Reconstructing Emotional Aspects of Computer Mediated Communication Vis-À-Vis Human Relationship

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Abstract

This article attempts to pieces computer mediated communication with an aim to analyse emotional aspects of this communication which seems to be garnering momentum to replace human/face to face communication across all spheres and ramifications of living. It points to technology's obsession at annihilating time and space while attempting an incorporation of elements and complex algorithms which attempts to transmit human emotions as would be in a face to face context. Adopting theoretical angles and arguments in literature, the piece arrives at a position which presents the perspective that although technology promises a lot as regards advancement in communication using computer-based platforms, it may never capture the essence nor replace the universe of valuable insights and elements which defines human relationships and communication.

Keywords: Computer Mediated Communication, Human Relationship, Emotions in CMC, Face to face communication

Introduction

Humans are emotional beings with a need to communicate and to exist amongst every other human within a community (Pessoa, 2009). In existing, they communicate and exhibit feelings and emotions from engagement with each other and the environment they inhabit. These emotions play out in activities that can ultimately be observed in society. As technology emerged, leading to the emergence of Computer Mediated Communication platforms (CMC), Chenault (1998) explains that as it is with humans and activities in real life, individuals engaged in debate, wooed, supported and vigorously trolled each other on virtual spheres, thus proving that CMC platforms contain emotional materials while re-enacting reality on virtual platforms. While Stoll (1996) is of the opinion that CMC lacks non-verbal cues (needed to understand emotions) which makes it an impossible avenue to groom a meaningful human connection; Rheingold (1993), Park and Floyd (1996) had observed that humans express love and find long lasting companionship on these platforms and although they had to meet up in reality to comprehend the extent of seriousness of their commitments online, emerging CMC platforms still offered tangible information and emotional support for individuals who found solace using them to soothe different pains. As opposed to Face to Face instances of communication (F2F) where the information processed under the non-verbal domain e.g. gestures, tone and intensity of the human voice offers more insight into understanding any human person at any given time (Park & Harada, 2018), the reverse has been the case with early CMC platforms that utilized text and emoticons to relay information and emotions (Vincent & Fortunati, 2009)

Being that emotions are an integral part of humans even while they communicate, it is important that this paper defines CMC, elements of face to face communication, identifies the important aspects of face to face interaction not captured in CMC identifies its place in human relationship (face to face instances); how and where emotions are domiciled and observed during in human communication

Defining Computer Mediated Communication

This form of contextual communication adopted by humans, utilizes computers and internet enabled gadgets/devices in a capacity to aid the transfer of information to and from communicators usually in an interactive capacity (Ferris, 1997). Transactions are often executed through a network of computers or internet enabled devices and application environments such as audio or text-based chat environments, email, video platforms, bulletin boards, massively multiplayer online game, etc. (Yu, 2011, p531; Mcquail, 2005). Existing examples of these online platforms include but not limited to Email platforms (Yahoomail, Gmail, Hotmail); Social Media platforms capable of multimedia features e.g. Text, Audio, Video and Images (Facebook, Messenger, Twitter, Instagram, Whatsapp, Skype,Youtube); Blogs and Websites(Lindaikeji's blog, Bellanaija), Desktop Applications using Intranet facilities for communication between offices in an organization, etc.

Amidst definitive parameters i.e. synchronous (requires immediate response) and asynchronous (does not require immediate response) parts of CMC, Park & Harada (2018) characterizes CMC as communication often enacted from a remote location and not restricted in time and space; observably situated in a face to screen context where evidence of communication can often be captured and stored in a database or data storage unit. Accordingly, this has made CMC gradually become a popular and easier means to communication that can

potentially replace much of face to face human relationships within certain contexts (Park & Harada 2018, p5)

Being that CMC platforms are constantly trying to imitate and attain the successes of face to face human relationship to aid the new trend in communication, an understanding of the core elements of face to face communication will be required in understanding why CMC is evolving and trying to be like face to face communication.

Elements of Face-to-Face Communication.

Albert Mehrabian (1971) in his research aimed at identifying the underlying emotional basis for liking or disliking a speaker in a face-to-face communication concluded that three key reasons remain the basic and core elements spurring the emotions of an audience or receiver of message in any enacted face to face communication. These three verbal and nonverbal elements and the number which accounts for the rank of importance are:

1. Words - 7%
2. Tone of Voice - 38%
3. Body Language - 55%

According to Mehrabian (1971), the key to properly understanding messages sent and received in F2F communication lies within the tone of voice and the body language which is domiciled in the non-verbal side of communication. This reduces the focus on words which is of the verbal aspect of communication (Institute of Judicial Studies, 2013; Mehrabian, 1971). The idea here is not to propose that words are irrelevant within emotional domains in communication, rather, it is to show that words carry less weight in a context of understanding humans while they communicate. In order to fully capture emotional meanings, one must be able to clinically probe/analyse all aspects of communication. This is why Mehrabian, (1971) emphasized that the three variables must be synchronized or in agreement, otherwise an interlocutor will sense irregularities or lies (Institute of Judicial Studies, 2013; Mehrabian, 1971). In essence, all core variables/elements highlighted are important and required to aid an understanding of cues and underlying meanings embedded in communication.

Defining Emotional Aspects Of Computer Mediated Communication As Compared With Human Relationship.

To begin this section, an understanding of the definition of emotion is vital. Cabanac (2002, p69) amidst other cogent scholarly perspective defines emotion as "any mental experience with high intensity and high pleasure or displeasure content (hedonic)". This definition places an emotion within the context of a mental response to an occurrence which incites a certain feeling or feelings (Hampton, 2015). Examples of emotions range from happy, sad, and angry to being afraid and depressed. From here, one can infer that emotional aspects of CMC is concerned with human feelings powered by experience and the features installed on computers/internet enabled devices to aid human expression of emotions/feelings within any computer mediated communication platform. These emotional aspects can be captured and transmitted through the use of text, emoticon/emojis, articons, images, cartoon stickers, selfie camera, video call options etc. within a software application developed to aid human communication on a CMC platform (Aldunate & Gonzalez-Ibanez, 2017; Ahn et al, 2011, p429). As it relates to human communication, the aim of defining emotional aspects of CMC as compared with human relationship is to highlight the uniqueness of verbal (words) and non-verbal ramifications of communication such as, facial expression, gesture, tone of voice, body language embodied in Kinesics, proxemics, Haptics, Oculesics, Chronemics and every other emotion carriers involved in communication that some scholarly studies have highlighted as lacking in CMC (Krohn, 2004).

Research has shown that CMC within the past fifty to sixty years had been lacking in non-verbal cues as it utilized a text based medium to communication (Jibril & Abdullah, 2013; Krohn, 2004). The use of verbal cues to decode meaning was one of the avenues individuals utilized to decode emotional meanings embedded in text-based CMC. Studies such as that of Walther and Tidwell (1995) cited in Doering & Poeschl (2007) have highlighted that people perceived and still perceive text-based messages differently with relation to chronemics and proxemics. However, this one sided method of decoding information quickly became insufficient as scholars began to question what was then the ideal. Along that lane, societies kept experiencing technological advancement but were yet to be redeemed from the stigma centred on "the lack of traditional nonverbal communication cues that occur naturally in face to face communications, such as body language, facial expressions, eye contact, vocal intonation, and personal distance" (Indalecio, 2010; Khron, 2004). This view is further buttressed by Hancock et al (2008, p295) where they stressed that "an enduring assumption about computer-mediated communication has been that it undermines emotional understanding". The stress on non-verbal aspects of communication as lacking in text-based CMC platforms demonstrates how relevant nonverbal aspects of communication is in human communication and how emotional aspects of CMC which is mostly domiciled in non-verbal side of communication is in helping an understanding of the full meaning and implication as well as the underlying messages of every information sent and received. Lo (2008) in his research also stressed that the meanings embedded in face to face communication are heavily situated within non-verbal

domains and carry most if not all the real meanings in a face to face communication context. The view stressing nonverbal parts of communication as an essential and important carrier of meaning had been demonstrated in Mehrabian (1971) study where it proposed that non-verbal aspects of communication (Tone of Voice 38% and Body Language - 55%) carry true meaning and the true messages sent and received within an instance of Face to Face communication. From Mehrabian's (1971) perspective, facial expression and some other body centred cues are intrinsic component of body language situated within non-verbal realms in communication. These views emphasize the position that nonverbal cues and signs are important in human relationship and communication. Along that lane of thought, it is evidently clear that the same non-verbal cue and its extent of involvement in human relationship or face to face communication would be required within spheres of CMC to aid a full understanding of messages sent and received on CMC platforms.

THEORY – SOCIAL INFORMATION PROCESSING THEORY

Social Information Processing Theory which was propounded in 1992 by Joseph Walter explicates the premise that humans use computer mediated communication to build interpersonal relationships over a period of time online (Walther, 2015; Littlejohn & Foss, 2012, p897). The theory proposes that individuals in an online interactive capacity become used to the absence of nonverbal cues while engaging with a communicative medium that is text based or limited to textual symbols. As a resultant effect, a lot more time is often required in such CMC systems to build and achieve similar levels of closeness one will possibly obtain through face to face communication (Walther, 2015). In detail, communicators utilize verbal cues available on CMC platforms to convey social and relational messages. This consequently lengthens the time it takes for communicators to achieve a meaningful relationship similar to Face to face relationship where one CMC channel is used to build a closeness (Littlejohn & Foss, 2012, p897-899)

In line with the theory adopted, the perspective of this essay will build on the understanding that CMC platforms have not been able to totally replicate the successes of face to face communication. The understanding here is derived from the very idea that it takes more time on CMC to build a relationship compared to what is obtainable in reality due to CMC's inability to properly capture non-verbal cues or emotional aspects embedded in communication

In the context of this study, it is pertinent that we highlight that reconstructing the emotional aspects of CMC as compared with human relationship implies reorganizing, reforming and proposing better ways to capture and transmit precise expressions of emotions and feelings between interlocutors on CMC platforms and in time (spontaneously) as it is in reality.

If this is the case or the trajectory of the question, then it could be beneficial to highlight the elements powering the successes of one on one human relationship as already treated and applying these elements to existing components of Computer Mediated Communication. In essence, identifying elements that makes face to face communication effective and attempting to transfer all the observed emotional and some important non-verbal aspects of F2F (missing in CMC) into a CMC environment may help in reconstructing and ensuring that CMC replicates the successes of real life interactional and transactional moments.

Reconstructing Emotional Aspects of Computer Mediated Communication Vis-À-Vis Human Relationship

To aid a reconstruction of the emotional aspects of CMC vis-à-vis human relationship, It is vital that this paper tracks down and highlights CMC's current nature and progress up to date and find ways CMC may have to borrow or further inculcate some aspects of F2F communication in addition to existing elements already added to help the case of CMC in properly capturing and transmitting all aspects/elements of communication. Although Computer mediated communication may not possess the capability to totally replicate similar experiences obtained in Face to Face communication situations (Hancock et al, 2008), studies such as that of Derks et al (2007) and Kafetsios et al (2017) has demonstrated that computer mediated communication has advanced as technology is emerging and improving. This advancement is primarily hinged on the emergence and successes of emoticons as highlighted in the study of (Ahn et al, 2011, p429), that showed that the use of emoticons in CMC have been scientifically proven to aid the closeness of CMC to real life interactions between individuals. This is to say that emoticons do not only aid comprehension, they also serve as nonverbal substitutes suggestive of facial expression and can totally replace text and still independently convey meaning (Derks et al, 2007, p843, Huang et al, 2008).

While the theory of Social Information Processing (SIP) has explained that with time, humans inevitably express thoughts, attitudes and feelings in text based interaction with their diction, timing and punctuations (Walther, 1992 cited in Hancock et al, 2008, p.295), coupled with the advancement the paper has identified as the move from text based CMC to the adoption of emoticons to aid comprehension and convey facial expression and some nonverbal cues; a lot more has been discovered and added to existing features on text and emoticon based communication platforms, to advance CMC and dynamically enable the capturing and transmission of

emotional expressions as well as the requirements needed to understand the context and mood at any moment between communicators in a chat instance.

Realistically, Information and communication technology (CMC), especially in the sphere of social media platforms are offering individuals additional features aligned towards replicating features obtainable in face to face communication. These attempts to capture emotional and non-verbal aspects of face to face communication evident in the infusion of emoticons/emojis, articons, GIF images, images and animated cartoons within online chat environments have advanced an understanding of the mood, emotions and feelings between interlocutors within a communicative context. These changes and advancements are also reconstructing emotional aspects of computer mediated communication because they are adding new and exciting ways humans can communicate and to some extent understand and comprehend messages and the underlying meanings embedded in non-verbal cues in instances of communication. Lately, social media platforms and online chat environments have also added user focused cameras also known as 'selfie' camera functions for which most individuals utilize within split seconds to capture and send emotions encapsulated in images or videos. These are paradigm shifts from what was obtainable - a reconstruction of standards as well as the addition of features needed to aid an understanding of newly highlighted aspects of communication. But then, what is also lacking with regards to CMC's inability to fully capture emotional aspects and non-verbal cues on CMC platforms; is the dynamism-which is the swift emotional transitions evident in a face to face conversation. The swift emotional transition is the changes in feelings and emotions that individuals experience in a conversation e.g. a person is laughing now, gets serious in the next few seconds, cries, becomes sad and is depressed consecutively due to the messages received and sent in one enacted instance of one on one communication. Also, another fundamental element of concern is on the list of emoticons provided to carter for expression of emotions. Aside the basic emotions, the list of emoticons across various platforms are often limited to key or universally perceived emotions. Not much has been done to carter for other expressions and complex emotions. These shortcomings may be due to the individual's decision to hide some emotional aspects of an instance of CMC or inadequacies evident in the software application, perception of other emotions as less important or irrelevant or probably the level of technological advancement.

Nevertheless, the basic emoticons may suffice for text based CMC; but from a multimedia CMC perspective, audio visual powered platforms such as Skype should be the ideal being that it gives interlocutors a window view of what is ideal in reality and although touch (haptics) may be missing, it becomes the nearest to f2f communication. Alternatively, the user focused camera on cell phones and most mobile gadgets may be required to go live (with the consent of the user) during chat sessions to aid individuals read facial expressions and tone of voice where audio or mixed methods I.e. text and audio-visual based methods are adopted on CMC platforms. Although much of the non-verbal aspects of communication would have been captured, gestures may become a challenge where individuals are typing. This restricts some emotional aspects of human communication from being fully displayed and captured. These types of shortcomings have been the reason why scholars such as Perry (2010); Johnson et al (2000); Lee (2010) have proposed or implied that CMC may never be as effective as face to face relationships and conversations in transfer of meaning and comprehension in communication. Reasons have also bordered on technologies not being able to transfer affection or the warmth of human touch which builds trust, truth and understanding (Vanderkam, 2015). This stance is further exemplified in a University of Chicago research where the findings revealed that Handshaking increases the chances of cooperative deal making (Schroeder et al, 2014).

If emotional messages embedded in gestures can be sensed through words or text, then text may suffice in this context. Also, adopting audio visual options will further replicate real face to face instances in communication. Where an individual chooses to avoid typing, a device accessory can be used to hold communication device in place for videos to capture and transmit physical and observable features within the enacted context of communication. Swapping from purely text based CMC to multimedia avenues with an array of options to help convey emotions e.g. emojis, images, text, audio, cartoon stickers etc. will further advance the case of CMC and aid the capturing and transfer of underlying emotional aspects domiciled in verbal and mostly non-verbal sides of communication sent and received during instances of communication.

A Perspective On The Human Person And Its Preferences As Determinant And Driver Of Technology's Use.

The perspective on reconstructing emotional aspect of computer mediated communication vis-à-vis human relationship has to this point emphasized the adoptions of better approaches and features on CMC platforms to ensure CMC becomes as close and similar as it can be to F2F communication in capturing and transmitting non-verbal cues. But then, to balance the dominant perspective, it is also important that the paper looks at the human person as the agent engaging these technologies.

An individual may require some level of maturity or emotional intelligence to properly utilize the features made available to communicate with other individuals on CMC spheres. The case here is that understanding

what, when, where and how to use the nonverbal features e.g. emoticons, etc. as well as the verbal elements to communicate and when not to use these available features within different settings to communicate, makes all the difference in also reconstructing emotional aspects of CMC as compared with human relationship. The point here being that, as is often obtainable in most real life instances, the ability to plan and critically foresee the effect, impact or aftermath of certain communication choices or the weight of responding to or not to a message will often help in driving communication towards a desired result or outcome. How one responds to a message also sets, emphasize or highlights the context, nature and manner of communication, extent or level of maturity or emotional intelligence attained by an individual. This ability to manage, construct and manipulate the inputs and outcomes of communication is the needed character or behaviour required of everyman while engaging CMC spheres. In essence, properly managing self, being composed and calculated while varying the manner and level of indulgence with CMC spheres as a measure for demonstrating competence and sensitivity towards other's needs on CMC platforms touches on the very fabric of reconstructing emotional aspects of communication and even CMC sphere towards mirroring real life human relationships and probably advancing the course and ethics of CMC.

Furthermore, varying degrees of anonymity and reservation as an online practise may be beneficial in managing different types of communication. The point here is that an individual may want to maintain some level of anonymity, secrecy or reservation i.e. hiding observable features about his/her identity and behaviour that can help another participant use non-verbal cues to judge his/her behaviour just from observation. Exploiting the status quo or weaknesses of CMC to hide and communicate behind a screen has its benefits which people with low self-esteem have utilized to communicate. For instance, currently, people with low self-esteem have been known to anonymously make friends and communicate freely, thus gradually building self confidence in the process (Forest and Wood, 2012). This feat is commendable but may soon not be an option as CMC spheres are increasingly capturing data, pushing for proper self-identification and submission of personal information for one to be known as a member on these online communication platforms (Constine, 2018). The argument here is that the leeway for one to remain reserved and anonymous or not to other users within online communicative spheres must not be reversed as has been the new trend towards policy amendment. Where details of a user has already been submitted during social media, email or blog account creation processes, one has already identified self and should be granted the freedom to operate his/her personal account in line with moral and social standards and in agreement with certain freedom rights that should have also been reflected in the user's terms of agreement for using any CMC platform or software. With these rights to freedom, one can further flexibly or concretely decide his/her level of indulgence in CMC as it relates to people and relationships. I.e. choose to be strict or flexible in managing identity, privacy issues and issues of self-disclosure in line with moral and personal standards. This autonomy over flexibility in approaches to engaging with CMC is in itself reconstructing emotional aspects of computer mediated communication as it also mirrors the freedom humans have to behave in different ways that can conceal or give off their intentions in an enacted instance of communication. The adoption of this user focused right to freely use CMC software may further aid nearness of CMC to F2F communication.

Conclusion

The move from purely text-based platforms to multimedia spheres have revolutionized the way humans communicate and express feelings and emotions. Thus far, CMC has powered new friendship and relationships, it has enabled family, friends and acquaintances communicate irrespective of time and space. It has also enabled organizations communicate and manage information with varying degrees of precision. Further advancement in communication technologies will aid a deeper understanding of messages sent and received on these platforms as well as an understanding of the undertones embedded in messages. Along this line, a reconstruction of emotional aspects of computer mediated communication vis-à-vis human relationship has been focused on adopting better methods and approaches to ensuring that CMC attains nearness to F2F communication. In essence, finding and proposing efficient ways to ensure that non-verbal cues as well as emotional aspects of communication are properly captured and transmitted in every enacted instance of CMC. The paper has pointed to trends towards reconstruction of existing paradigms. Furthermore, the reconstruction has guided the paper to proposing a method that primarily mirrors F2F communication. This proposed video call format will enable interlocutors engage in communication as they would in real life but with the absence of touch. In adopting this approach in CMC, other add-ons have been proposed to flexibly guide engagement with these platforms.

Humans as users of technology, their identity and ever-changing moods have also been highlighted as the core driver and determinant of technology's use. Thus, emotional intelligence is a prerequisite for engaging in CMC. Additionally, self-awareness and freedom to remain anonymous or not and to adopt personal, moral and platform specific guidelines in engaging these technologies to manage identity, privacy, self-disclosure would be classified as an angle aiding individuals further reconstruct nearness of CMC to F2F communication.

References

Ahn, W., Park, J., Han, K. (2011) Emoticons convey emotion in CMC. P429-430. Available at: https://ewic.bcs.org/upload/pdf/ewic_hci11_poster1.pdf (Accessed 2nd May, 2011)

Aldunate, E. and Gonzalez-Ibanez, R. (2017) An Integrated Review of Emoticons in Computer Mediated Communication. Front. Psychol. 7:2061. Doi: 10.3389/fpsyg.2016.02061

Cabanac, M. (2002) What is Emotion?, Behavioural Processes, Vol. 60, Issue 2, Pages 69-83, ISSN 0376-6357 Available at: https://www.sciencedirect.com/science/article/pii/S0376635702000785 (Accessed 8th May, 2018)

Chenault, B. (1998) Developing Personal and Emotional Relationships Via Computer-Mediated Communication. Available at: www.december.com/cmc/mag/1998/may/chenault.html (Accessed 5th May, 2018)

Constine, J. (2018) Facebook Rewrites Terms of Service, Clarifying Device Data Collection. TechCrunch. Available at: https://techcrunch.com/2018/04/04/facebook-terms-of-service/ (Accessed 15th May, 2018)

Derks, D., Fischer, A., Bos, A. (2007) The role of emotion in computer-mediated ...,Computers in Human Behavior (2007), doi:10.1016/j.chb.2007.04.004

Derks, D., Bos, A., Grumbkow, J. (2007) Emoticons and Social Interaction on the Internet: the importance of social context, Computer Behaviour, Vol. 23, Issue 1, Pages 842-849 Available at: http://doi.org/10.1016/j.chb.2004.11.013. (Accessed, 2nd May, 2018)

Doering, N., & Poeschl, S. (2007). Nonverbal Cues in Mobile Phone Text Messages: The Effects of Chronemics and Proxemics. Available at: www.researchgate.net/publication/259258428_Nonverbal_Cues_in_Mobile_Phone_Text_Messages_The_Effects_of_Chronemics_and_Proxemics (Accessed 7th May, 2018)

Ferris, P. (1997) "What is CMC?" Available at: (http://www.december.com/cmc/mag/1997/jan/ferris.html) (Accessed 5th May, 2018)

Fite, J., Bates, J., Holtzworth-Munroe, A., Dodge, K, Nay, S., Pettit, G. (2008) Social Information Processing Mediates the Intergenerational Transmission of Aggressiveness in Romantic Relationships. Journal of Family Psychology Copyright 2008 by the American Psychological Association 2008, Vol. 22, No. 3, 367–376 0893-3200/08/$12.00 DOI: 10.1037/0893-3200.22.3.367

Forest,A.,& Wood,J. (2012) When Social Networking is Not Working: Individuals with Low Self-Esteem Recognize but do not Reap the Benefits of Self-Disclosure on Facebook. Psychological Science. 23 (3): 298-302 doi: 10.1177/0956797611429709

Hampton, D. (2015) What's the difference between feelings and emotions? Available at: https://www.thebestbrainpossible.com/whats-the-difference-between-feelings-and-emotions/ (Accessed 10th May, 2018)

Hancock, J.; Gee, J, Ciaccio, K. & Lin, J (2008) I'm Sad You're Sad: Emotional Contagion in CMC. *CSCW'08*, November 8–12, 2008, San Diego, California, USA.

Huang, A., Yen, D., Zhang, X. (2008) Exploring the potential effects of emoticons, Information and Management, Volume 45, Issue 7, 2008, Pages 466-473, ISSN 0378-7206, Available at: https://doi.org/10.1016/j.im.2008.07.001.

Indalecio, T. (2010) The Deliberate Nonverbal Communication Tool in Computer Mediated Communications – Emoticons are not only fun to use but may be beneficial. Available at: https://www.psychologytoday.com/us/blog/curious-media/201001/the-deliberate-nonverbal-communication-tool-in-computer-mediated (Accessed 10th May, 2018)

Institute of Judicial Studies (2013) Albert Mehrabian Communication Studies. Available at: www.iojt-dc2013.org>Files>IOJT>11... (Accessed 5th May, 2013)

Jibril, T. & Abdullah, M. (2013) Relevance of Emoticons in Computer-Mediated Communication Contexts: An Overview. Available at: http://dx.doi.org/10.5539/ass.v9n4p201 (Accessed 7th May 2018)

Johnson, D., Sutton, P., Poon, J. (2000) Face-to-face vs cmc: Student communication in a technologically rich learning environment. CiteSeerX. Avaiable at: http://citeseerx.ist.psu.edu/viewdoc/download%3Fdoi%3D10.1.1.513.8392%26rep%3Drep1%26type%3Dpdf (Accessed 6th May, 2018)

Joinson, A. (2001) Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. European Journal of Social Psychology. 31, 177-192 Available at: https://pdfs.semanticscholar.org/4026/45358d0b8b863060bb058b9c8b8e5cd1667e.pdf (Accessed 8th May, 2018)

Kafetsios, K., Chatzakou, D., Tsigilis, N., Vakali, A. (2017) Experience of emotion in face to face and computer-mediated social interactions: An event sampling study. Computers in Human Behavior 76 (2017) 287e293. Available at: journal homepage: www.elsevier.com/locate/comphumbeh (Accessed 1st May 2018)

Krohn, F (2004) A Generational Approach to Using Emoticons as Nonverbal Communication. Journal of Technical Writing and Communication. Volume: 34 issue: 4, page(s): 321-328 Issue published: October 1,

2004 http://doi.org/10.2190/9EQH-DE81-CWG1-QLL9

Littlejohn. S & Foss. K (2012) Encyclopedia of Communication Theory. California, Sage Publications

Lee, C. (2010) Face-to-Face Versus Computer-mediated Communication: Exploring Employees' Preference of Effective Employee Communication Channel. International Journal for the Advancement of Science & Arts. 1. Available at: https://www.researchgate.net/publication/268184497_Face-to-face_Versus_Computer-mediated_Communication_Exploring_Employees'_Preference_of_Effective_Employee_Communication_Channel# (Accessed 6 May, 2018)

Lo, S. (2008) The nonverbal communication functions of emoticons in computer-mediated communication. Cyberpsychol Behav. 11(5): 595-7. Doi:10.1089/cpb.2007.0132.

McQuail, D. (2005) Mcquail's Mass Communication Theory. 5th ed. London: SAGE Publications

Mehrabian, A. (1971) Silent Messages. Oxford, England: Wadsworth.

Park, M. R.; & Floyd, K. (1996) Making friends in cyberspace. Journal of Communication, 46, 80-97 also available at: Journal of Computer Mediated Communication 46(1). http://www.ascusc.org/jcmc/vol1/issues4/vol1no4.html

Park, S., Harada, A. (2018) A Study of Non-verbal Expressions in a Computer-Mediated Communication context (CMC) - Focusing on the mouse behaviours in the web contents. Available at: https://pdfs.semanticscholar.org/ (Accessed 5th May 2018)

Perry, M. (2010) Face to Face versus computer – Mediated communication: couples satisfaction and experience across conditions. University of Kentucky Master's Theses.66. Available at: http://uknowledge.uky.edu/gradschool_theses/66

Pessoa, L. (2009). How do emotion and motivation direct executive control? Trends Cogn. Sci. 13, 160-166. Doi:10.1016/j.tics.2009.01.006

Rheingold, H. (1993). The Virtual community: Homesteading on the electronic frontier. Reading, Mass: Addison-Wesley.

Schroeder, J. , Risen, J., Gino, F., Norton, M. (2014) Handshaking Promotes Cooperative Dealmaking. SSRN. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2443551 (Accessed 6th May, 2018)

Stoll, C. (1996). Silicon snake oil: Second thoughts on the information highways. New York: Anchor Books.

Vanderkam, L (2015) The Future Of Work: The Science Of When You Need In-Person Communication. Fast Company. Available at: https://www.fastcompany.com/3051518/the-science-of-when-you-need-in-person-communication (Accessed 6th May, 2018)

Vincent, J., & Fortunati, L. (2009). Electronic Emotion: The Mediation of Emotion via Information and Communication Technologies. Bern: Peter Lang.

Walther, J. (1992) "Interpersonal effects in computer mediated interaction: A relational perspective". *Comm Res, 19*, 52-60.

Walther, J (2015) Social Information Processing Theory (CMC). Wiley Online Library. Available at http://doi.org/10.1002/9781118540190.wbeic192 (Accessed 30th April, 2018)

Yu, B (2011) Computer Mediated Communication Systems. Triple C. 9(2): 531—534, 2011 ISSN 1726-670X. Available at: http://www.triple-c.at (Accessed 2nd May, 2018)