

ARTICLE

Health psychology in the age of social media: pointers for future research

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Abstract

Social media has become ubiquitous in daily life, transforming how we interact, exchange information, and form relationships. This has spurred researchers, including in health psychology, to investigate a diverse range of topics. However, it has become clear that, given the complexity of studying social media effects and the diverse types of social media usage that can be investigated, multiple methods are needed for all relevant research questions. Therefore, the 2024 annual European Health Psychology Society (EHPS) Synergy Winter School focused on exploring and discussing a selected set of established and emerging research methods that can be used to study social media (effects) – such as neuroimaging, content analysis, and data donation – and the operationalization of social media usage as an important conceptual task. In this article we outline the methodological advantages and disadvantages and discuss themes that emerged from discussions with scholars in the field of social media research. In doing so, we aim to offer insights to guide future research related to measurement issues, interdisciplinary collaboration, diversity and representation, participant concerns, ethical considerations, and the topic of social media and mental health. Finally, we summarize key recommendations for conducting social media research, which may be applicable to health psychology and the social sciences more broadly.

Key words: Social media, future research, health psychology

Introduction

Social media has become ubiquitous in daily life, transforming how we interact, exchange information, and form relationships. In the European Union, 44-91% of all citizens used some form of social media in 2023 (Eurostat, 2024). In tandem, research interest in social media has also increased, e.g., in the fields of psychology (Zyoud et al., 2018) and communication science (Araujo and Neijens, 2025). Topics studied range widely from body image portrayal on social media (Gültzow et al., 2020), social media usage effects on mental well-being (Appel et al., 2019), communication about infectious diseases on social media (SARS-CoV-2, Maslowska et al., 2025; HIV Taggart et al., 2015), and the potential to change health behaviors through social media platforms (Maher et al., 2016). In addition to the wide range of substantive topics, scholars study various behaviors and practices associated with social media usage, exploring active and passive usage (Verduyn et al., 2021), sharing information with large and small audiences (Barasch and Berger, 2014; Scholz et al., 2023), user interactions with content shared on social media (Guess et al., 2023), exposure to such shared information (Guess et al., 2023), and social comparisons with other users (Verduyn et al., 2020). Given the complexity of the various outcomes influenced by social media and the diverse usage behaviors that can be investigated, multiple methods are needed to address all relevant research questions.

The 2024 annual European Health Psychology Society (EHPS) Synergy Winter School was facilitated by Eline Smit and Thomas Gültzow, in collaboration with the Amsterdam Center for Health Communication (www.healthcommunication.nl), to provide workshop participants with guidance on a selected set of established and emerging research methods for studying social media (i.e., neuroimaging, content analysis, and data donation). The winter school also addressed the challenge of operationalizing social media use and its effects on a range of positive and negative outcomes. Throughout this article, we define social media effects as the impact of social media use on psychological, behavioral, and health-related outcomes, including mental health and wellbeing.

Each topic was presented by an invited expert – Christin Scholz (neuroimaging), Nida Gizem Yilmaz (content analysis), Kaiyang Qin (data donation), and Nino Gugushvili (operationalization of social media usage) and complimented by interactive activities, including discussions of the topics and overarching themes. Based on all activities of the winter school, facilitators, experts, and workshop participants jointly contributed to this article. Here, we briefly summarize these topics, highlight common themes emerging from our discussions, and offer insights to guide future research.

Methods to study social media (effects)

Neuroimaging in social media research

Neuroimaging has been used to expand our understanding of the psychological mechanisms that underlie effects of central interest to health psychology, including the impact of illness, health-related behaviors, public health interventions, and recently, social media use (Hall et al., 2018; MacCormack et al., 2025). Understanding detailed mechanisms of social media effects generates more accurate predictions in new contexts and supports robust theorizing (Huskey et al., 2020). To this end, neuroimaging techniques unobtrusively capture, in real-time, how specific social media behaviors manifest in the users' brain activity, how prolonged usage relates to structural differences in people's neuroanatomy (Meshi et al., 2015; Wadsley and Ihssen, 2023) and whether these neural indicators are predictive of downstream health-related outcomes (Kang et al., 2018). To illustrate, to generate new psychological insights, researchers can first use neuroimaging to empirically identify indicators of neural activity while using social media in a certain way (e.g., while browsing or giving or receiving likes) that may mediate or moderate social media effects. These neural indicators can serve as an initial basis for inferring the psychological process that may be associated with the involved brain regions, before any further extensive neuroscience work is done. Further, to test existing theory, neuroimagers could test whether targeted interventions engage hypothesized neural mechanisms, chosen to operationalize specific psychological processes (Falk et al., 2015; Wang et al., 2015). Although work on specific health-related social media effects is still in its infancy, existing work has used neuroimaging to first build (Baek et al., 2017; Chan et al., 2023; Scholz et al., 2017, 2020) and then systematically test theory about psychological drivers of health-related content sharing on social media (Cosme et al., 2023; Scholz et al., 2023). Others have investigated neuro-psychological processes driving liking (Sherman et al., 2018), receiving peer feedback, and behavioral patterns related to problematic social media use (Lee et al., 2021). Unique affordances of modern neuroimaging techniques like fMRI and EEG make them useful additions to the health psychology toolkit. They include:

- Whole-brain coverage: simultaneous measurements across the whole brain, allowing exploration of diverse processes with low participant burden and without prior theory
- Unobtrusive real-time (and sometimes time-sensitive) measurement: circumvents specific limitations of retrospective self-report like social desirability and memory biases, and
- Domain-generalizability: comparable operationalization of key concepts across diverse contexts allows direct tests of generalizability.

To realize its potential, the field of neuroimaging is actively grappling with limitations including small and homogeneous samples, partially due to limited accessibility of costly equipment and trained personnel, ecological validity of highly regimented laboratory experiments, and uncertainty in the link between specific neural indicators and inferred psychological processes. For instance, modern MRI studies often use richer media stimuli (van der Laan et al., 2022; Wiederhold and Wiederhold, 2008), in more realistic social situations (Speer et al., 2024), target larger, more diverse samples through team science and mega-studies (Scholz et al., 2025), and, more frequently, include replication (Scholz et al., 2022).

Social media content analysis

Media content analysis involves determining the presence of words, themes, or concepts in written, visual, or spoken communication, e.g., TV shows, websites or social media platforms (Neuman, 2014). It can, for instance, describe content, compare content in different media outlets, explain why people hold certain beliefs about an issue or be used to serve a combination of different purposes.

For social media content, content analysis is often employed to gauge public sentiment, societal trends, and emerging cultural phenomena, measuring the 'cultural temperature of society.' A key advantage is its ability to non-intrusively investigate a wide range of data over an extensive period to identify popular discourses and their likely meanings (Macnamara, 2005). Social media content analysis has for example been used to study the discussion of childhood vaccination among parents on blogs (Jenkins and Moreno, 2020), communication type by public health agencies during the Coronavirus disease 2019 (COVID-19) pandemic (Masłowska et al., 2025), and the social content and social processes (i.e., the posting of and reactions to posts) involved with alcohol posts on social networking sites (Hendriks et al., 2018). When conducted systematically, the replicability of content analysis is generally high (Macnamara, 2005). While some degree of subjectivity may remain when employing human coding – which can be valuable, as it allows for nuanced interpretation of complex data (Braun and Clarke, 2013) – clear protocols and coding schemes, intensive training of coders, and measurement of inter-coder reliability can help to enhance objectivity.

Donation of social media data

When browsing social media, we leave behind large amounts of digital trace data, e.g., information on the videos we watched or the search terms we used (Howison et al., 2011). Using digital trace data to measure social media behavior has several advantages over self-report data collected (Stier et al., 2019), providing more granular insights, more objective measurements on sensitive topics, and minimizing recall bias (Carrière et al., 2023). A new method to collect digital trace data is data donation. For data donation, research participants obtain their own digital trace data from digital platforms, which are by law obliged to supply a copy of all data they hold about a person upon request by that person (Ausloos and Veale, 2021; Wachter, 2018). The participant then donates (parts of) their digital trace data for research with active consent (Boeschoten et al., 2022).

Early data donation studies identified solutions to potential practical challenges. First, data donation can be a complicated activity, especially for research participants less digitally skilled. Therefore, Carrière et al. (2023) highlight that participant instructions need to be thorough and clear (Carrière et al., 2023). However, even then, research participants might still require assistance donating their data, e.g., by explicitly indicating to them which buttons to click on. Qin et al. (2025) used online Zoom sessions, during which a researcher provided live assistance, and observed that this approach resulted in more successful data donation compared to research participants working independently (Qin et al., 2025). Second, samples in data donation studies can skew towards younger individuals, those with greater awareness of algorithmic media content, and people who use more

social media platforms (Qin et al., 2025). To improve sample diversity, researchers should therefore actively aim to recruit and retain research participants who do not align with these characteristics. If achieving a more balanced sample proves infeasible, the potential impact of that should be analyzed and explicitly discussed when interpreting and reporting the findings. Third, research participants may withdraw their consent based on reflection of their own social media content, could change or discontinue their use of the social media platform during the study, or withdraw due to technical issues; however, to date these are merely speculations. More (qualitative) research is required to understand reasons for (non)participation in data donation studies, and ultimately work towards potential solutions.

Operationalization of social media usage

Social media usage is often measured through self-reports, but it can be operationalized in various ways. Typically, social media usage is operationalized by overall metrics, such as the frequency of social media usage (Parry et al., 2021), or by categorizing it as either active – interacting with others – or passive content consumption (Gugushvili et al., 2024), e.g., lurking (Hong et al., 2023). Self-reports facilitate the measurement of these various aspects of social media usage relatively easily and at low cost, and as a result, they have been widely used when studying issues like depression (Gugushvili et al., 2022) and parental feeding behaviors (Guidry et al., 2023). However, people often have trouble accurately estimating their usage time, resulting in a significant discrepancy between objectively measured time spent (i.e., via logs and apps) and self-reported time (Parry et al., 2021).

Moreover, self-reports may come with challenges, as the effects of different operationalizations of social media use on outcomes such as mental health can vary significantly. For example, while the relationship between the time spent on social media and psychological well-being appears to be weakly negative (Huang, 2017; Meier and Reinecke, 2020), the impact of problematic social media usage, characterized by persistent, difficult-to-regulate usage patterns that interfere with daily functioning, has been found to be more substantial (Paakkari et al., 2021). Relatedly, contextual factors, such as personality characteristics (Gugushvili et al., 2022) and the specific platform being studied (van der Wal et al., 2024) may affect the relationships between social media usage and outcomes of interest. In fact, ‘social media use’ is actually a large collection of diverse behaviors on equally diverse and ever-changing platforms (Sultan et al., 2023). In a similar vein, developmental and/or temporal factors might be at play, where social media use can act as both a *cause* and *consequence* of well-being (Valkenburg and Peter, 2013) and it could be argued that it is not important whether people use social media, or to what extent, but for what reasons and in what manner they are using it. As it might be difficult to shed light on these complex processes in traditional between-subject studies, several scholars have argued for person-specific study designs (Valkenburg et al., 2021), e.g., ecological momentary assessment studies (Siebers et al., 2021).

Thus, while online studies facilitate the ease of collecting self-reported social media usage data, generic usage measurements may be too broad to identify meaningful effects, and effects often depend on contextual and other factors. As a result, interpreting these findings may not be as straightforward as they might initially appear.

Common themes

During the Winter School, Eline Smit, Thomas Gültzow and the invited experts facilitated broader discussions with the workshop participants on the use of neuroimaging, content analysis, data donation, and the operationalization of social media use in health psychology and the social sciences more generally. These discussions were documented through notes taken by Eline Smit and Thomas Gültzow. The notes were subsequently grouped into six themes, which formed the basis for a set of recommendations for the field. In the following sections, we first briefly discuss each theme, followed by the corresponding recommendations.

Measurement Issues

Discussions throughout the winter school highlighted measurement issues with each method. However, we noted that different methods can complement each other, allowing researchers to form a more holistic picture of the problem at hand through multi-method research. For instance, while neuroimaging has the unique ability to provide information about activity across the entire brain in response to social media stimuli, the psychological interpretation of these neural mechanisms is not always straightforward (Poldrack, 2006, 2011). Theory-building can be aided through triangulation with self-reports that retrospectively capture the subjective experiences of research participants. Similarly, biases related to limitations of memory and social desirability, among others, limit the accuracy of self-reports in assessing social media usage behaviors, especially longitudinally (Parry et al., 2021), which can sometimes be alleviated through other methods like digital trace data (Qin et al., 2025). Furthermore, the objective of achieving sufficient inter-coder reliability in content analysis often requires multiple rounds of coding (Dubey et al., 2025; Maslowska et al., 2025), making social media content analysis a time-intensive method to apply. Furthermore, validity in content analysis can only be reached through thorough discussions about what it is exactly that one aims to measure, and how. Another potential – ethical – concern is that social media users do not actively consent to the use of their data.

Measurement problems are of course not unique to social media research (Flake and Fried, 2020), however, the discussion highlighted the difficulty of measuring constructs like social media usage types and mental health accurately and the importance of refining measurement tools. Researchers should prioritize enhancing measurement practices, along with multiple methods and data triangulation.

Interdisciplinary collaboration

Traditionally, different fields may have considered social media in different ways, combining these different perspectives can give more holistic insights. For example, we discussed whether understanding the behavioral effects of social media might require combining well-developed self-report measurement instruments (e.g., Henderson et al., 2019) with more objective social media usage data (e.g., Ohme et al., 2023). Again, it is important to note that calls for more interdisciplinarity are not new to health psychology (Sewell, 1989). However, based on the discussion during our winter school, we once more encourage researchers to undertake studies that span multiple disciplines and (sub)fields, also when investigating social media-related phenomena specifically.

Diversity and representation

Issues of diversity and representation were raised when discussing various research methods. For example, if research participants must travel to fixed fMRI locations, which excludes both those unable to travel, but also certain regions and entire countries. Data donation complexity, challenges those with limited digital literacy. Issues of diversity and representation are frequently discussed in health psychology and are often seen as limiting the generalizability of research findings (e.g., Gültzow et al., 2023). In this context, it means that the results of social media studies may only be applicable to those who are privileged enough and willing to participate in research. Therefore, researchers should strive to make their methods more accessible or develop supportive strategies that enable participation from marginalized groups and others who might otherwise be excluded or not motivated from participating too. For example, research participants could be supported in travelling to fixed fMRI locations, and those taking part in data-donation studies could donate their data together with researchers.

Research participant concerns

Like many other fields, social media research faces challenges related to the growing problem of distrust in science (Hendriks et al., 2016), which, among other issues, can limit the diversity of research participants. In the context of our winter school, it was noted that some online research participants may distrust certain research methods often applied in social media research, which can be met with apprehension due to perceptions of the methods' possible impact on their privacy (compared to other more traditional methods). Possible strategies for mitigating participant concerns discussed during the winter school included involving research participants early in the research process and transparently communicating research findings. Yet, the development and evaluation of said mitigation strategies should be an inherent part of our studies.

Ethical considerations

A recurring topic across all themes was the need to more thoroughly consider ethical implications of social media studies. Can research participants with limited digital literacy provide fully informed consent to data donation studies? How can content analysis studies address privacy concerns when using data publicly shared on social media platforms? Ethics boards may not be as well informed about the implications of novel methods. Therefore, researchers need to take responsibility themselves, for example, requesting ethical reviews even when studies do not collect primary data (Sultan et al., 2023) and by refining ethical frameworks (Ford et al., 2021).

Social media and mental health

Social media's effect on mental health and well-being is emerging as a significant topic reflecting a broader rise in mental health-related publications across related fields (Berta et al., 2022; Hernández-Torrano et al., 2020; Kim et al., 2021). That said, we encourage social media researchers to carefully consider their operationalizations of social media usage and mental health. Different types of social media behavior could, for example, have different impacts on both mental wellbeing, and separately mental ill-health/being.

Conclusions and future directions

Our winter school had two primary goals: (1) to provide an educational experience for researchers looking to expand their methodological toolkit, and (2) to explore and discuss potential new directions for the field of health psychology. Through discussions with the speakers, workshop participants, and facilitators, we developed a set of recommendations that we would like to reiterate and summarize:

- To ensure the validity and replicability of study findings, social media scholars in the field of health psychology should:
 - Place renewed emphasis on issues of operationalization (e.g., when operationalizing mental health) and measurement (e.g., when assessing social media usage patterns);
 - Make their methods more accessible for a diverse range of research participants and invest in developing supportive strategies for those methods that cannot yet be easily made accessible (e.g., data donation).
- To unravel and understand the complexity of social media-related phenomena, scholars should actively pursue interdisciplinary collaborations, e.g., with social media scholars from outside of the health psychology field, with scholars well versed in specific methodologies but not having applied their methods to social media research, and with scholars from fields not necessarily related to health psychology or social media (e.g., philosophy).
- To ensure that research participants' concerns about science and scientific findings are mitigated, social media scholars in health psychology studying social media (effects) should:
 - Include research participants as early in the research process as possible;
 - Transparently communicate research findings;
 - Develop and evaluate concern mitigation strategies.
- To ensure that studies are conducted as ethically as possible, social media scholars in health psychology should:

- Ensure that *all* social media-related studies undergo ethical review;
- Invest in refining ethical frameworks.

Although the specific details of these recommendations are unique to social media-related studies, the overarching themes reflect broader discussions in health psychology and the social sciences. While not entirely surprising, this highlights the need to focus on issues such as measurement, diversity, trust, and ethics to advance both (health) psychology as a whole and social media research specifically. We hope this article will serve as a resource to help facilitate that progress. A visual overview of this paper can also be found in *Figure 1*.

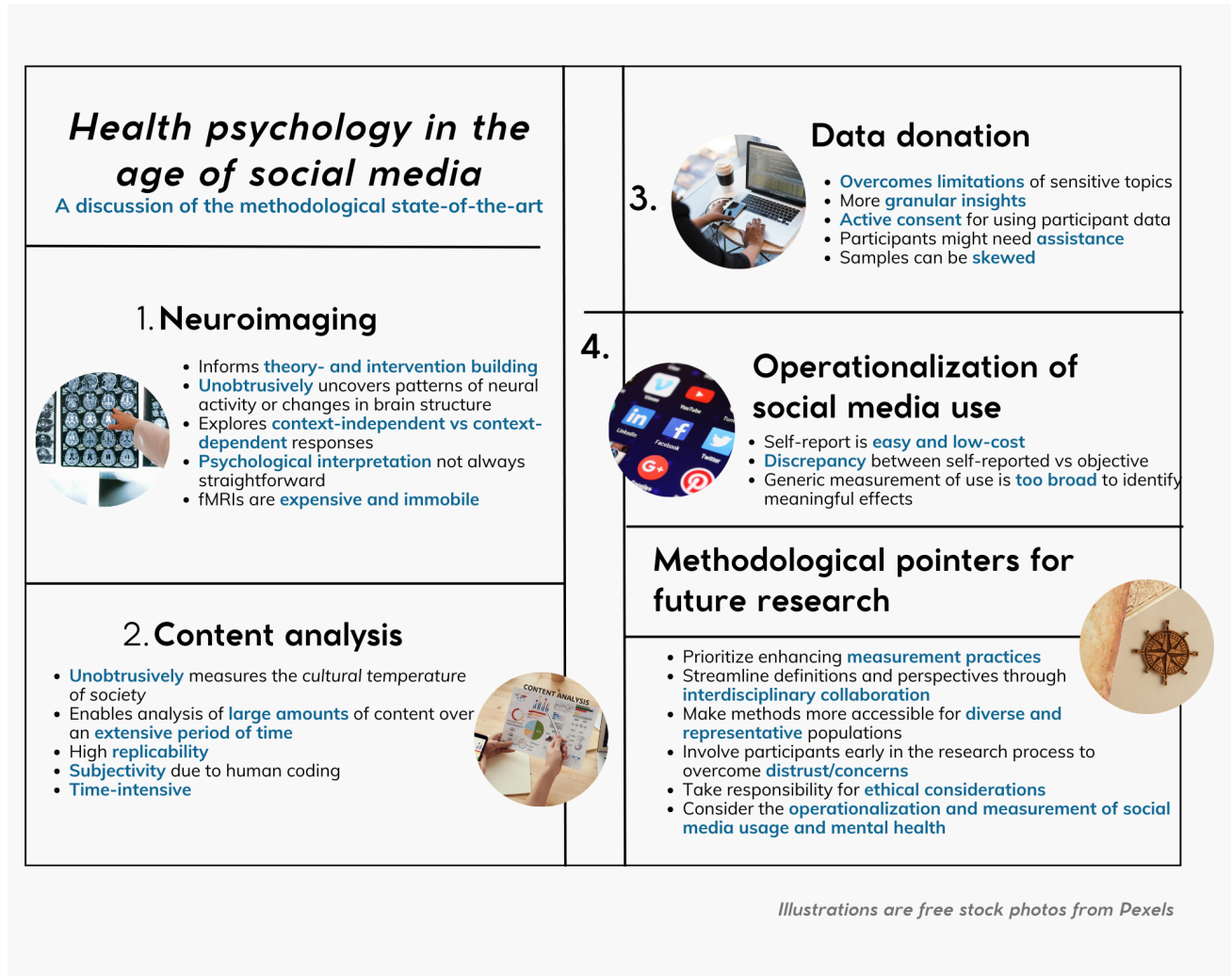


Fig. 1. Overview of methodological approaches in health psychology in the context of social media. Alt text: Infographic summarising four methods in health psychology and social media research: neuroimaging, content analysis, data donation, and operationalisation of social media use. The strengths and limitations of each method are listed. A final section outlines future methodological priorities, including improving measurement, interdisciplinary work, and ethical considerations.

Note

The authors attest that no generative artificial intelligence technology was used within the context of this article, with the exception of text editing.

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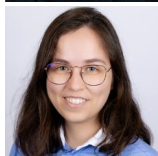
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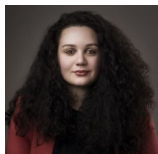
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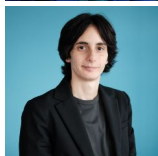
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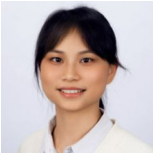
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