Comparing Online and Offline Self-Disclosure: A Systematic Review

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Comparing Online and Offline Self-Disclosure: A Systematic Review

Melanie Nguyen, Ph.D.,1 Yu Sun Bin, B.Sc. (Hons),2 and Andrew Campbell, Ph.D.1

Abstract

Disclosure of personal information is believed to be more frequent in online compared to offline communication. However, this assumption is both theoretically and empirically contested. This systematic review examined existing research comparing online and offline self-disclosure to ascertain the evidence for current theories of online communication. Studies that compared online and offline disclosures in dyadic interactions were included for review. Contrary to expectations, disclosure was not consistently found to be greater in online contexts. Factors such as the relationship between the communicators, the specific mode of communication, and the context of the interaction appear to moderate the degree of disclosure. In relation to the theories of online communication, there is support for each theory. It is argued that the overlapping predictions of each theory and the current state of empirical research highlights a need for an overarching theory of communication that can account for disclosure in both online and offline interactions.

Introduction

Discussions of online communication often assume greater self-disclosure in computer-mediated communication (CMC) than face-to-face (FTF) conversations. In these studies, self-disclosure is the voluntary and verbal communication of personal information to a targeted recipient. Self-disclosure is multifaceted, often studied along three dimensions—frequency, breadth, and depth. Frequency of self-disclosure refers to the amount of information revealed, disclosure breadth is the range or diversity of self-disclosure topics, and depth is the intimacy of personal information divulged. This is derived from the conception of self-disclosure espoused by offline communication theories, in particular, social penetration theory (SPT). According to SPT, changes in self-disclosure between partners are integral to, and indicative of, relationship growth and decline. Specifically, as relationships progress, participants develop a rhythm to their exchanges and share greater breadth and depth of disclosures. Therefore, self-disclosure should be considered across time and relationship intimacy in addition to its frequency, breadth, and depth dimensions.

The assumption of greater online than offline self-disclosure is a theoretically and empirically contested issue. Several theories of Internet-based communication have been posited to explain observations of greater self-disclosure in CMC than FTF conversations. Five key theories are discussed here: (a) the social identity model of deindividuation (SIDE model), (b) hyperpersonal CMC theory, (c) reduced cues theory (RCT), (d) social information processing theory (SIP theory), and (e) media richness theory (MRT).

The SIDE model is premised on the notion that the self consists of two identities: personal and social. Personal identity refers to the unique characteristics of an individual. Social identity encompasses the groups they belong to, for example, family, friends, and workplace. The SIDE model posits that the paucity of individuating cues online dilutes the perception of difference between partners engaged in social exchanges. Social identity then becomes salient and others’ behaviors are seen as representative of a group norm. Online self-disclosure, therefore, results from perceived norms of self-disclosure. Consistent with this view, Barak and Gluck-Ofri found greater frequency of self-disclosure in discussion forums with a history of disclosure (e.g., support forums) than ones without (discussions for special interest groups, e.g., cooking). However, what is the motivation for initial self-disclosure? “ASL?” (age, sex, and location) is a common opening question to online interactions. This and other necessary disclosures (since certain attributes are not easily discernable without visual cues) may facilitate the development of a perceived norm of disclosure in the group. Despite this, the SIDE model explains self-disclosure as context specific:
and therefore does not present any a priori predictions of frequency, breadth, and depth of disclosure in online versus offline environments. It states that within each medium there are social contexts that dictate the influences of perceived norms of self-disclosure.

Hyperpersonal CMC theory posits two consequences of the paucity of individuating cues online. First, it allows participants greater control in their self-presentation. Individuals can self-select which information to disclose and, to an extent, manipulate how they are perceived. Second, online, individuals can create idealized perceptions of their partner. This has been supported empirically. Participants engaging in CMC formed less detailed but more intense impressions of their partners than individuals communicating FTF. This second tenet of hyperpersonal CMC theory suggests an exaggerated intimacy where the individuals feel they are able to communicate without restraint in the presence of their partner; hence, greater online frequency, depth, and breadth of self-disclosure.

According to RCT, cues are indicative of the social context and its associated norms and behavioral etiquette. That is, situational, nonverbal cues (e.g., facial expressions and intonation) moderate an individual’s behavior. In the online environment, these cues are absent. Here an individual is not inhibited by the immediate reactions (ascertained through nonverbal cues) of their communicating partner. Hence, they are more likely to disclose with greater depth and frequency on a wider range of topics. In comparing self-disclosure amongst shy individuals in visually anonymous (no Webcam) and nonanonymous CMC (Webcam) situations, Brunet and Schmidt found greater frequency of self-disclosure in anonymous conditions. This suggests that absent visual cues to identity, individuals will engage in greater frequency of self-disclosure, consistent with RCT.

SIP theory is premised on the notion of cues as conduits for communication, not representatives of social norms or indicators of individuality. Offline, individuals use combinations of verbal and nonverbal cues to convey messages. In text-based CMC, information communicated through intonation, gestures, and facial expression need to be “translated” into words. The amount of information remains constant but the avenues for communicating it have become limited. Therefore, increased online disclosure occurs because there are no other means for an individual to communicate information about them. Tidwell and Walther assessed differences in peripheral (demographic data), intermediate (attitudes, values, and opinions), and core (personal beliefs, needs, and fears) disclosures between online and offline dyads. It was found that CMC participants asked a greater number of intimate questions and exhibited a greater proportion of disclosures than individuals involved in FTF exchanges. These findings supported the notion that nonverbal information is translated into a verbal code. Therefore, CMC should exhibit a higher frequency of self-disclosure than FTF exchanges. Greater breadth of self-disclosure is also predicted since demographic information is now another topic for disclosure, increasing the range of discussion topics. There are no predictions concerning depth of disclosure except that with sufficient time, FTF and CMC relationships will be comparable. SIP theory states that what can be communicated FTF can also be exchanged online provided there is sufficient time.

In contrast to the previously presented theories, MRT predicts greater breadth and depth of self-disclosure in FTF conversations. MRT ranks communication media on a richness continuum. Richness is the degree to which a communication medium allows feedback, a range of communication channels, and the extent to which it is personal. FTP exchanges allow real-time feedback and use gestures, verbal and paralinguistic channels for communicating thoughts and emotions. These exchanges make FTF, as a medium, richer than CMC. Along this continuum, telephone would fall between FTF and CMC in richness since it has fewer channels than offline conversations but more than online interactions. Rich media is better for communicating personal information and difficult concepts. As such, they are more suitable to developing interpersonal relationships. According to MRT, then, FTF exchanges would demonstrate greater breadth and depth of self-disclosure than CMC.

Theoretically, the assumption of greater online self-disclosure is not supported. Of the five key CMC theories, only two predict greater frequency, breadth, and depth of self-disclosure online (hyperpersonal CMC theory and RCT), one predicted greater frequency and depth of online self-disclosures (SIP theory), one predicted greater disclosure breadth and depth FTF (MRT), and one does not provide explicit guidance on whether the online environment as a whole necessitates greater self-disclosure (SIDE model; see Table 1 for a summary). The degree of overlap in theoretical predictions also suggests a need to either refine CMC theories or discern whether the commonalities reflect shared assumptions indicative of a general communication theory.

Although studies have demonstrated greater self-disclosure in CMC, others have also found no differences or greater offline self-disclosure. Moreover, how disclosure is operationalized (actual versus self-report of disclosure) and the dimensions of disclosure examined vary across studies. Thus, empirically, there is even less support for the assumption of greater online self-disclosure.

Given this, we decided to conduct a systematic review of the literature to consolidate current knowledge on self-disclosure in online and offline environments. This review aimed to determine whether there is greater self-disclosure in CMC or FTF dyadic interactions and evaluate online communication theories in light of this evidence.

The theories cited view self-disclosure within the context of interpersonal relationship development. As such, this review will focus on self-disclosure between two people rather than disclosure to surveys or computers. Communication via surveys or to computers is not aimed at relationship development. We acknowledge that there is literature examining self-disclosure in a one-to-many context (e.g., social networking sites) and group disclosure (e.g., support groups). We argue, however, that the relationship dynamics in these situations are fundamentally different from those of two individuals communicating exclusively with each other. Hence, combining group and individual self-disclosure would not do justice to the theories of, and empirical investigations into, group dynamics. The review also noted the relationship of individuals in a dyad since disclosure differs according to intimacy. Disclosure measures (i.e., coded responses and self-report surveys) were also taken into account since there are discrepancies between self-report and actual disclosure.
et al. examined emotionality and self-disclosure in online self-disclosure as a dependent variable. For instance, Rosen language other than English, or that it did not compare information processing theory.

Hyperpersonal CMC theory 
RCT 
SIP 
MRT 

Table 2.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Breadth</th>
<th>Depth</th>
<th>Reasons for prediction</th>
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<tr>
<td>SIDE model</td>
<td>CMC &gt; FTF</td>
<td>CMC &gt; FTF</td>
<td>CMC &gt; FTF</td>
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<tr>
<td>Hyperpersonal CMC theory</td>
<td>CM &gt; FTF</td>
<td>CM &gt; FTF</td>
<td>CM &gt; FTF</td>
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<td>RCT</td>
<td>CM &gt; FTF</td>
<td>CM &gt; FTF</td>
<td>CM &gt; FTF</td>
</tr>
<tr>
<td>SIP</td>
<td>CM &gt; FTF</td>
<td>CM &gt; FTF</td>
<td></td>
</tr>
<tr>
<td>MRT</td>
<td>FTF &gt; CMC</td>
<td>FTF &gt; CMC</td>
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CMC, computer-mediated communication; FTF, face-to-face; MRT, media richness theory; RCT, reduced cues theory; SIP, social information processing theory.

Methods

Data sources and search strategy

Five databases (PsycInfo, Scopus, Medline, CINAHL, and Dissertations and Theses) were searched in August 2010. In each database, the search strategy involved the intersection of Internet communication key words and disclosure key words, that is, (i) “online” or “internet” or “computer” or “computer mediated communication” or “human computer interaction” and (ii) “disclosure” or “self-disclosure.” Manual search of the bibliographies of reviewed articles and other articles known to the authors was also included. This resulted in 1266 abstracts which were examined by one reviewer, Melanie Nguyen. A random selection of 20% of abstracts was examined by a second reviewer, Yu Sun Bin. Interrater reliability was good (Kappa 0.675 [p < 0.001]).

Study selection

Studies were included if they explicitly compared FTF interaction and CMC and had disclosure or intent-to-disclose as an outcome variable. There were no restrictions on disclosure content, interaction type (e.g., task-oriented or social), or the population studied.

Reviewers excluded the articles that are not published in English and any data published twice. Studies examining disclosure to surveys or forms were also excluded.

Forty-six abstracts met the above criteria. Upon review of the complete articles by the first author, 15 studies were included in this review. For some research, it was only clear while reading the article (as opposed to the abstract alone) that it included data published twice, was written in a language other than English, or that it did not compare self-disclosure as a dependent variable. For instance, Rosen et al. examined emotionality and self-disclosure in online and offline dating but only compared emotionality. The emotionality-disclosure relationship was investigated but not disclosure in online and offline dating relationships. Data were extracted according to the predefined fields in Table 2.

Results

The 15 studies made 24 comparisons between online and offline self-disclosure. There were an equal number of findings showing greater online self-disclosure, greater FTF disclosure, and no differences between online and offline disclosure. The studies varied in research design (six experimental and nine survey), disclosure measure (actual disclosure, degree of disclosure, likelihood of disclosure, self-report of actual disclosure, perceived disclosure, and willingness to disclose), the dimension of disclosure investigated (frequency, breadth, depth, and “level”), disclosure recipient (stranger, friend), and sample size (40 to 235 participants).

Of the six experimental studies, four reported greater disclosure online and one reported greater disclosure offline. The remaining found no significant differences between online and offline self-disclosure. Of the nine survey studies, one reported greater disclosure online and six found greater disclosure offline.

Experimental studies that measured actual self-disclosure

Most experimental studies measuring actual self-disclosure showed significantly more disclosure in CMC compared to offline interactions. Kiesler et al., however, found no significant differences in the proportion of disclosure statements between CMC and FTF interactions. An examination of the means, though, showed greater online disclosure.

Two studies rated the depth of disclosures from transcripts of online and offline communications. Both found significantly more intimate disclosures in CMC.

Experimental studies with self-report of disclosure

As an alternative to identifying self-disclosure from transcripts, researchers have also measured disclosure depth by asking participants to indicate their own depth of self-disclosure following an online or offline interaction. Consistent with the findings from objective ratings of disclosure depth presented above, Antheunis...
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<th>Summary</th>
<th>Country</th>
<th>Measure of disclosure</th>
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<tr>
<td><strong>Experimental studies</strong> Antheunis et al.29</td>
<td>Experiment: 81 cross-sex dyads were randomly assigned to either a text-only CMC (IM without Webcam), visual CMC (IM with Webcam) or FTF condition. Participants rated the amount of partner disclosure on 5 intimate topics.</td>
<td>Netherlands</td>
<td>Partner disclosure</td>
<td>Depth</td>
<td>Greater CMC disclosure (with and without Webcam)</td>
<td>p &lt; 0.01</td>
</tr>
<tr>
<td>Coleman et al.17</td>
<td>Experiment: 117 undergraduate students participated in either an online or FTF task-based discussion. Depth of disclosure was coded by independent raters.</td>
<td>United States of America</td>
<td>Actual disclosure</td>
<td>Depth</td>
<td>Deeper CMC disclosure</td>
<td>p &lt; 0.05</td>
</tr>
<tr>
<td>Joinson18-Study 1</td>
<td>Experiment: 20 dyads were randomly assigned to a FTF or synchronous CMC condition. Frequency and depth of disclosures were coded by two trained raters.</td>
<td>United Kingdom</td>
<td>Actual disclosure</td>
<td>Depth</td>
<td>Greater proportion of CMC disclosures</td>
<td>p &lt; 0.02</td>
</tr>
<tr>
<td>Tidwell and Walther7</td>
<td>Experiment: 2 (FTF vs. semisynchronous CMC) x 2 (social vs. task-oriented) x 3 (peripheral, intermediate, core) between-groups and within-subjects factorial design on disclosure frequency.</td>
<td>United States of America</td>
<td>Actual</td>
<td>Frequency depth</td>
<td>Greater proportion of CMC disclosures</td>
<td>p &lt; 0.001</td>
</tr>
<tr>
<td>Kiesler et al.32</td>
<td>Experiment: 40 stranger pairs (dyads where participants were unfamiliar with each other) were randomly allocated to a condition within the 2 (FTF vs. synchronous CMC) x 2 (high vs. low evaluation anxiety) factorial design. Measured physiological arousal, subjective affect and disclosure frequency, and intimacy.</td>
<td>United States of America</td>
<td>Actual disclosure</td>
<td>Frequency</td>
<td>No significant differences</td>
<td></td>
</tr>
<tr>
<td>Mallen et al.20</td>
<td>Experiment: 32 stranger dyads were randomly assigned to FTF or synchronous MC condition. Own and partner’s disclosure was rated on a 6-point scale (no disclosure to extreme disclosure) by each participant.</td>
<td>United States of America</td>
<td>Self-report of own disclosure; partner disclosure</td>
<td>Level</td>
<td>No significant differences in self-report of disclosure</td>
<td></td>
</tr>
<tr>
<td><strong>Survey studies</strong> Carballo-Dieguez et al.30</td>
<td>Surveyed 250 men on their sexual self-disclosure practices (i.e., HIV-status disclosure and sexual negotiation) online, FTF, and via telephone.</td>
<td>United States of America</td>
<td>Self-report of own disclosure</td>
<td>N/A</td>
<td>Greater CMC disclosure of HIV-status and sexual negotiation</td>
<td>p &lt; 0.01</td>
</tr>
</tbody>
</table>

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<table>
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<tr>
<th>Article</th>
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<th>Measure of disclosure</th>
<th>Disclosure dimension</th>
<th>Findings: comparing FTF and CMC disclosure</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chan and Cheng21</td>
<td>Surveyed 162 participants on the relationship quality (interdependence, breadth, depth, code change, understanding, commitment, and network convergence) of a nominated online and offline friendship.</td>
<td>China</td>
<td>Self-report of willingness and history of disclosure</td>
<td>Depth</td>
<td>Deeper FTF disclosure</td>
<td>( p &lt; 0.001 )</td>
</tr>
<tr>
<td>Chiou and Wan31</td>
<td>Surveyed 207 adolescents on the depth and breadth of their sexual self-disclosures in the online and offline context.</td>
<td>Taiwan</td>
<td>Willingness to disclose</td>
<td>Depth</td>
<td>Willing to disclose deeper FTF</td>
<td>( p &lt; 0.01 )</td>
</tr>
<tr>
<td>Ponder34</td>
<td>Miller self-disclosure index was completed by 145 participants in relation to a nominated online and offline friend.</td>
<td>Not specified</td>
<td>Willingness to disclose</td>
<td>Depth</td>
<td>Willing to disclose deeper FTF</td>
<td>( p = 0.01 )</td>
</tr>
<tr>
<td>Rimondi35</td>
<td>Surveyed 69 participants on their self-disclosure to a nominated online and offline friend.</td>
<td>United States of America</td>
<td>Self-report actual</td>
<td>Depth</td>
<td>Deeper FTF disclosure</td>
<td>( p &lt; 0.05 )</td>
</tr>
<tr>
<td>Schiffrin et al.22</td>
<td>Surveyed 99 undergraduate students on their Internet use, subjective well-being, self-disclosure to a nominated online and offline friend, perception of social support in each medium, and extraversion.</td>
<td>United States of America</td>
<td>Perceived actual</td>
<td>Depth</td>
<td>Deeper FTF disclosure</td>
<td>( p = 0.001 )</td>
</tr>
<tr>
<td>Stritzke et al.36</td>
<td>Surveyed 134 participants on interpersonal competence (including online and offline disclosure patterns), rejection sensitivity, and shyness.</td>
<td>Australia</td>
<td>Willingness to disclose</td>
<td>N/A</td>
<td>Greater willingness to disclose FTF</td>
<td>( p &lt; 0.01 )</td>
</tr>
<tr>
<td>Buote et al.19</td>
<td>Surveyed 141 participants on their attachment styles, computer comfort, friendship quality, and self-disclosure to a nominated online and offline friend.</td>
<td>Canada</td>
<td>Self-report of own disclosure</td>
<td>Depth</td>
<td>No significant differences</td>
<td></td>
</tr>
<tr>
<td>Parks and Roberts33</td>
<td>Surveyed 235 MOO users on the relationship quality (interdependence, breadth, depth, code change, understanding, commitment, and network convergence) of a nominated MOO and offline friendship.</td>
<td>United States of America, Canada, Australia</td>
<td>Self-report of willingness and history of disclosure</td>
<td>Depth</td>
<td>No significant differences</td>
<td></td>
</tr>
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</table>

MOO, multiuser dimensions, object oriented.
et al.\textsuperscript{29} found peer reports of significantly deeper disclosure online. Mallen et al.,\textsuperscript{20} however, showed no significant differences in ratings of partner’s depth of disclosure but examination of the means shows more intimacy in FTF. Therefore, the findings from self or partner report immediately following interaction are inconclusive.

\textbf{Survey studies}

There were nine survey studies comparing online and offline disclosure. Buote et al.,\textsuperscript{19} Rimondi,\textsuperscript{35} and Schiffrin et al.\textsuperscript{22} asked participants to rate the extent to which they have discussed a list of intimate topics with a nominated online and offline friend. Both Rimondi\textsuperscript{35} and Schiffrin et al.\textsuperscript{22} showed significantly greater discussion of intimate topics with offline friends compared to online friends. Although Buote et al.\textsuperscript{19} found no significant overall differences in disclosure between online and offline friends, there was a significant interaction between communication media and attachment style. Specifically, there was a significantly greater extent of disclosure between offline friends for participants reporting secure, dismissing, and preoccupied attachment styles. However, there was no difference in the extent of disclosure between online and offline friends for participants with a fearful attachment style.

Parks and Floyd’s\textsuperscript{37} measure of interpersonal relationship development was used to examine differences in disclosure depth between online and offline friendships.\textsuperscript{21,33} The disclosure subscale of this questionnaire asks participants to report their actual disclosure and willingness to disclose to a nominated online and offline friend. Chan and Cheng\textsuperscript{21} found significantly higher scores on this subscale for offline compared to online friendships. In contrasting multiuser dimensions, object-oriented (MOO) friendships with offline ones, Parks and Roberts\textsuperscript{33} found no significant differences between friendship type on the disclosure scale.

Three studies assessing depth of self-disclosure found significantly greater willingness to disclose to a nominated offline—compared to online—friend.\textsuperscript{31,34,36} Chiou and Wan\textsuperscript{31} also asked participants to report the breadth of disclosures to their online and offline friends. Results showed no significant differences in the range of disclosure topics between friendships across communication media.

Carballo-Díéguez et al.\textsuperscript{30} found that participants reported significantly greater sexual negotiation with, and HIV-status disclosure to, potential partners met online than FTF. In contrast to previously mentioned studies,\textsuperscript{19,21,22,31,33,36} Carballo-Díéguez et al.\textsuperscript{30} did not require participants to identify, or think of, a specific person when completing the survey.

These findings show that in experimental studies where frequency and depth of self-disclosure are rated by independent coders, self-disclosure is greater in CMC. This finding is also true of surveys examining the frequency of self-disclosure. On the other hand, survey-based self-report measures of willingness to, and depth of, self-disclosure showed greater self-disclosure in FTF interactions. Breadth of self-disclosure did not significantly differ between online and offline relationships.

\textbf{Discussion}

The findings of this systematic review support at least one prediction from each theory of online communication. Hyperpersonal CMC theory, RCT, and SIP theory predict greater self-disclosure frequency in online conversations. Experimental studies measuring actual self-disclosure and survey studies examining frequency of self-disclosure support this prediction.\textsuperscript{7,18} Hyperpersonal CMC theory and RCT go on to predict greater self-disclosure depth in CMC. Evidence from experimental studies also suggests this. MRT predicts greater depth of self-disclosure FTF and this was found in surveys asking participants to comment on the intimacy of their disclosure topics in each environment.\textsuperscript{31,34,36} Thus it seems that the empirical evidence does not consistently support one theory over and above another. When looking at the evidence along each dimension of self-disclosure, however, a clearer picture emerges.

Surveys and experiments examining disclosure frequency showed greater frequency of self-disclosure in CMC than FTF interactions.\textsuperscript{7,18,30} This supports predictions from hyperpersonal CMC theory, RCT, and SIP theory. That is, people tell each other more online. However, greater frequency of CMC disclosure could also be consistent with the MRT (individuals will disclose more to compensate for communicating in less rich media) and SIDE model (there may be a norm of greater self-disclosure online). Self-disclosure is fundamental to communication and the overlapping evidence suggests that CMC theories need to clearly articulate their unique predictions regarding self-disclosure. Alternatively, computer-mediated self-disclosure could be explained by a combination of the CMC theories. The paucity of visual (and at times, audio) cues is a fundamental tenet of these theories. Perhaps what is called for is an overarching communication theory where communication, mediated or not, is the exchange of information. This theory would account for the role of technology in a way that enables it to be a unified theory of communication rather than theories proposed to explain interactions in either online or offline environment.

Only one study compared breadth of self-disclosure and found no significant differences between online and offline friendships.\textsuperscript{31} No CMC theory is supported. It could be argued that friends, particularly self-nominated equivalent online and offline friends, share the same levels of intimacy. So, conversations within these friendships would encompass a similar range of topics.\textsuperscript{4} A consequence of this view is that online and offline friendships would converge over time, as predicted by SIP theory. Empirically, this is supported by studies into self-disclosure depth. Despite using the same survey, Chan and Cheng\textsuperscript{21} found significantly greater offline disclosure whereas Parks and Roberts\textsuperscript{33} found no significant differences in disclosure depth between online and offline relationships. Chan and Cheng\textsuperscript{21} investigated relatively recent relationships. In contrast Parks and Roberts\textsuperscript{33} examined relationships that were usually at least 12 months in duration. Thus, although further research into breadth of disclosure is required, explanations of existing findings suggest support for a core tenet of SIP theory.

Findings concerning disclosure depth are mixed. Experimental studies comparing depth of self-disclosure amongst strangers found greater depth in CMC disclosures.\textsuperscript{7,17,18} This lends support to hyperpersonal CMC and RCT. Survey studies, though, compared disclosure depth amongst friends and found greater FTF disclosure, consistent with MRT.\textsuperscript{21,22,35} Again, there does not seem to be overwhelming support for
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one theory. Two explanations come to the fore. First, similar to discussions surrounding disclosure breadth, strangers and friends differ in the length of acquaintance and intimacy of relationship. It could be argued that although there is greater depth of online self-disclosure amongst strangers, individuals report disclosing more to their offline partners once the relationship develops. However, research systematically examining self-disclosure across a series of exchanges or relationship stages is required. At the moment, there is not enough evidence to support one theory over another. This may reflect a need to more clearly articulate the unique predictions of each theory or look toward a unified theory of communication.

It is also worth noting that experimental studies compared actual depth of self-disclosure whereas surveys asked participants to report their perceived depth of self-disclosure. Individuals may, in reality, reveal more personal information online but feel that they are engaging in deeper interactions FTF. This disconnect between disclosing behaviors and perceptions highlights the need for CMC theories to state explicitly whether they are referring to perceived or actual self-disclosure. In examining the appropriateness of online communication (e.g., for delivering psychotherapy), the findings suggest that it is important to consider whether actual or perceived self-disclosure is more meaningful and conducive to the development of healthy relationships.22

Empirically, the role of relationship stage, length of relationship, and perceived versus actual self-disclosure depth need to be systematically investigated. Although studies investigating depth of self-disclosure do not support one CMC theory over another, they do suggest specific avenues for future research and theoretical discussion.

Together, research comparing online and offline self-disclosure do not provide overwhelming support for one CMC theory. They lend support to different tenets of each theory according to the measure of self-disclosure used, the study design, and facet of self-disclosure examined. Regarding disclosure frequency, this research found more information exchange in online interactions between strangers. This supports hyperpersonal CMC, RCT, and SIP theory. It could also be consistent with MRT and the SIDE model results concerning breadth of self-disclosure are inconclusive. However, the suggested explanations highlight relationship factors that transcend communication mode. These include duration of relationship and relationship stage or intimacy, thus, supporting SIP theory. Studies into depth of self-disclosure draw attention to the disconnect between perceived and actual disclosure depth, highlighting the need for theoretical clarification and systematic empirical research into this area.

Reviewing CMC theories in relation to self-disclosure has brought to the fore the amount of overlap between these theories. As it stands, no one theory is correct. In fact, in their own way, each of the five CMC theories presented here are right. There are two directions from here. First, CMC theories can be revised and their unique predictions regarding self-disclosure are more clearly articulated. This would disentangle the hypotheses of each theory. On the other hand, perhaps the evidence suggests a more comprehensive and cohesive theory of online communication. This theory would take into account the distinctions between perceived and actual self-disclosure. It would identify which is more important for relationship development.

This unified theory of communication will incorporate the role of communication medium as well as nonmedium-based factors, for example, time, relationship stage, context (as predicted by the SIDE model), synchronicity, and personality. Statistically, experimental investigations of online self-disclosure have used disclosures of dyads (rather than individuals) as the unit of measurement. As such, the distinction between prompted and spontaneous disclosures could not be made. In particular, the SIDE model’s predictions regarding context could not be investigated. Studies into self-disclosure should note the distinction between disclosures in response to questions, the other person’s disclosures, and spontaneous, unsolicited divulgence of personal information.

This review is limited in its ability to compare synchronous and asynchronous communication. Although experimental studies explicitly examine FTF and synchronous CMC, it is unclear whether the relationships investigated in survey studies also concern synchronicity. It has been proposed that asynchronous communication would facilitate greater introspection and disclosure, since an individual’s responses are not subject to the immediate reactions of their partner.2 Empirical research and theoretical discussions should explicitly take into account synchronicity. At present, the experimental studies compare real-time CMC with FTF conversations but it is difficult to ascertain whether survey studies are controlling for synchronicity.

Personality is another nonmedium-based factor that should be considered. That disclosure is greater offline for individuals reporting a secure, dismissing or preoccupied attachment style19 suggests that differences in the properties of each medium are not sufficient to explain differences in disclosure. Further, findings suggesting a predisposition to disclose31 and a relationship between shyness and medium-specific disclosure patterns36 support the argument for investigations into personality characteristics as a mediating variable.

An integrated theory of communication will also provide firm foundations for measuring self-disclosure. Presently, there is a notable lack of consistency in how self-disclosure is measured. Amongst the survey studies, only two studies used the same survey.21,33 Even then, this survey was designed to investigate friendship quality, not self-disclosure per se. The wording of other self-report measures of disclosure is not easily mapped onto one of the three facets of self-disclosure. For instance, the "level" of self-disclosure could refer to the frequency, breadth, or depth of personal information revealed. Even the disclosure dimensions themselves are measured in different ways. Take, for example, depth of self-disclosure. This has been examined as how "personal" the information revealed is,32 the extent to which participants discussed a list of preset "intimate" topics,35 and the amount of detail in which individuals have discussed a list of topics of varied intimacy.22 A unified communication theory would address this issue.

This article reviewed key CMC theories in light of studies systematically comparing online and offline self-disclosure. Although current research does not provide definitive evidence for one theory over another, there are clear directions for future research and theoretical discussion. There is a need for communication theories to be clearly articulated or
reviewed with an overarching communication theory in mind. Research into both medium-based and communication-based factors of self-disclosure would help disentangle theories and suggests directions for further developing our understanding of CMC and FTF communication.

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References


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