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Perceived Intimacy Differences of Daily Online and Offline Interactions in People's Social Network

Emmelyn A. J. Croes * and Marjolijn L. Antheunis

Department of Communication and Cognition, Tilburg University, 5037AB Tilburg, The Netherlands; M.L.Antheunis@tilburguniversity.edu

* Correspondence: E.A.J.Croes@tilburguniversity.edu

Abstract: This study examined which media people use on a day-to-day basis to communicate and whether tie strength influenced this media use. Furthermore, we analyzed whether online and offline interactions differ in perceived intimacy and whether tie strength impacts perceived interaction intimacy: 347 real interactions of 9 participants (3 male, 6 female) were analyzed; 172 online (WhatsApp, Facebook Messenger, email, SMS interactions) and 175 offline (recorded phone and face-to-face conversations). The results revealed that the participants communicated most frequently face-to-face or via WhatsApp, especially with strong ties. Furthermore, participants rated their interactions with strong ties as more intimate compared to weak-tie interactions. Our findings have implications for Social Information Processing theory, as our findings show that people are equally able to communicate intimate messages online and offline.

Keywords: computer-mediated communication; intimacy; tie strength; social ties; interpersonal communication

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1. Introduction

In the Netherlands, social media, like Instagram, and Instant Messaging services like WhatsApp, are deeply ingrained into people's daily lives, offering many ways to stay in touch with their social networks. Recent figures show that the use of applications like WhatsApp continues to rise among Dutch social media users [1]. Specifically, in January 2020, 9.3 million people in the Netherlands (53.4%) were using WhatsApp on a daily basis to communicate with their social network, and in 2021 this number had risen to 9.8 million people (56.3%) who use WhatsApp every day [1]. With the rise of the smartphone, the connectivity with family and friends has become even stronger, allowing us to continuously communicate with our social network. These new media are no longer just communication and information technologies, but allow individuals to share personal and intimate experiences, both publicly and privately [2]. What still remains unclear is whether social media use is beneficial or detrimental for the intimacy of our daily social interactions, as earlier research has led to contradictory views.

Ample research shows that computer-mediated communication (CMC) enhances intimate self-disclosure, the act of revealing personal information about oneself [3–6]. Self-disclosure is said to positively influence people's perceptions of the intimacy of their interactions [7]. Hence, this implies that CMC interactions can be personal and intimate. However, other studies suggest that CMC interactions are lower in quality than offline, face-to-face (FTF) interactions [8,9]. These studies label online interactions as superficial compared to FTF communication [10]. Hence, on the one hand, research shows that online interactions are beneficial and enhance self-disclosure, while other studies show these online interactions are also perceived by interactants as inferior compared to FTF interactions [8].

A factor that may explain these contrasting findings is the strength of ties between interaction partners (i.e., the closeness), which may influence the intimacy of social inter-

actions [11,12]. Strong ties are close relationships, characterized by frequent contact and deep feelings of affection. Weak ties are relationships with superficial bonds and infrequent contact [13]. Strong ties generally have a stronger motivation to interact with each other and use multiple communication channels to maintain their relationships [14]. Strong ties maintain their relationships both online and offline, with online communication channels providing a supplementary role to FTF interactions [15]. Weak ties usually communicate infrequently with one another and lack a strong motivation to communicate [16]. They use fewer communication channels to communicate; often sticking with a single medium [17].

Previous research comparing the intimacy of online and offline interactions has three vital shortcomings. First, these studies frequently entail experimental or survey research [6,7]. In these studies, participants either answer questions about their online interactions in the past [4] or communicate with a stranger in an experimental setting and subsequently rate that conversation in terms of intimacy [18]. Secondly, most experimental studies employ getting-acquainted exercises, where participants communicate with strangers instead of people from their own social network [3,19]. Third, most previous research focuses on one communication technology, like chat [6], while individuals nowadays have many communication technologies to choose from. Hence, relationship maintenance studies are scarce and even fewer studies take different social ties into account when comparing offline and online interactions. Therefore, in this study we aim to examine the following research questions:

RQ1: Which media do people use on a day-to-day basis to communicate with their social network?

RQ2: To what extent does tie strength with the interaction partner influence this media use?

1.1. Perceived Interaction Intimacy

Nowadays, it is common for people to interact and bond with each other online in an intimate way, and even form friendships, even though they may never physically meet [20,21]. Relational intimacy is more than just affection; it suggests a type of closeness and reciprocity that is important for personal relationships to develop [22]. Changes in interpersonal intimacy can determine whether relationships continue. According to [23], the concept of intimacy consists of immediacy, similarity, and receptivity.

Online text-based interactions have the potential to be more intimate than offline interactions [2,6], because of certain characteristics of the medium. First, the reduced nonverbal cues, resulting in feelings of anonymity and similarity, both of which can stimulate feelings of intimacy [24]. Second, online interactions are often asynchronous, giving users greater control over the interactions, and thus over their self-presentation, which can positively affect the perceived intimacy of an interaction and relationship [24,25].

These processes are described by several CMC theories. One is the social information processing (SIP) theory, which suggests that communicators are equally motivated to express affection in online settings, compared to offline settings [26]. When nonverbal cues are absent, which is the case in text-based CMC, communicators adapt to the medium and use the cues they have at their disposal to communicate in an intimate manner and form interpersonal impressions. Furthermore, the hyperpersonal communication framework [25] states that reduced cues in online interactions give the interactants a sense of anonymity, which enables disclosing personal information at an earlier stage compared to FTF interactions [5,25]. This enhanced self-disclosure results in interactions that are even more intimate than FTF interactions.

Empirical research has demonstrated that online communication stimulates the intimacy of an interaction [3,7,22,27–29]. Because of the reduced nonverbal cues in CMC and the ensuing sense of anonymity among its users, people feel safer to disclose intimate information online, compared to offline [27]. Research for instance shows that individuals use certain cues in a strategic way to satisfy their desires for affection, intimacy, and closeness [28]. Specifically, the use of emojis allows daters to communicate affective information,

which aids self-disclosure and intimacy building. Furthermore, research shows that people disclose more personal information to strangers in CMC, compared to FTF [3,27]. In addition, the information interactants disclose in CMC is more intimate, compared to FTF interactants [3]. Research examining the relationship between self-disclosure and liking in a CMC context shows that CMC has a unique impact on this relationship. Specifically, CMC not only stimulates self-disclosure, but also intensifies the perceived intimacy of self-disclosure [29]. Since both theory and empirical research suggest that online interactions are higher in intimacy compared to offline interactions, we expect the following:

Hypothesis 1 (H1). *People perceive their online interactions as higher in intimacy compared to offline interactions.*

1.2. Tie Strength

As noted above, tie strength of interaction partners may influence the intimacy of social interactions. Tie strength is defined as relationship closeness, where strong ties are those with whom one shares an intimate relationship and weak ties are those to whom we do not feel emotionally close [30]. Tie strength is characterized by the amount of time, emotional intensity, intimacy, and reciprocity in a relationship [31]. Strong-tie relationships consist of close friends with many similarities who share and exchange intimate information, more so than weak-tie relationships [17]. Additionally, strong ties communicate more frequently and intimately, which enhances emotional support and interpersonal commitment [13,17]. In contrast, weak ties consist of acquaintances who interact infrequently and less intimately than strong ties [13]. Thus, strong ties are likely to have more intimate interactions compared to weak ties, which is why we predict the following:

Hypothesis 2 (H2). *Tie strength positively impacts the perceived intimacy of social interactions.*

Thus, strong-tie relationships communicate more intimately than weak-tie relationships [13]. Furthermore, online interactions may be even more intimate compared to offline interactions, as people are more likely to engage in intimate self-disclosure online [3]. As nonverbal cues are often lacking in online environments, individuals may feel more anonymous and safer to exchange intimate information [32]. Therefore, online communication channels might be preferred for intimate messages. Additionally, strong ties more frequently communicate online compared to weak ties [15,33] to replicate offline communication with these existing ties. Furthermore, close friends also tend to prefer more private forms of communication for emotional information exchange and to maintain and develop their relationship, as these communication forms make it easier to express one's thoughts and feelings [34]. Since research argues that interactions among strong ties are more intimate [35] and online communication may further facilitate the intimacy of interactions, we expect the following:

Hypothesis 3 (H3). *Tie strength positively impacts the perceived intimacy of social interactions, especially for online interactions.*

2. Materials and Methods

2.1. Sample

In this study, 347 real interactions (175 offline, 172 online), generated by 9 students (3 males, 6 females) between 21 and 25 years old (M = 23.3; SD = 1.4) were collected at a University in the Netherlands. Participants indicated that most of these interactions (n = 262) were with one interaction partner, while 50 interactions were with 2–4 interaction partners and 35 interactions were with more than 4 interaction partners. Table 1 provides an overview of the number of interaction partners and the total number of interactions for each participant. Of these interactions, 169 were with a male (48.7%) and 178 were with a female (51.3%) partner. Moreover, 145 interactions were between two females (41.8%), followed by 109 male-female, (31.4%) and 93 male-male (26.8%) interactions. Regarding the

social tie, participants indicated that most of the interactions (n = 168) were with a friend (48.4%). Of the remaining interactions, 65 were with a family member (18.7%), 36 were with their partner (10.4%), 30 were with a fellow student (8.6%), 20 were with a colleague (5.8%), 15 were with a stranger (4.3%), and 13 interactions were with an acquaintance (3.7%).

Table 1. Number of interaction partners for each participant.

Participant	1 Interaction Partner	2–4 Interaction Partners	4 Interaction Partners	Total
1	38	5	4	47
2	34	2	3	39
3	35	4	1	40
4	31	4	0	35
5	24	3	5	32
6	30	12	0	42
7	18	9	5	32
8	23	5	8	36
9	29	6	9	44
Total	262	50	35	347

Participants were selected via a database where students enroll themselves to participate in research projects via convenience sampling. Participants received three credits for their participation. Students had to have an iPhone in order to participate.

2.2. Procedure

This study measured all communication of the participants in their natural environment, for which ethical clearance was obtained beforehand (approval code: 48-180-2014). Each participant recorded and logged all their offline and online interactions for two weekdays. Offline interactions were FTF conversations and telephone calls. Online interactions were interactions on WhatsApp, Facebook Messenger, email, and SMS. To record their offline interactions, participants made use of the Electronically Activated Recorder (EAR). This phone application records sound for every 30 s once every 12 min [36]. Precautions were implemented to protect the confidentiality of the data, and the privacy of participants and their interaction partners. All participants were briefed and told that they could always withdraw and that their interactions would then be deleted. All participants could listen to their recordings or read their online interactions before they gave the investigators access to the data. Participants could remove parts of the recordings or interactions they considered too private. The interactions were coded by the participants themselves and the coding of these interactions is the data used for the analyses.

Participants first received an email with information about the study. Additionally, participants were instructed about the study in a FTF meeting where the researcher instructed them about how to record offline interactions with the EAR application. Participants were informed about how to save and send the online interactions to the researchers. All information was written in an instruction document, which was also provided to the participants.

Before the study started, the participants received a personal code, so that participation would remain anonymous. Next, the participants recorded their interactions for two consecutive working days. To record the offline interactions, the participants were asked to start the EAR during waking hours, except for moments when the device could be harmed. Participants copied the text of their WhatsApp, Facebook Messenger conversations, and emails into a Word file and sent this document to the researchers after each recording day. For privacy reasons, the names of their interlocutors were feigned.

All interaction files were organized in folders on an external hard disk; they were not opened by the researchers. Two days after the last recording day the participants read and listened to their conversations and filled out a questionnaire with items concerning

the level of intimacy and the tie strength with the interaction partner. After coding the individual interactions, all interactions were deleted.

2.3. Measurement

2.3.1. Tie Strength

Tie strength was measured by asking participants for each interaction to indicate the strength of tie with the interaction partner on a scale of 1 (not at all close) to 5 (very close). This variable was recoded into a dummy variable based on the median; all values below 4 were categorized as weak tie (0) and all values of 4 and higher as strong tie (1). In addition, most participants indicated their strong ties to be their partner (35), friend (148), and family (64) while weak ties were study partners (22), colleagues (15), acquaintances (13), and people they did not know (15). 1 person indicated their partner as a weak tie, 20 people saw their friend as a weak tie, and 1 person indicated that family was a weak tie. In contrast, 8 people listed study partners as strong ties and 5 people indicate colleagues as strong ties. These results show that partners, friends, and family are mostly viewed as strong ties while study partners, colleagues, acquaintances, and strangers are regarded as weak ties.

2.3.2. Perceived Interaction Intimacy

For every interaction, the participant also rated the level of interaction intimacy. To measure the intimacy of the interactions, five items were used [37–39]: "During the interaction, my interlocutor showed interest in me," "I experienced the interaction as superficial," (reverse-coded) "I felt involved in the interaction," "I experienced the interaction as intimate," and "I shared a lot of personal information during the interaction." The questions were rated on a 5-point Likert scale, ranging from 1 (totally disagree) to 5 (totally agree). The items formed a one-dimensional scale with a reliable Cronbach's alpha of $\alpha = 0.74$ ($M = 3.15$, $SD = 0.80$).

3. Results

RQ1 asked which media people use on a day-to-day basis to communicate with their social network. The communication tools that were most used among the participants in general were FTF communication and WhatsApp. Email, Facebook Messenger, the telephone, and SMS were used far less frequently (see Table 2).

Table 2. Frequencies and percentages of communication tools for weak and strong ties.

	Weak Ties	Strong Ties	Total
Face-to-face	43 49.4% [1]	125 48.1%	168
Telephone	1 1.1%	6 2.3%	7
WhatsApp	28 32.2%	124 47.7%	152
Facebook Messenger	6 6.9%	3 1.2%	9
Email	7 2.3%	2 0.8%	9
SMS	2 2.3%	0 0%	2
Total	87 100%	260 100%	347

[1] Percentages appear below frequencies.

RQ2 asked to what extent the tie strength with the interaction partner influences media use. We conducted a chi-square test by means of a crosstab between the two variables.

The chi-square test revealed that there was a significant association between tie strength and media use, $\chi^2(5) = 31.611$, $p < 0.001$. However, the test revealed that 5 cells had an expected count of less than 5, which is why Fisher's Exact Test was chosen to test RQ2. Fisher's Exact Test is a statistical test often used with smaller samples, to determine if there are nonrandom associations between two categorical variables, which is the case for RQ2. Fisher's Exact test also showed a significant difference in media use between weak and strong ties ($p < 0.001$). Table 2 shows the frequencies and percentages for the use of every medium for strong and weak ties. These percentages show that most communication tools are used to communicate with strong ties (74.9%) with FTF communication ($n = 125$) and WhatsApp ($n = 124$) used most frequently among strong ties. These results show that most of our daily interactions are with strong ties.

The analyses in the present study are based on 347 interactions, nested in a sample of 9 individuals, so we analysed our data using multilevel modelling (MLM) [40]. All analyses in this study employed restricted maximum likelihood (RELM) estimation procedures [41]. Following [42], models were fitted with a maximal random effects structure, including random intercepts, and random slopes for all fixed effects. In order to test our hypotheses, we ran an MLM using the SPSS MIXED procedure, with communication medium, tie strength, and the interaction term medium*tie strength as fixed factors and interaction intimacy as the dependent variable. In the analysis, all variables were Level-2 variables, as they were all measured based on the sample of 347 interactions, nested within the sample of 9 participants (the Level-1 variable).

Hypothesis 1 predicted that people would perceive their online interactions as higher in intimacy compared to their offline interactions. The MLM revealed no significant effect of communication medium on interaction intimacy, $F(1, 339.74) = 3.07$, $p = 0.081$. Thus, H1 was not supported.

Hypothesis 2 proposed that tie strength would positively impact the intimacy of interactions. The results showed a significant effect of tie strength on the interaction intimacy, $F(1, 341.49) = 25.18$, $p < 0.001$. Interactions with strong ties were rated as more intimate ($M = 3.28$; $SD = 0.76$), compared to interactions with weak ties ($M = 2.77$; $SD = 0.80$). Therefore, H2 was accepted. Further analyses showed that the most intimate interactions were with people's partners ($M = 3.38$; $SD = 1.02$), followed by family ($M = 3.27$; $SD = 0.62$), while the least intimate interactions were with strangers ($M = 2.65$; $SD = 0.50$) and acquaintances ($M = 2.28$; $SD = 1.15$).

H3 predicted an interaction effect between the strength of tie and the communication mode on perceived interaction intimacy. The results of the analysis revealed that this interaction effect was not significant, $F(1, 341.65) = 0.99$, $p = 0.321$. Thus, H3 was not accepted. All parameter estimates and effect sizes of the fixed effects in the multilevel analysis with the confidence intervals are displayed in Table 3. As our hypotheses concerned the difference between two groups, online and offline communication, we calculated Cohen's d for the effect sizes of all variables, including the interaction term, which is the difference between the two group means divided by the within-group standard deviation [43].

Table 3. Parameter estimates and effect sizes of all fixed effects for the analysis of the effect of communication medium and tie strength on interaction intimacy.

	b	SE_b	95% CI	Cohen's d
Communication medium	0.07	0.09	−0.12, 0.25	0.01
Tie strength *** [1]	−0.56	0.13	−0.82, −0.30	0.07
Medium × tie strength	0.18	0.19	−0.18, 0.55	0.02

*** [1] $p < 0.001$.

3.1. Additional Analyses

Since the gender of the interaction partner may influence the perceived intimacy of the interactions [44], we ran our analyses again while controlling for gender. The analyses revealed that the original findings, as reported above, remained unchanged. Furthermore,

we did not find a significant effect of the gender of the interaction partner on the perceived intimacy of the interactions, $F(1, 340.34) = 0.85$, $p = 0.35$, suggesting that interactions with men were perceived as equally intimate as interactions with women.

Moreover, research shows that the intimacy of interactions may depend on the gender composition of a dyad [45]. To control for the gender composition, we created two dummy variables from the original gender composition variable: cross-sex and same-sex (female-female) with male-male as the reference category. We found no significant effect of the cross-sex dummy on interaction intimacy, $F(1, 181.52) = 0.26$, $p = 0.611$. Furthermore, the effect of the female-female dummy on interaction intimacy was not significant either, $F(1, 99.24) = 0.37$, $p = 0.543$ suggesting that female-female, male-male, and male-female interactions were perceived as equally intimate.

3.2. Post Hoc Statistical Power Analysis

Limited statistical power because of the sample size in the present study ($n = 347$ interactions, generated by 9 participants) may have played a role in limiting the significance of some of the statistical effects. Therefore, a post hoc power analysis was conducted using the software package, GPower [46]. Since the interaction is the unit of analysis in the present study, the sample size of 347 interactions was used for the statistical power analyses. The alpha level used for the analyses was $p < 0.05$. The recommended effect sizes used for the analyses were as follows: small (f = 0.10), medium (f = 0.25), and large (f = 0.40) [47]. The post hoc analysis for communication mode revealed the statistical power was 0.24 for detecting a small effect, 0.75 for detecting a medium effect, and 0.98 for detecting a large effect. Thus, there was adequate statistical power (i.e., power * 0.80) at all three effect size levels. In addition, the post hoc analysis for tie strength revealed the statistical power was 0.20 for detecting a small effect, 0.64 for detecting a medium effect, and 0.94 for detecting a large effect, meaning there was adequate statistical power when comparing these groups as well.

4. Discussion

This study is the first that used people's actual, daily interactions with their social network to investigate the differences in intimacy between online and offline interactions. Our first research question asked which media people use on a day-to-day basis to communicate with their social network. The results show that the participants in this study use FTF communication most frequently (48%), closely followed by WhatsApp (46%). Surprisingly, only 2% of the daily interactions were via phone calls. In comparison in 2004, 64% of the daily interactions were FTF, 18% phone calls, and 16% were online interactions, of which only 27% were chat interactions [8]. Our results thus show a firm rise in the use of online chat in the participants' daily interactions.

Our second research question examined the extent to which the tie strength with the interaction partner influences media use. The results show that to some extent it does. Though there are hardly any differences for offline communication, there are differences for tie strength in the use of online communication platforms. More specifically, in this study, WhatsApp is used more for communication with strong ties compared to weak ties, while email is used more for communication with weak ties compared to strong ties. This is in line with previous research, which shows that text-based CMC is a frequently used communication channel for short, keep-in-touch messages throughout the day [16,48,49]. It is easy to keep in touch with close friends using text-based applications, as communicating via these applications is fast, requires little effort, and is less intrusive than calling someone or meeting up in person. Thus, our findings show that text-based applications like WhatsApp are an effective means to quickly and efficiently keep in touch with strong ties.

Furthermore, this study aimed to examine the effect of communication mode and tie strength on the perceived intimacy of interactions and how these factors interact. The first hypothesis stated that people perceive their online interactions as more intimate compared to their offline interactions. This hypothesis was not supported. In contrast to

the hyperpersonal communication framework [20], the results indicate that offline and online interactions were equally intimate. A possible explanation might be that, nowadays, online and offline interactions are becoming increasingly intertwined. People use online media as an extension of offline communication. The hyperpersonal communication framework focuses on initial interactions between people in CMC environments. Our findings show that, for the participants in this study, most online interactions take place between people they already know; most of the social interactions in this study were with strong ties (74.9%). Hence, it may be that the hyperpersonal effect is more prevalent in online interactions between strangers, compared to interactions among close friends.

The second hypothesis stated that tie strength positively impacts the intimacy of interactions and this hypothesis received support. As predicted, the participants in this study rated their interactions with close ties as more intimate, compared to interactions with weak ties. This finding is in line with prior research, which showed that relationships with weak ties are characterized by infrequent contact and are, as a result, less intimate [12]. Additionally, in line with prior research, the participants in this study are more motivated to interact with close friends and thus do so more frequently [15]. Moreover, relationships develop as a result of self-disclosure intimacy [50], which is an important predictor of the strength of relationships and relationship quality [5,27]. Our results show that the participants indeed rated their own interactions with close friends as more intimate, compared to interactions with weak ties.

The third hypothesis stated that tie strength positively impacts the perceived intimacy of social interactions and this effect is stronger for online interactions. Contrary to our expectations, we did not find an interaction effect between the communication mode and tie strength on the perceived interaction intimacy. This suggests that tie strength is a more important determinant of interaction intimacy than the communication mode. This can be explained by the fact that online and offline interactions are not as dispersed as was once the case. These interactions take place continuously, among both strong and weak ties. Interactions that start FTF can be continued online and vice versa. This contention is reinforced by the fact that we found that most interactions take place either FTF or via the online text-based application WhatsApp. Although we expected, based on CMC research, that online interactions with strong ties would be rated as even more intimate, our findings show that the participants viewed communication applications like WhatsApp as very similar to FTF communication when communicating with close friends. It may be that, among close friends, offline communication is continued online, via platforms like WhatsApp. Thus, online channels are an extension of offline channels which explains why the level of intimacy does not vary between communication channels with regards to communication among strong ties.

4.1. Theoretical and Practical Implications

Our study has implications for CMC research on relationship maintenance. First, our findings show that most the participants' daily interactions take place with their close friends, either FTF or via WhatsApp. This suggests that the use of mobile text-based applications like WhatsApp are important for maintaining existing relations. Suchlike applications reduce the cognitive efforts of maintaining a social relationship and ensure permanent accessibility [51]. Additionally, communicating via a text-based application is less intrusive than calling someone or meeting up FTF. Mobile applications like WhatsApp are frequently used for short, keep-in-touch messages throughout the day with existing friends [48,52] and research shows that some people even develop an emotional attachment to the technology [53]. The fact that both FTF communication and WhatsApp are the most frequently used communication modes among the participants in this study shows how integrated WhatsApp is in their everyday lives. Relationships that have possibly started offline continue online with the boundaries between the two modes increasingly blurred.

Second, our findings have implications for SIP theory, which suggests that communicators adapt to online communication platforms and use the cues they have at their

disposal to form impressions and develop relationships [26]. We did not find a difference between online and offline communication modes regarding the level of intimacy, and no interaction between the communication mode and tie strength, suggesting that, when communicating via an online medium like WhatsApp, the participants indeed adapted and were equally able to communicate intimate messages, and maintain their close friendships, as via FTF communication.

Finally, our findings also have implications for society as a whole, as our findings show that, for the participants in this study, the differences between online and offline communication are fading; with online communication technologies used as an extension of offline, FTF communication. Although the increase in the use of online communication technologies like WhatsApp clarifies the relevance for investigating the differences between online and offline interactions, our findings show that the participants' online interactions were equally intimate compared to FTF interactions. This shows that online communication may be fully integrated in our society and conversations via online platforms like WhatsApp are interchangeable with FTF interactions. Sceptics of the rising popularity of online communication platforms express worry that these platforms are taking over our social life, resulting in superficial interactions [54]. However, our findings show no evidence to believe that online communication in itself may be harmful regarding the intimacy of our daily interactions. In fact, because our findings show that online and offline interactions are perceived by the participants as equally intimate, online interactions can be considered as a valuable alternative to FTF communication to interact with one's social network.

4.2. Limitations and Suggestions for Future Research

Although our study provides new insights into which communication channels the participants used to communicate with their social network, and how they rate those interactions in terms of intimacy, our study is not without limitations. First, the analyses in this study are based on 347 interactions generated by only nine people. The reason for the small sample is that the methodology of this study was rather invasive as it involved people recording and logging their actual interactions over a two-day period. Furthermore, participants had to rate all the interactions they had by listening to the recordings and reading through the transcripts, which requires considerable effort. Since the 9 participants rated as many as 347 interactions, the analyses of this study are based on a large number of interactions which a post hoc power analysis deemed sufficient. Nevertheless, future research could attempt to replicate our study with a larger sample to see if the findings of this study persist. In addition, this study includes more females than males so future research could include a more balanced sample in terms of gender.

Second, the findings of this study are based on one-sided ratings of the interactions of only one interaction partner. The interactions took place between two, or more, people, and in this study only one interaction partner—the participant in our study—rated the interactions in terms of intimacy. However, the perception of the interactions' intimacy may be different for the other interaction partner(s) of that conversation and these perceptions should also be taken into consideration. Since this study was one of the first studies to examine real-life interactions, we chose to focus on the perceptions of only one interaction partner, but future research could attempt to obtain a more coherent picture by taking the perceptions of all interaction partners of the conversation into account.

5. Conclusions

The present study aimed to examine which media people use on a daily basis to communicate with their social network, and whether tie strength influenced this media use. Furthermore, this research investigated whether the participants perceive their online and offline interactions different in terms of intimacy and whether tie strength impacts perceived interaction intimacy. The results of this study reveal that FTF communication and WhatsApp are the most frequently used communication tools among the participants in this study, for all social ties. This is in line with recent figures in the Netherlands,

which show the popularity of WhatsApp as an Instant Messaging tool [1]. In addition, we found that participants used the majority of the communication tools to communicate with strong ties, with both FTF communication and WhatsApp used most frequently with strong ties. This suggests that WhatsApp is used by the participants in this study as an extension of offline FTF communication. Furthermore, our findings show that participants perceive interactions between strong ties as more intimate than weak-tie interactions, which shows that, regardless of the communication medium used, the participants in this study rated their interactions with close friends and/or family as more intimate compared to interactions with people with whom they have a weaker bond. This finding highlights the importance of tie strength as a determinant of interaction intimacy.

Conclusively, our findings show that most of the participants' daily interactions take place with close friends, either FTF or via WhatsApp, and that WhatsApp interactions are more intimate. This has implications for SIP theory [26], as our findings show that the participants in the current study indeed adapt to an online medium like WhatsApp and use the cues the medium offers to express affection and intimacy, equally well as they do FTF.

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