, but has certain characteristics that fall on a continuum between the two extremes (RATSWD, 2017, p.16). As SALGANIK (2017, p.324) points out, "binary thinking polarizes discussion, hinders efforts to develop shared norms, promotes intellectual laziness, and absolves researchers whose research is labeled 'ethical' from their responsibility to act more ethically." To avoid antagonistic discussions, it helps to adopt such a continuous understanding and weigh a study's benefits against ethical challenges and risks when assessing research ethics. Of course, an outcome of such an assessment may very well be that a study is too unethical to be implemented. Online video research—as all research fields—holds strong potential in some ethical areas and is challenged by others. In the following sections, we discuss five key areas in ethical assessment that can be weighed against each other (by researchers, readers, and reviewers) to compile an ethical profile for a given study in online video research. The areas are not exhaustive and future research or specific projects may add additional elements. Neither do they provide quick rules that offer unambiguous answers to complex ethical questions. Rather, they aim to serve as the basis for an informed and transparent discussion about ethics in online video research. [13]

3.1 Informed consent

A first ethical challenge in online video research concerns informed consent. Informed consent pertains to the ethical principle of respect for people and aims to ensure that a person's personality rights and rights to informational self-determination are guaranteed (GEBEL et al., 2015, §8-9). In practice, this means that people should know that they are being researched, receive relevant information on the planned research in a comprehensible format, and should then voluntarily agree to participate, or decline to do so (DGS & BDS, 2017, §2.3; RATSWD, 2017, p.14; SUMNER, 2006, p.97). [14]

Informed consent is a complicated and contested topic in and beyond the three research fields related to online video research. For example, in ethnography and offline visual research scholars often observe behavior in public or semi-public spaces such as a public square or football stadium, where many people move and it is impossible to get everybody's consent (KNOBLAUCH, SCHNETTLER & RAAB, 2006, p.16; VON UNGER et al., 2016, §12). A similar problem applies to online research, where researchers often analyze posts on forums, Twitter, Facebook, or other such platforms. In online video research these problems are exacerbated by the combination of video data and online data collection. If the person who uploaded a video is not the person depicted in it, or there are several people or even a crowd visible in the video, getting consent from everyone is next to impossible. Law requires abiding by online platform providers' terms of service,

but if access to the platform is unrestricted, then the law does not require consent (RAT MARKTFORSCHUNG, 2014, p.2).¹ If the website from which the data is collected requires registration, the content it holds is regarded as more protected, and consent is required by law (RAT MARKTFORSCHUNG, 2014, p.2; ZIMMER, 2010, p.318). However, even if 1. researchers gain consent from platforms such as YouTube to conduct their study and 2. access to that platform is unrestricted, the ethical considerations do not end there. First, a user may upload a video or agree to someone else uploading it on YouTube, but this does not necessarily mean they would agree for this data to be used for research. Second, only because a video is accessible online does not necessarily mean that a researcher is entitled to use it as data (LEE, 2000, p.135). There are diverging views on this issue in the research community. Some scholars argue that putting information online implies consent of its use (e.g., BRUCKMAN, 2002), and according to the code of ethics of the American Sociological Association (ASA), researchers need to obtain consent if they collect data "from research participants through any form of communication, interaction, or intervention; or ... when behavior ... occurs in a private context" (ASA, 1999, §11.02a). Others hold that private information online is confidential (e.g., ELGESEM, 2002). In light of these discussions, we propose researchers should reflect on informed consent. Below, we will provide some dimensions that may help assessing whether asking informed consent is appropriate. [15]

In short, informed consent is a key element of research ethics in studies dealing with human subjects, but it is often impossible to attain explicit consent in online video research. Does this mean scholars should refrain from a study entirely, if informed consent is not attainable? Not necessarily. Even though informed consent is required by law for many social science projects and is a key component of official ethics guidelines, it is neither necessary nor sufficient for a study to be considered ethical (SALGANIK, 2017, p.306). Laws and guidelines are somewhat ambiguous and do allow for ample exceptions (ASA, 1999, §12.01b; RATSWD 2017, p.21; WILES et al., 2011, p.690). It usually matters what kind of information is gathered (e.g., discriminatory behavior, see Section 3.5), whether studies are carried out in public or private spaces (see Section 3.3.), and whether asking for consent is difficult to implement or may compromise the scientific value of the study (SALGANIK, 2017, pp.305f.; WILES et al., 2011, p.690). Further, guidelines and laws stress that informed consent needs to be weighed against another ethics key area: unique opportunities. [16]

1 In the EU, the legal situation changed since writing this article, especially with the new General Data Protection Regulation (GDPR) that came into effect in May 2018 (for more information, see https://ec.europa.eu/commission/priorities/justice-and-fundamental-rights/data-protection/2018-reform-eu-data-protection-rules_en, accessed May 5, 2018).

3.2 Unique opportunities

The second key area in assessing research ethics refers to whether data offer unique opportunities for studying a given phenomenon. Scholars stress that the better-safe-than-sorry approach of dropping a project entirely due to a lack of consent is thus not always ethical (SALGANIK, 2017, p.318). Reflecting the principle of beneficence (GEBEL et al., 2015, §15; SALGANIK, 2017, p.296), if online video research promises the best insights into an issue, conducting the research despite lack of consent may be the more ethical option, given that potential benefits outweigh possible risks. Whereas it is possible to collect video data by other means (MARGOLIS & PAUWELS, 2011; PAUWELS, 2015; TUMA et al., 2013), there are a number of unique opportunities in online video research. Opportunities may be unique regarding event, analysis, feasibility, reactivity, and capture. [17]

First, video data in general may provide unique analytic potential. For instance, if a researcher is interested in studying the micro-situational processes or dynamics of social events, video data might be the only means to do so (e.g., BRAMSEN, 2017, COLLINS, 2008, NASSAUER, 2018b). Videos enable researchers to study captured events frame by frame, replay situations, observe them in slow-motion, focus on different actors at different replays, examine behavior and emotion expression that only last very briefly, and focus meticulously on temporal dynamics of events. Such dynamics in behavior or emotion expression can hardly be analyzed by participant observation or interviews (NASSAUER & LEGEWIE, 2018). For other scholars, online video data offers unique analytic potential because they are interested in such data as a cultural product (e.g., MARGOLIS & PAUWELS, 2011; TUMA et al., 2013). If scholars wish to understand how, for example, videos shot at wedding ceremonies contribute to marriage as a cultural construct in online contexts, analyzing online videos might be the only way to do so. [18]

Second, online video research in particular can offer unique opportunities to study rare events. Setting up cameras to wait for, say, a mass panic to occur would not only raise ethical concerns of its own, but also be a rather futile exercise. Even if a researcher is "lucky" enough to capture one or a few such incidents, such low numbers of observations curtail the analytic potential of systematic comparisons of such events. In contrast, data on such events are often readily available online. For instance, NASSAUER's (2018b) study on how armed store robberies succeed or fail takes advantage of the unique opportunity to observe criminal behavior as it happened by using CCTV footage of robberies uploaded on YouTube. [19]

Third, online video data collection is highly cost effective because researchers spend much less time collecting data if they access recordings people posted online. This cost-effectiveness allows more research with less public funding, and thus makes possible many more studies and insights. [20]

Fourth, online video research is advantageous because of its often low level of reactivity. Many researchers using video data to analyze behavior and interactions are interested in natural behavior (i.e., behavior that occurs the same way in unobserved situations of the same type). Hence, analyzing a video in which people have adapted their behavior poses a problem of validity (unless a researcher studies a phenomenon or practice at the heart of which lies the interaction of researcher and participants; e.g., MAHEUX & ROTH, 2012). The primary challenge with recording natural behaviors is reactivity, the possibility that actors adapt their behaviors due to the presence of a researcher or recording device. If the people filming are not researchers but participants in the situation itself, reactivity tends to be lower (KNOBLAUCH et al., 2006, p.22; LeCOMPTE & PREISSLE GOETZ, 2007, p.12; LOMAX & CASEY, 1998, §6.2). [21]

Last, the crowd-sourcing element of online video research allows for what NASSAUER and LEGEWIE (2018) call optimal capture even in large events. Optimal capture means visual data should cover the duration of a situation or event, its space, and all actors involved (ibid.). Whereas optimal capture is relatively easy to achieve when self-recording small events, it is virtually impossible if the event under study includes large crowds. A study of violence in mass protests that uses a patchwork of video data from various sources shows how online video research enables optimal capture even in events involving large crowds (NASSAUER, 2018a). [22]

In conclusion, online video research offers unique analytic potential for certain types of research, as well as unique opportunities for data collection. Of course, there are also drawbacks to the method that should be factored in when assessing its unique potential for a given research question. And in ethical terms, the overall unique potential needs to be weighed against lack of consent. Does this mean if a researcher determines that unique opportunities outweigh lack of consent, a study is ethically unproblematic? Not yet, as this scenario still directly impacts the ethical area of privacy. [23]

3.3 Privacy

A third area relevant for ethical assessments of online video research concerns the question what should be regarded as private or public, and what information accessible on the Internet may therefore be fair game for social science research despite lack of consent (i.e., research subjects are not made aware that their behavior will be analyzed by researchers and hence cannot have consented). This question again touches the ethical principle of respect for people and the area of confidentiality. But what is public or private? For instance, the code of ethics of the American Sociological Association states that "information is private when an individual can reasonably expect that information will not be made public with personal identifiers" (ASA, 1999, §11.01g). Hence, behavior in public places, information from public records, and information that is not provided under an understanding of confidentiality does not fall under confidentiality concerns (§11.02c). One may thus argue that people depicted in videos uploaded online already implicitly consented to such videos being watched and potentially used by

various actors (BRUCKMAN, 2002). After all, most online video platforms include in their terms of service the option to request the removal of a video for someone who does not want that video to be publically available.² Hence, one could argue that information that is available online is fair game for use as scientific data. And indeed, even in Germany with its relatively strict privacy protection laws, it is legally possible to use Information for research if access to that information is unrestricted and the use is not in clear violation of the researched person's interests (RAT MARKTFORSCHUNG, 2014, p.1). [24]

But the situation is not that simple. First, people depicted in a video may not be aware of or consent to a video being posted online. The phenomenon of revenge porn is an extreme example illustrating this point. Second, even if the depicted person has uploaded the video, this does not mean that, from an ethical perspective, a researcher is entitled to use it as data. In online research, scholars should therefore not only consider the public–private dichotomy (RATSWD, 2017, p.10), but also the notion of contextual integrity (NISSENBAUM, 2009; also see PAUWELS, 2006, p.366; SALGANIK, 2017, p.315; WILES et al., 2011, p.693). This means that people have a right to control the flow of information on their person, and that there is appropriate and inappropriate flow of information depending on the context the information originates from (NISSENBAUM, 2009, pp.4ff.; PAUWELS, 2006, p.366). To help assess these privacy issues, we propose reflecting on the online platform the data stems from and the depicted context. [25]

3.3.1 Assessing the online platform: Access and traffic

Considering the online context in which a video is accessed, the first issue to consider is legality of access. Researchers should familiarize themselves with a platform's terms of service, for example, regarding how access to the platform is managed, who holds copyrights, and whether there are restrictions regarding use of the data. [26]

If the terms of service do not make research illegal, we suggest considering two aspects to assess potential privacy concerns: users' expectations and the extent of online traffic. The underlying notion is that data being available online does not give researchers *carte blanche* in its use, but the online context in which the data has been posted matters for how much using the data challenges research ethics. Users' expectations refer to what most users perceive the used platform's purpose to be. TILLEY and WOODTHORPE (2011) show that the users of some platforms share information with the clear expectation of communicating with a limited group of people. As an example, the authors describe participants in an online support group who posted comments online, but still expected to be talking only among others affected, not the general public (ibid.). In contrast, on platforms such as YouTube maximum visibility can be expected to be either the users' explicit goal or an accepted fact. How access to the platform is organized can give further indication of users' expectations. On one side are open access

² For an example, see YouTube Help (2017). *Protecting your privacy*, <https://support.google.com/youtube/answer/2801895?hl=en> [Accessed: February 19, 2018].

platforms such as YouTube, LiveLeaks, and some forums and Instagram accounts. On the other side are restricted-access platforms such as Facebook, as well as private Instagram accounts or membership-only forums. For instance, users may share information with their circle of Facebook friends, but do not expect that information to be accessible publicly (ZIMMER, 2010). Thus, accessing data on such a restricted-access platform takes it beyond its intended audience. The issue of users' expectations ties back to the notion of contextual integrity and adequate flow of information. [27]

Online traffic refers to the amount of users frequenting a given platform. Videos posted on well-known platforms such as YouTube usually have more views than videos posted to a smaller platforms or forums. Some videos are also featured in TV news coverage and others are posted multiple times by various users, further adding to their dissemination. The total number of views and TV coverage a video receives should impact the assessment of confidentiality and contextual integrity. All other things being equal, using video data from platforms with limited purpose, limited audience, and limited access should be regarded as more ethically challenging than using data from general-purpose, general-audience, and open-access platforms. Further, using videos (without consent) from platforms with more traffic should be regarded as less ethically problematic than using videos from platforms with less traffic (see Section 3.5.4). This area should be weighed against all other areas discussed in this article to determine whether a study is ethically appropriate. [28]

In short, when assessing the online platform we suggest evaluating users' expectations and the extent of online traffic to determine whether a study (and the use of specific online video data in this study) is more or less problematic ethically. [29]

3.3.2 Assessing depicted context: Public or private?

Regarding the context in which the video was taken, we suggest looking at the public or private nature of the physical space and social context of the video (for a discussion of depicted behavior, see Section 3.5). The nature of the physical space refers to whether spaces are regarded public or private. Public spaces are characterized by unrestricted access, relative cultural and social heterogeneity, and the co-presence of strangers. Private spaces are characterized by restricted access, relative cultural and social homogeneity, and absence of strangers. For instance, spaces such as town squares or public transport are regarded as public, whereas people's homes are regarded as private. Between these poles lies a continuum (PAUWELS, 2006, p.365); for example, restaurants can be regarded as semi-public spaces because access is usually only lightly restricted. All things being equal, if a video was filmed in public space, this makes its use without consent less problematic than if the video was filmed in a private space (KNOBLAUCH et al., 2006, p.16; WILES et al., 2011, p.688). [30]

The nature of the social context refers to the type of situation or event filmed and peoples' purpose and expectations of privacy derived from it. For instance,

demonstration marches are events with the purpose of achieving visibility and communicating grievances or needs to the public. Similarly, videos of professional YouTubers are usually intended to reach as large an audience as possible; even though they are often filmed in a private space, their purpose is maximum visibility. In other social contexts, maximum visibility may not be the purpose of the event or its participants, but a clear expectation; mass sports events are an example in point. In contrast, a video of a family dinner may well be intended for a very small audience of family and friends, even if it is posted online (WILES et al., 2011, p.691). All things being equal, if a video depicts a situation or event that has the purpose or entails the expectation of public visibility, this makes its use despite lack of consent less problematic than if the video depicts a context that was meant for a limited audience or people expect the context to be private. Following the notion that principles in research ethics are *prima facie* (VON UNGER, 2014, p.18), these aspects should be weighted against each other and all other areas discussed here. Assessing the depicted context is all the more relevant when considering a further key ethical area in online video research: transparency. [31]

3.4 Transparency

Transparency refers to making goals, procedures, and data as accessible to the public as possible (SALGANIK, 2017, p.300). It is a key issue in research ethics and methodology because it improves traceability and openness of scientific processes and findings (ASA, 1999, §13.05; DGS & BDS 2017). The German Data Forum, RATSWD, states that data should only *not* be provided for secondary analysis in exceptional cases (RATSWD, 2017, p.17). In the context of qualitative research, scholars have called into question whether it is helpful or feasible to share qualitative data with the scientific public, for example, because the data contains rich information on a specific population, organization, or location that maintaining anonymity for study participants is virtually impossible (e.g., HIRSCHAUER, 2014).³ The following discussion is based on the notion that transparency of goals, procedures, and data is important for research ethics, but that concerns such as consent, anonymity, and sensitivity of information have to be factored in when deciding whether data can and should be published. [32]

Video data holds unique potential for the transparency of research. Because videos can capture situations precisely as they happened, multiple researchers can analyze the same raw data. This fosters cooperation and exchange on research projects and allows testing inter-coder reliability, if desired. Moreover, it facilitates traceability of research process and findings (HEATH, HINDMARSH & LUFF, 2010, p.7). In contrast, in participant observation—which also focuses on analyzing behavior and situational dynamics—readers must rely on a researcher's subjective perception of the situation and his or her accuracy in documenting and describing situations, which is necessarily limited by the human capacity to record situational details (LeCOMPTE & PREISSLE GOETZ, 2007; LIPINSKI & NELSON, 1974, p.347; MACKENZIE & XIAO, 2003, p. ii54). Online

³ In the context of a more general critique, HIRSCHAUER (2014) also questions the importance of secondary use of data in qualitative research (e.g., for ethnographic data).

video data takes us one step further because sharing videos with reviewers and readers is incredibly easy. Authors need only provide a list of links or compile a playlist of relevant videos, and any reader with Internet access will be able to inspect the researcher's raw data. For instance, in their publications on robbery interaction rituals and violence during the Arab Spring, NASSAUER (2018b) and BRAMSEN (2017) provide links to all raw data analyzed. This potential of online video research to offer maximum transparency through easy access to primary data is a giant step forward for the ideal of making research reliable through traceability from the raw data to the conclusions drawn from research findings (LINCOLN & GUBA, 1985). [33]

In conclusion, transparency is a key issue in research methodology and research ethics, and online video data holds exceptional potential for sharing raw data. Transparency and unique analytic opportunities make a strong case for using online video research, despite potential challenges such as lack of informed consent or privacy. Yet, transparency may collide with another ethical area that needs to be weighted against the areas discussed so far: minimizing potential harm to study subjects. [34]

3.5 Minimizing potential harm

A key ethical guideline holds that people who participate in research should not be subject to any harm or disadvantage due to the study being conducted. One way in which researchers can work towards that goal in online video research is through anonymization of people filmed, meaning their face or other identifying traits are not visible, or blurred, so that third parties cannot identify the person on camera. If anonymization is not possible, scholars may assess potential harm to study subjects: assessing characteristics of people, place and context that are visible in the data, as well as assessing displayed behavior, the meaningfulness of information, and the level of additional exposure through research. [35]

We propose to evaluate a study's ethical standing on several continua: We propose a study is ethically less problematic if personal characteristics of people as well as of places are indiscernible, if additional information on people and places is difficult to access, if captured behavior is mundane and (if criminal behavior is analyzed) if data would likely be used for prosecution. We discuss each of them in turn. [36]

3.5.1 Anonymization

The ethical principle of confidentiality entails that the real-life identities of study participants remain anonymous to third parties (i.e., personal information should not be connected to real-life identities) and information is not available or accessible to those for whom it was not intended (RATSWD, 2017, p.14). This concerns the principle of respect for people and beneficence, but is also part of data protection laws (GEBEL et al., 2015, §8-9). In online video research, as well as other research areas, anonymization faces a number of difficulties. [37]

First, researchers face a legal problem. Pixelating faces or persons requires manipulating the original data file. However, downloading videos from YouTube and other platforms to pixelate them violates most platforms' terms of service (e.g., YOUTUBE, 2007)⁴ as well as the uploaders' or creators' copyright. [38]

Second, even if it were possible to download videos, legal anonymization would be difficult to achieve. Pixelating faces or persons would likely be nothing more than a pyrrhic victory for confidentiality. In most cases, it will be quite easy for readers to find the original uploader's video on the platform in question, in which all persons and faces can be seen unpixelated. Moreover, anonymization is usually tenuous at best in online contexts, especially if a study links several data sources (SALGANIK, 2017, pp.307ff.). Such data linkage is a powerful analytic tool and can have important methodological advantages in online video research (NASSAUER & LEGEWIE, 2018). For instance, NASSAUER (2016) combines video data with other data types to study situational dynamics in demonstration marches. The data linkage enables the author to obtain context information on each case that would not have been available in the video data alone. But experiences from online research have shown that such data linkage increases the danger of de-anonymization, even if information in each source by itself has been diligently anonymized (SALGANIK, 2017, pp.307ff.; ZIMMER, 2010). [39]

Last, even if anonymization through pixelation or other means were legal and possible, it entails a significant drawback. Anonymization renders certain key analytic information (such as facial expressions) useless and may thereby change the heuristic value of the data in its anonymized form (MARKHAM & BUCHANAN, 2012, p.9; PAUWELS, 2006, p.368). Further, it diminishes transparency, which is a key ethical dimension in its own right. [40]

3.5.2 Depicted content: Characteristics of people, places, and contexts

Data types that offer dense information entail a heightened risk for de-anonymization (GEBEL et al., 2015, §2). To assess the risk of de-anonymization in online video data, researchers can scrutinize characteristics of people, place, and context depicted in a video. Characteristics of people refers to what a video shows of the people present. The main concern here is confidentiality and the danger of de-anonymization. Peoples' faces, voices, bodies, or clothing may be used to identify an individual, especially if the video is linked to context information drawn from newspaper reports or other non-visual data. In some videos, characteristics of people will be easy to make out while in others it will be more difficult or even impossible. For instance, faces may not be visible because a person has the back turned towards the camera, the resolution of the video is too poor, or the scene has been filmed from too great a distance. Voices may not be audible because a person does not speak or the video does not contain audio. Bodies and clothing may not be visible because the video shows a crowd and people in the front block most bodies from view. [41]

⁴ See YouTube, Terms of Service, from May 28, 2018, <https://www.youtube.com/t/terms?gl=US> [Accessed: August 29, 2018].

Characteristics of the place and context refers to information on the place and context that may be derived from the video or from non-visual data that can easily be linked to it. The main concern, again, is confidentiality and the danger of de-anonymization. If a video or easily linkable non-visual data provide information on the geographic location at which the video was taken, the name of the event, or the date it took place, this contextual information may facilitate de-anonymization and thus challenge confidentiality. For instance, in a study of store robberies, the recorded date and time of the incident is sometimes visible in the videos (NASSAUER, 2018b). Some footage of the robberies was posted as part of TV news reports, which usually provided a number of additional information. Many postings on YouTube and especially Liveleaks also include descriptions that provide additional information on the incidents. With such additional information, the identities of people depicted in a video are either already known (e.g., store owners being interviewed during a TV news report), or it may be possible to identify them. Thus, the better faces, bodies, and clothing are visible in a video, or the more a video (or easily linkable non-visual data) provides information on the place or event, the more using such a video is problematic in terms of confidentiality. To assess potential risks to study subjects, these aspects need to be weighted against the depicted content and additional risks through research exposure. [42]

3.5.3 Depicted content: Behavior and meaningful information

Captured behavior refers to what a video shows people doing. The main concern here is whether depicted behavior and interactions may risk harm to people shown in a video if it is used in a scientific study and possibly shared with readers. Such harm can be social (e.g., embarrassment), economic (e.g., losing a job), or legal (e.g., criminal prosecution). While people may differ in what kinds of behavior and interactions they regard as embarrassing, common sense suggests that some behavior is more likely to be unproblematic (e.g., everyday behavior such as talking to each other or playing sports) whereas other behavior may be regarded as embarrassing (e.g., bullying or being bullied, or inflicting self-harm). Special caution should be taken when considering using videos that depict criminal behavior or behavior that may be regarded as deviant (e.g., assault, drug use). [43]

A further important consideration is how meaningful the information and captured behavior is to parties that may inflict harm. For instance, because of BRAMSEN's (2017) use of YouTube videos to study violence in demonstrations during the Arab Spring, protesters could, in theory, suffer punishments at the hands of regimes they spoke up against. In NASSAUER's (2018b) robbery study, filmed perpetrators might later be subject to prosecution. However, it seems highly unlikely that law enforcement did not have access to better and more complete video footage of the demonstrations or robberies, as well as further information on these events. For instance, in NASSAUER's study the police uploaded many videos directly (e.g., Los Angeles Police Department) or the media and most police investigations were very likely concluded at the time of the study. Hence, the videos used in this study would not have helped any investigation against

perpetrators depicted in the videos. Even if law enforcement were to become aware of BRAMSEN's or NASSAUER's publication and the videos they used, it seems highly unlikely that the risks involved in this scenario are comparable to the everyday risks involved in attending the demonstrations or being prosecuted based on standard police investigations because of a committed robbery. In conclusion, this means that if a video shows criminal or deviant behavior then the greater potential for harm to the study subjects should be taken into consideration and assessed in context. [44]

3.5.4 Additional risk through additional exposure

Whether a study might harm study subjects also relates to risks through additional exposure. Videos with many total views can be regarded as more public. If a video has been viewed by hundreds of thousands of people already (e.g., the videos NASSAUER (2018b) analyzed to study situational dynamics during store robberies), using and publishing the data is, to some degree, less problematic since scientific publications usually reach a much smaller audience (TILLEY & WOODTHORPE, 2011, p.206). The additional risk of making the comparatively small research community aware of the video (if they not already know it) may be lower than the benefits of conducting the research. [45]

In conclusion, if anonymization is not possible, we propose researchers evaluate the depicted content of a video regarding characteristics of people, place and context, captured behavior, and its meaning to others, and additional exposure through research. These issues can help assess potential harm for study subjects captured on analyzed videos. However, researchers should also be aware that it is inherently difficult to judge potential risks for research subjects, specifically if the researchers have not talked to the subjects directly about this issue and given that the understanding of embarrassing behavior can vary from person to person. Assessments of potential harm will hence always remain informed guesses. The aspects we discussed in the previous sections can help researchers make guesses as informed as possible. [46]

3.6 Weighing challenges, risks, and benefits

The areas introduced in the previous sections can help compiling a profile of a study's ethical challenges and risks. A useful assessment of challenges and risks looks at how the areas relate to each other to form a broader picture of the ethical assessment of a study. For a final assessment of the study, areas that pose challenges and risks have to be weighed against those that imply ethical benefits. This will likely involve making decisions in the face of uncertainty because of a number of fundamental dilemmas (SALGANIK, 2017, pp.317ff.). For instance, confidentiality and transparency may pull in different directions in online video research. Maximizing confidentiality would suggest videos should be pixelated if faces are visible, and raw data should not be shared with readers. However, maximizing transparency requires that readers can trace a researcher's analysis, which is difficult if data is not accessible or key features of the data have been rendered useless for analysis due to anonymization (MARKHAM & BUCHANAN,

2012, p.9). As a further example, freedom of science is a fundamental right in societies, and beneficence is a key principle in research ethics. However, both can be at odds with the principle of respect for people and the requirement for informed consent that derives from it (KNOBLAUCH et al., 2006, p.17; RATSWD, 2017, p.8). Making informed consent an absolute requirement for a study to be conducted would make many studies in online video research impossible to conduct. The same applies to some field experiments and covert research (DAVIDSON, 2006, p.49; SALGANIK, 2017, p.304), as well as offline visual studies (KNOBLAUCH et al., 2006, p.16) and participant observation (VON UNGER et al., 2016, §12). Whereas this may seem like the prudent option in the face of doubt, not conducting a research project due to a lack of consent may in fact be ethically more problematic than conducting it (SALGANIK, 2017, p.318). If online video research promises the best insights into an issue, conducting the research despite lack of consent may be the more ethical option. [47]

In the face of such dilemmas, self-evaluation, ethical response surveys, and input from institutional reviews can help researchers to arrive at an informed assessment of a study's ethical standing (RATSWD, 2017, p.26). We aim to facilitate this process with our reflections on key challenges and benefits of research ethics in online video research, and the proposed areas with which to identify a study's relevant characteristics. By assessing where a study stands on each area discussed, and weighing areas against each other, researchers can assess a study in ethical terms. Researchers may also weigh specific aspects more or less strongly, or to consider a low score in one of the areas a reason not to conduct the study, or a high score in other area a reason to conduct the study in any case. These choices are for each researcher to make and justify, but it is fruitful to make such decisions based on an informed and transparent evaluation of ethical concerns, as presented here. [48]

4. Conclusion

In this article, we discuss ethical concerns that arise with the increasing use of online video data in social science research. We reflect why such data pose specific challenges, which ethical principles should generally be considered during research, and what related research fields can add to the discussion of ethics in online video data. We introduce areas that help researchers, readers, and reviewers to identify a study's characteristics that are relevant for research ethics and form an assessment of benefits, challenges, and risks. The areas aim to serve as a basis for an informed and transparent discussion about ethics in online video research. [49]

For the future of online video research, it would be important to try minimizing the grey areas of research ethics. We think that this is especially true for informed consent and for assessing potential harm and risks. Anonymity will be difficult to achieve because pixelating faces and similar techniques are difficult to implement effectively and are easily circumvented. As a consequence, finding ways to make users aware of research on Internet platforms and giving them a way to opt out would be all the more important. For instance, it may be possible to include a

passage on the possibility of researchers using videos in platforms' terms of service, and give users the option to declare a video off limits for research when they upload it. This is by no means ideal in terms of research ethics, does not replace true informed consent, and does not free researchers from their responsibility of carefully evaluating their research from an ethics perspective. But it would represent a step forward from the status quo; at the moment, users have no way of marking their videos as off limits. [50]

Finding solutions to such open questions becomes ever more relevant because online video research is set to become more widely used over the coming years. Moreover, web scraping technology (e.g., MUNZERT, RUBBA, MEISSNER & NYHUIS, 2015), data mining (e.g., SILGE & ROBINSON, 2017), and automated video analysis (e.g., GAO, LIU, SUN, WANG & LIU, 2016; NIEVAS, SUAREZ, GARCÍA & SUKTHANKAR, 2011) allow collecting ever more online data on a given event, and analyzing both textual and visual data automatically. Eventually, online video data will become accessible as big data (massive and complex datasets; for a characteristics-based definition, see SALGANIK, 2017, p.29). What do such new developments mean for research ethics? Will they change how people use the Internet and what they expect to happen when posting video content online? As scholars, we are only beginning to formulate standards for ethical research in online settings and for the use of online video data, while the next revolution of data availability is already around the corner. [51]

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