



UWS Academic Portal

Does recent research evidence support the hyperpersonal model of online impression management?

Scott, Graham G.; Fullwood, Chris

Published in:
Current Opinion in Psychology

DOI:
[10.1016/j.copsyc.2020.05.005](https://doi.org/10.1016/j.copsyc.2020.05.005)

Published: 31/12/2020

Document Version
Peer reviewed version

[Link to publication on the UWS Academic Portal](#)

Citation for published version (APA):

Scott, G. G., & Fullwood, C. (2020). Does recent research evidence support the hyperpersonal model of online impression management? *Current Opinion in Psychology*, 36, 106-111.
<https://doi.org/10.1016/j.copsyc.2020.05.005>

General rights

Copyright and moral rights for the publications made accessible in the UWS Academic Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy

If you believe that this document breaches copyright please contact pure@uws.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

Does recent research evidence support the hyperpersonal model of online impression management?

Graham G. Scott^{1*} and Chris Fullwood²

¹University of the West of Scotland, School of Education and Social Sciences

²University of Wolverhampton, Department of Psychology

*Corresponding author: Dr Graham Scott

Division of Social Work & Psychology

School of Education and Social Sciences

University of the West of Scotland

Paisley

United Kingdom

Email: graham.scott@uws.ac.uk

Abstract

The hyperpersonal model of communication was conceived in the 1990s and has driven much of the research into online impression management. Based on four principal tenets (increased control, asynchronicity of communication, increased physical distance and reallocation of cognitive resources) it has largely received empirical support, especially by research involving text-only communication. This review briefly summarises this research before identifying four areas in which it is not supported by findings: the wider context of online communication, the expanding nature of online platforms to include pictures and video, use of language in online environments, online self-disclosure. We suggest that the model is modified and updated, or its limitations defined, with respect to this evidence.

Introduction

Two distinct perspectives broadly characterise the social and communicative repercussions of interacting via less 'rich' forms of media, i.e. those less able to handle multiple information cues concurrently¹. This includes many forms of computer-mediated communication (CMC), such as e-mail and instant-messaging (e.g. WhatsApp), as they limit access to nonverbal communication (NVC) and social cues^{2,3}. What might be labelled collectively as the 'cues-filtered out' perspectives^{4,5} assume that NVC is important in human interaction as it increases our capacity to interpret the affective experiences of others and therefore reduces ambiguity in communication^{6,7}, but also helps people garner more positive impressions from others^{8,9}. Thus, platforms which restrict access to NVC may be less effective for certain types of interactions, e.g. those which require judging others accurately^{5,10} and result in low social presence^{4,11,12}.

In comparison, the opposing perspective is to consider CMC as equal to or, in some cases, better than face-to-face. For example, Joseph Walther's Hyperpersonal theory^{13,14} posits that rather than thinking about what is 'lost' from CMC, we should instead consider the many benefits accrued from the attenuation of social and communication cues, focusing on the various affordances

technology-mediated communication grants to users. These affordances permit communicators to engage in strategic impression management to convey 'optimal' self-presentations, which may in turn lead to favourable outcomes for the individual.

The basic tenets of Hyperpersonal model

According to Hyperpersonal theory there are four idiosyncratic features of CMC which may enhance self-presentation. First, users can exert greater control over how they present the self in CMC compared to face-to-face^{13,14}. This is especially true on social media sites like Facebook since the advent of Web 2.0 technologies enable individuals to choose and edit content to represent specific desirable self-images^{10,15}.

The second affordance concerns the notion that many forms of CMC do not take place in real time. Even in cases where users might assume synchronicity (e.g. instant messaging), an artefact of text-based CMC is that communicators decide when to send messages in full, depriving receivers access while it is being formulated¹⁰. An advantage of asynchronous communication is the ability to reflect on what and how one communicates, so as to come across in the most desired way^{13,14}.

The third affordance discusses the absence of physical proximity to one's co-communicator. Not being in the same co-present location means that undesirable communication cues which we may wish to hide, e.g. blushing, are invisible to others. The resulting reduction in concern about receiving negative judgements frees users up to accentuate images they wish to convey^{13,14}.

The final affordance proposes that we can make more effective use of our cognitive resources in CMC. Walther argues that attending to others' NVC and environmental cues as well as engaging in self-monitoring is cognitively demanding. Thus, when we remove these competing, and potentially distracting, cues from communication, we can concentrate our efforts into the sole task of presenting the self optimally^{13,14}.

Evidence supporting Hyperpersonal theory

Evidence supporting Hyperpersonal theory's utility to explain different forms of online behaviour comes from self-report, observational and experimental data. When given the option of how to communicate a socially risky message, e.g. asking for a pay raise, lower self-esteem individuals indicated a preference for email over face-to-face¹⁶. This might be because the absence of physical proximity gives communicators greater control over communicating negative social cues, e.g. nervousness. Moreover, asynchronous communicators can compensate for having less self-confidence through an ability to edit messages to perfection. Similarly, when leaders were given the option of how to communicate with their subordinates in contexts that necessitated frequent monitoring, a preference for using computer avatars over face-to-face was more regularly expressed, suggesting it may be easier to manage negative social evaluations in CMC¹⁷.

Lower self-concept clarity, which has been associated with lower self-esteem, has been linked to a preference for managing impressions online¹⁸, and rejection-sensitive individuals prefer using online dating, perhaps because they can more easily represent their 'true' self¹⁹. Furthermore, Fullwood and Attrill²⁰ found that participants believed they would have more success attracting others to agree to go on a date with them if they were interacting online rather than offline. A greater level of editability of one's self-image online may lead to the belief that our profile portrays us as superior to the 'offline' reality^{21,22}. Moreover, the quality²³ and frequency²⁴ of mediated communications in romantic relationships has been associated with higher levels of partner idealisation.

Observational data in the form of comparisons of different communication modalities of varying levels of richness, demonstrate that individuals ask more questions and disclose more personal information when communicating via text-only CMC in comparison to video-mediated and face-to-face communication. Moreover, this was also said to have enhanced interpersonal attraction between the communicators²⁵. These data may be interpreted as communicators feeling more comfortable communicating in the way that they desired because of the affordances granted by the technology. Indeed, the affordance of asynchronicity has been shown to lead to more self-

enhancement (e.g. discussing more interesting information) in comparison to synchronous communicators²⁶. Finally, experimental evidence from Antheunis et al.²⁷ found that dyads who had initially communicated in a more cue-restricted context (CMC) reported higher levels of social attraction with their communication partners face-to-face compared to dyads who had met first in a more cue-rich context (videoconferencing). Thus, there is evidence here to support the notion that online individuals can utilise the different affordances of text-based communications, e.g. asynchronicity, to edit the self and garner more favourable impressions.

Evidence against Hyperpersonal theory

Personality judgments based on Facebook profiles are generally accurate, despite users' attempts to positively manage their self-presentation²⁸. Evidence highlighting the limitations of the hyperpersonal model, is outlined below. First, we consider the wider context of communication on social media, secondly we look at the expanding nature of CMC to include photo and video communication. Thirdly, we consider language use in CMC, and finally the implications of research into online self-disclosure.

The hyperpersonal model was initially devised as a way of explaining impression management in text-only communications between two individuals, and only applies without the presence of contradictory information. Specifically, other-generated content incongruous to a target's own claims on social media can lead to reduced liking and increased uncertainty²⁹. Warranting theory³⁰ states that when forming impressions observers rely on overt identity claims by the communicator and behavioural residue (unintentional information, including third party content online). While identity claims can be manipulated to enhance impression management, observers are aware of this and thus attribute more weight to behavioural residue³¹. Employers value identity claims over behavioural residue when forming impressions and making decisions around hiring job candidates³².

Experimental evidence demonstrated that identity claims impact perceived confidence, but behavioural residue increase perceived modesty and popularity³³. While identity claims positively impact cognitive and structural social capital, relational capital is only influenced by behavioural residue³⁴. Behavioural residue also impacts the blame attributed to online abuse victims, and the perceived severity of observed incidents. In cyberbullying, one study which examined perceptions of abuse on Facebook showed the behavioural residue (the volume and source(s) of abuse) influenced the amount of blame attributed to the victim³⁵. One important form of behavioral residue on Twitter is retweets: the number of times an original tweet is shared by other users. While achieving a high number of retweets is generally regarded as a positive outcome, tweets which had been widely shared (4,000 retweets) were viewed as less credible and trustworthy than this which had been retweeted fewer times (40 or 400). Bandwagon heuristics dictate that increased retweets, which are not within users' control, negatively impact perceptions of competence and trustworthiness³⁶.

Not all identity claims are viewed equally by observers. Celebrities are blamed more, and incidents of abuse perceived as more severe, if their initial tweet was negative³⁷. Negative self-claims are viewed as more accurate than positive claims (whereas positive third-party claims are viewed as more accurate). When individuals make positive claims about themselves online, the perceived accuracy and trustworthiness of such a claim mediates any impression formed of the individual making it³⁸. This interaction of source of valence on the trustworthiness of a claim also applies to claims made by businesses, with positive claims on websites controlled by a business owner not given as much merit as those considered more independent³⁹. A four-item scale has been developed to formally measure the 'perceived warranting value' of an online claim, asking observers' perceptions that the information they are seeing has been "manipulated, influenced, controlled, or shaped" by the target in order to positively self-present⁴⁰.

Increasing photographic content online, particularly on social media, goes against what is traditionally a text-only model of communication. Users are often unaware how photos are perceived and thus cannot use them to positively self-present: on the Airbnb platform multi-person

photos promote trustworthiness but are utilized by only 13% of users⁴¹. Many individuals post selfies to try and positively self-present⁴² but Facebook users who do so are viewed as less trustworthy, socially attractive and, open, but more narcissistic than those depicted in photos taken by others⁴³. Selfies which utilized filters were perceived as excessive self-presentation and received a lower number of likes than those without filters⁴⁴. There exists a selfie bias⁴⁵ where social media users posting selfies view their behaviour as positive and not narcissistic, whereas when viewing selfies posted by others the behaviour is viewed more negatively and an indication of narcissism and self-promotion.

Video is also being increasingly used for online communication, and users utilize text, audio, and video communication simultaneously¹. This reintroduces synchronicity and many non-verbal cues, the absence of which were the basis of the hyperpersonal model. Contrary to the model's predictions participants interacting face-to-face report more liking, closeness, and enjoyment, and lower conflict towards their partner than those interacting via CMC-text⁴⁶. Sprecher & Hampton⁴⁷ replicated and extended this research that demonstrated liking between stranger dyads following initial online meetings is lower than following face to face meetings, contrary to the predictions of the hyperpersonal model. Impression management in video calls is dependent on the communication partner, with qualitative evidence showing that individuals engaging in more scene-setting and presentation related to their personal appearance when talking to friends, colleagues, and acquaintances, rather than friends or close family⁴⁸.

Despite the asynchronicity of message sending communicators often formulate messages which lead to negative impressions. Accommodation is a natural phenomenon which often increases positivity of impressions in on- and off-line contexts. However, online accommodation of word use by higher-powered towards lower-powered communication partners led to more negative impressions being formed⁴⁹. In online environments use of unstandardized language is also normal. Smilies (pictographic images of faces) evolved from emojis in digital text based communications, and were introduced to online communications to provide disambiguating emotional cues in messages⁵⁰.

They are used more in emotionally- than cognitively-based communications, such as venting posts and affective feedback⁵¹, and their use in online communication is increasing⁵². Despite evidence that the inclusion of such emotive cues can increase the emotive content of the overall message, potentially contributing to the overall impression formed of the sender (e.g., Willoughby and Liu, 2018), a more recent study suggests this may be limited to the enhancement of messages which are already emotive in nature, with smileys insufficient by themselves to impart a deeper emotive perception on otherwise neutral messages⁵³. It has also been shown that when delivering non-narrative messages (e.g. health-related messages), the inclusion of emojis decreased elaboration and perceptions of credibility⁵⁴. Language errors occur often online and on dating sites negatively impact ratings of social and romantic attractiveness and intelligence⁵⁵.

Finally, a prediction of the hyperpersonal model is that online (vs. face-to-face) communication leads to greater intimacy, and hence increased depth and breadth of self-disclosure⁵⁶. A meta-analysis conducted in 2017 and not only found greater self-disclosure in face-to-face, but that this was greater for depth (vs. breadth) of self-disclosure, and greater self-disclosure occurred in video-CMC vs. text-CMC communications. These findings oppose the assumption that greater intimacy will be built in text-based communications, although this second analysis noted that many of the relationships examined were both pre-existing and multi-modal⁵⁷.

Self-disclosure is dependent not only of online affordances, but the affordances of technologies used to access online platforms. Self-disclosure increases when tweets are produced on smartphones vs PCs owing to feelings of comfort associated with the device, and a comparative narrowing of attention when using it. This finding is not accounted for by the hyperpersonal model⁵⁸. Individual and cultural differences also prevent online self-disclosure. Adolescents only preferred engaging in self-disclosure offline vs online when they were employing a passive (vs. active) coping strategy for combating loneliness⁵⁹.

Conclusions

The hyperpersonal model of online impression management was first hypothesized over two decades ago at a time when online communication meant two individuals communicating with each other in a text only online bubble. Despite the advances in technology, most notably the advent of web 2.0 technology and the rise of the Internet as we know it today, the tenets of the model still hold true in many situations, but the evidence outlined above demonstrated that aspects of the theory may need modified to account for new technology, or the limits of the model in the new online environment need to be more clearly delineated. In particular, where the bubble bursts and information from several sources (some of which may be incongruous to the primary communicator's identity claims) are available, and where communication mediums are richer than text-only (e.g., pictures and video communication on social media), are where research findings seem to diverge with the predictions of the original model.

References

1. Sumner EM, Ramirez AJR: **Social Information Processing Theory and Hyperpersonal Perspective.** In *The International Encyclopedia of Media Effects* Edited by Rössler P, Hoffner CA, Zoonen L. Wiley; 2017. doi:[10.1002/9781118783764.wbieme0090](https://doi.org/10.1002/9781118783764.wbieme0090)
2. Eddy A: **Is technology killing human emotion? How computer-mediated communication compares to face-to-face interactions.** In *Proceedings of Mensch und Computer 2019*:527-530. <https://doi.org/10.1145/3340764.3344451>
3. Rains SA, Brunner SR, Akers C, Pavlich CA, Goktas S: **Computer-mediated communication (CMC) and social support: Testing the effects of using CMC on support outcomes.** *Journal of Social and Personal Relationships* 2017, **34(8)**:1186-1205. <https://doi.org/10.1177/0265407516670533>
4. Short J, Williams E, Christie B. *The Social Psychology of Telecommunications.* Wiley & Sons; 1976.

5. Culnan MJ & Markus ML: **Information technologies**. In *Handbook of Organizational Communication: An Interdisciplinary Perspective* . Edited by Jablin FM, Putnam LL, Roberts KH, & Porter LW. Sage; 1987:420-443.
6. Kaye LK, Wall HJ, Malone SA: **“Turn that frown upside-down”**: A contextual account of **emoticon usage on different virtual platforms**. *Computers in Human Behavior* 2016, 60:463-467. <https://doi.org/10.1016/j.chb.2016.02.088>
7. Riordan MA: **The communicative role of non-face emojis: Affect and disambiguation**. *Computers in Human Behavior* 2017, 76:75-86. <https://doi.org/10.1016/j.chb.2017.07.009>
8. Croes EA, Antheunis ML, Schouten AP, Kraemer E J: **Social attraction in video-mediated communication: The role of nonverbal affiliative behavior**. *Journal of social and personal relationships* 2019, 36(4):1210-1232. <https://doi.org/10.1177/0265407518757382>
9. Krishnan A, Hunt DS: **TTYL:-)... Nonverbal cues and perceptions of personality and homophily in synchronous mediated communication**, *Information, Communication & Society* 2019:1-17. <https://doi.org/10.1080/1369118X.2019.1635183>
10. Fullwood C: **Impression management and self-presentation online**. In *The Oxford Handbook of Cyberpsychology* edited by Attrill-Smith A, Fullwood C, Keep M, Kuss D OUP; 2019
11. Jung S, Roh S, Yang H, Biocca F. **Location and modality effects in online dating: rich modality profile and location-based information cues increase social presence, while moderating the impact of uncertainty reduction strategy**. *Cyberpsychology, Behavior, and Social Networking* 2017, 20(9):553-560. <https://doi.org/10.1089/cyber.2017.0027>
12. Liebman, N, Gergle D: **It's (Not) simply a matter of time: The relationship between CMC cues and interpersonal affinity**. In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* 2016. 570-581.
13. Walther JB: **Computer-mediated communication: impersonal, interpersonal, and hyperpersonal interaction**. *Communication Research* 1996, 23:3-43.

14. Walther JB: **Selective self-presentation in computer-mediated communication: Hyperpersonal dimensions of technology, language, and cognition.** *Computers in Human Behavior* 2007, **23(5)**:2538-2557. <https://doi.org/10.1016/j.chb.2006.05.002>
15. Bell BT. **“You take fifty photos, delete forty nine and use one”:** A qualitative study of **adolescent image-sharing practices on social media.** *International Journal of Child-Computer Interaction* 2019, **20**:64-71. Doi: 10.1016/j.ijcci.2019.03.002
16. Joinson AN: **Self-esteem, interpersonal risk, and preference for e-mail to face-to-face communication.** *CyberPsychology & Behavior* 2004, **7(4)**:472-478. <https://doi.org/10.1089/cpb.2004.7.472>
17. Raveendhran R, Fast NJ, Carnevale PJ: **Virtual (freedom from) reality: Evaluation apprehension and leaders’ preference for communicating through avatars.** *Computers in Human Behavior* 2020, 106415. <https://doi.org/10.1016/j.chb.2020.106415>
18. *Fullwood C, James BM, Chen-Wilson CH: **Self-concept clarity and online self-presentation in adolescents.** *Cyberpsychology, Behavior, and Social Networking* 2016, **19(12)**:716-720. <https://doi.org/10.1089/cyber.2015.0623>

This study makes a unique contribution to knowledge by recognising that one’s level of self-concept clarity (i.e., the extent to which one has clear beliefs about who they are) has an important impact on how likely one is to present idealised and multiple self-presentations, and is further evidence for the notion that the online world can be used as a ‘tool’ to experiment with self-presentation as an act of self-discovery.
19. Hance MA, Blackhart G, Dew M: **Free to be me: The relationship between the true self, rejection sensitivity, and use of online dating sites.** *The Journal of social psychology* 2018, **158(4)**:421-429. <https://doi.org/10.1080/00224545.2017.1389684>
20. *Fullwood C, Attrill A: **Updating: Ratings of perceived dating success are better online.** <https://doi.org/10.1089/cyber.2016.0631> *Cyberpsychology, Social Networking and Behavior* 2018, **21(1)**:11-15.

This experimental study provides evidence, in a zero acquaintance dating context, for the notion that people assume that others will perceive their 'online' self-image as more desirable than their 'offline' one, perhaps as a consequence of a greater ability to edit images and manage impressions whilst online.

21. Kang J, Wei L. **Let me be at my funniest: Instagram users' motivations for using Finsta (a.k.a., fake Instagram)** *The Social Science Journal* 2020, **57(1)**:58-71, DOI: [10.1016/j.soscij.2018.12.005](https://doi.org/10.1016/j.soscij.2018.12.005)
22. Toma CL, Bonus JA, Van Swol LM **Lying Online: Examining the Production, Detection, and Popular Beliefs Surrounding Interpersonal Deception in Technologically-Mediated Environments.** In: *The Palgrave Handbook of Deceptive Communication* Edited by Docan-Morgan T. Palgrave Macmillan; 2019 https://doi.org/10.1007/978-3-319-96334-1_31
23. Toma CL, Choi M: **Mobile media matters: Media use and relationship satisfaction among geographically close dating couples.** In *Proceedings of the 19th ACM conference on computer-supported cooperative work & social computing* 2016(pp. 394-404).
24. Bryant EM, Ramirez Jr A: **Multimodal Communication, Idealization, and Relational Quality in College Students' Parental Relationships: A Model of Partner Idealization in Ongoing Relationships.** *The Electronic Journal of Communication* 2016, 26:3-4.
25. Antheunis ML, Valkenburg PM, Peter J: **Computer-mediated communication and interpersonal attraction: An experimental test of two explanatory hypotheses.** *CyberPsychology & Behavior* 2007, **10(6)**:831-836. <https://doi.org/10.1089/cpb.2007.9945>
26. Berger J, Iyengar R: **Communication channels and word of mouth: How the medium shapes the message.** *Journal of consumer research* 2013, **40(3)**:567-579. <https://doi.org/10.1086/671345>

27. **Antheunis ML, Schouten AP, Walther JB: **The hyperpersonal effect in online dating: effects of text-based CMC vs. videoconferencing before meeting face-to-face.** *Media Psychology* 2019, 1-20. DOI: [10.1080/15213269.2019.1648217](https://doi.org/10.1080/15213269.2019.1648217)

This study makes a unique contribution to our understanding of how initial meeting context can impact perceptions of social attraction, with evidence suggesting that meeting via 'leaner' modalities (e.g. text-based) can provide people with a greater propensity to tailor their self-presentation and to garner desirable self-images in the minds of others.

28. Wu T, Zheng Y: **Is Impression Management Through Status Updates Successful? Meta-Accuracy and Judgment Accuracy of Big Five Personality Traits Based on Status Updates From Social Network Sites in China.** *Frontiers in Psychology: Human Media Interaction* 2019, **10**:article 1192. doi: [10.3389/fpsyg.2019.01192](https://doi.org/10.3389/fpsyg.2019.01192)

29. *Paul A, Morrison K: **Does your Facebook profile help or harm you? Examining the effect of information seeking strategies on relational outcomes in social networking sites.** *Journal of Communication Technology and Human Behaviors* 2017, **3(1)**:1-23. doi: [10.7726/jcthb.2017.1001](https://doi.org/10.7726/jcthb.2017.1001)

Demonstrates that contradictory information online leads to uncertainty, under which conditions the assumptions of the hyperpersonal model do not apply.

30. Walther JB, Parks MR. **Cues filtered out, cues filtered in: Computer-mediated communication and relationships.** *Handbook of interpersonal communication* Edited by Knapp ML, Daly JA. Sage; 2002:529-563.

31. Walther JB, Van Der Heide B, Hamel L, Shulman H: **Self-generated versus other-generated statements and impressions in computer mediated communication: A test of warranting theory using Facebook.** *Communication Research* 2009, **36**:229–253.

32. Carr CT, Hall RD, Mason AJ, Varney EJ. **Cueing employability in the gig economy: Effects of task-relevant and task-irrelevant information on Fiverr.** *Management Communication Quarterly* 2017, 31:409–428. doi:[10.1177/0893318916687397](https://doi.org/10.1177/0893318916687397)
33. Scott GG, Ravenscroft K: **Bragging on Facebook: The interaction of content source and focus on online impression formation.** *Cyberpsychology, Behavior, & Social Networking* 2017, **20(1)**:58-63. doi: 10.1089/cyber.2016.0311
34. Cummings J, Dennis AR: **Virtual first impressions matter: The effect of enterprise social networking sites on impression formation in virtual teams.** *MIS Quarterly* 2018, **42(3)**:697-717. DOI: 10.25300/MISQ/2018/13202
35. Scott GG, Wiencercz S, Hand CJ: **The frequency and source of online abuse impacts attribution of victim blame and perceptions of victim attractiveness.** *Computers in Human Behavior* 2019, **92**:119-127. <https://doi.org/10.1016/j.chb.2018.10.037>
36. Lin X, Spence PR. **Identity on social networks as a cue: Identity, retweets, and credibility.** *Communication Studies* 2018, **69**:461–482. doi:[10.1080/10510974.2018.1489295](https://doi.org/10.1080/10510974.2018.1489295)
37. Scott GG, Brodie ZP, Wilson MJ, Ivory L, Hand CJ, Sereno SC. **Celebrity abuse on Twitter: The impact of tweet valence, volume of abuse, and dark triad personality factors on victim blaming and perceptions of severity.** *Computers in Human Behavior* 2020, **103**: 109-119. <https://doi.org/10.1016/j.chb.2019.09.020>
38. DeAndrea DC, Vendemia MA. **The influence of self-generated and third-party claims online: Perceived self-interest as an explanatory mechanism.** *Journal of Computer-Mediated Communication* 2019, zmc011. <https://doi.org/10.1093/jcmc/zmc011>
39. DeAndrea DC, Van Der Heide B, Vendemia MA, & Vang MH. **How people evaluate online reviews.** *Communication Research* 2018, **45**: 719–736. doi:[10.1177/0093650215573862](https://doi.org/10.1177/0093650215573862)
40. DeAndrea DC, Carpenter CJ. Measuring the construct of warranting value and testing warranting theory. *Communication Research* 2018, **45**:1193-1215. Doi: [10.1177/0093650216644022](https://doi.org/10.1177/0093650216644022)

41. Ert E, Fleisher A: **What do Airbnb hosts reveal by posting photographs online and how does it affect their perceived trustworthiness?** *Psychology and Marketing* 2019, **37(5)**:1-11. DOI: 10.1002/mar.21297
42. Çadırcı TO, Güngör AS. **Love my selfie: selfies in managing impressions on social networks** *Journal of Marketing Communications* 2019, **25(3)**: 268-287, DOI: [10.1080/13527266.2016.1249390](https://doi.org/10.1080/13527266.2016.1249390)
43. Kramer NC, Feurstein M, Kluck JP, Meier Y, Rother M, Winter S: **Beware of selfies: The impact of photo type on impression formation based on social networking profiles.** *Frontiers in Psychology: Human-Media Interaction* 2017, **8**: article 188 doi: 10.3389/fpsyg.2017.00188
44. Hong S, Jahng MR, Lee N, Wise KR. **Do you filter who you are? Excessive self-presentation, social cues, and user evaluations of Instagram selfies.** *Computers in Human Behavior* 2020, **104**: 106059. <https://doi.org/10.1016/j.chb.2019.106159>
45. Diefenbach S, Christoforakos L. **The Selfie Paradox: Nobody Seems to Like Them Yet Everyone Has Reasons to Take Them. An Exploration of Psychological Functions of Selfies in Self-Presentation** *Frontiers in Psychology: Huma-Media Interaction* 2017, **8(7)** DOI: <https://doi.org/10.3389/fpsyg.2017.00007>
46. Mallen MJ, Day SX, Green MA. **Online versus face-to-face conversation: An examination of relational and discourse variables. Psychotherapy.** *Theory Research & Practice* 2003, **40(1-2)**:155-163. DOI: [10.1037/0033-3204.40.1-2.155](https://doi.org/10.1037/0033-3204.40.1-2.155)
47. Sprecher S, Hampton AJ. Liking and other reactions after a get-acquainted interaction: A comparison of continuous face-to-face interaction versus interaction that that progresses from text messages to face-to-face. *Communication Quarterly* 2017, **65(3)**: 333-353. DOI: 10.1080/01463373.2016.1256334
48. *Palupi P: **Selective Self-Presentation Through Video-Mediated Communication: A Study of Hyperpersonal Communication.** *MediaTor* 2019, **12(1)**:102-112.

Qualitative study which demonstrated that when communicating online individuals often engage in different levels of positive impression management, and that this is minimized when conversing with close friends or family members.

49. Muir K, Joinson A, Cotterill R, Dewdney N: **Linguistic style accommodation shapes impression formation and rapport in computer-mediated communication.** *Journal of Language and Social Psychology* 2017, **36(5)**:525-548. DOI: 10.1177/0261927X17701327
50. Gawne L, McCulloch G. **Emoji as digital gestures.** *language@internet* 2019, 17(2). Retrieved from: <https://www.languageatinternet.org/articles/2019/gawne>
51. Rodriguez-Hilgado C, Tan ESH, Verlegh PWJ. **Expressing emotions in blogs: The role of textual paralinguistic cues in online venting and social sharing posts.** *Computers in Human Behavior* 2017, **73**:638-649. 10.1016/j.chb.2017.04.007
52. Roele M, Ward J, van Duijn M. **Tweet with a smile: The selection and use of emoji on Twitter in the Netherlands and England.** *First Monday* 2020, 25(4-6). doi: <http://dx.doi.org/10.5210/fm.v25i4.9373>
53. Robus CM, Hand CJ, Filik R, Pitchford M. **Investigating effects of emoji on neutral narrative text: Evidence from eye movements and perceived emotional valence.** *Computers in human Behavior* 2020, 109: 106361. <https://doi.org/10.1016/j.chb.2020.106361>
54. Willoughby JF, Liu S. **Do pictures help tell the story? An experimental test of narrative and emojis in a health text message intervention.** *Computers in Human Behavior* 2018, **79**:75-82, [10.1016/j.chb.2017.10.031](https://doi.org/10.1016/j.chb.2017.10.031)
55. *Van der Zanden T, Schouten AP, Moss MBJ, Khramer EJ: **Impression formation on online dating sites: Effects of language errors in profile text on perceptions of profile owners' attractiveness.** *Journal of Social and Personal Relationships* 2019, **37(3)**:758-778. DOI: 10.1177/0265407519878787

This study found that on online dating sites, an environment where users carefully try to positively manage their impressions, language errors were common, and these negatively impacted on perceived romantic attractiveness and intelligence.

56. Jiang LC, Barazova NN, Hancock JT: **The disclosure-intimacy link in computer-mediated communication: An attributional extension of the hyperpersonal model.** *Human Communication Research* 2011, **37**:58-77. <http://doi.org/10.1111/j.1468-2958.2010.01393.x>
57. **Ruppel EK, Gross C, Soll A, Peck BS, Allen M, Kim SY: **Reflecting on connecting: Meta-analysis in differences between computer-mediated and face-to-face self-disclosure.** *Journal of Computer-Mediated Communication* 2017, **22**:18-34. doi:10.1111/jcc4.12179
- A meta-analysis comparing online vs. offline self-disclosure which found greater self-disclosure on video- than text-based communications, contrary to prediction of the hyperpersonal model.
58. Melumad S, Meyer R. **Full Disclosure: How Smartphones Enhance Consumer Self-Disclosure** *Journal of Marketing* 2020, **84(3)**: 28-45. DOI: 10.1177/0022242920912732
59. Gentina E, Chen R. Digital natives' coping with loneliness: Facebook or face-to-face? *Information & Management* 2019, 56(6): 103138. <https://doi.org/10.1016/j.im.2018.12.006>