

# Whats...App at Work? Instant Messaging Improves Professional Well-Being

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## Abstract

*Whatsapp, instant messaging application, has radically transformed communication practices in different contexts. One of the most permeable contexts of virtual communication is the working environment. The study, with a positive view of analyzing the potentials of new media, aims to demonstrate how a Whatsapp group can be a support to network in helping professions, starting from the hypothesis that instant support, albeit virtual, from the team, it can be a useful facilitator. To evaluate this hypothesis, the Whatsapp communication group of operators of an Italian nursing home are analyzed in the research. The use of qualitative-quantitative methodologies, including Social Network Analysis (Wolfe, 1997), Sentiment Analysis (Pang & Lee, 2008) and Diatextual Analysis (Manuti & Mininni, 2017), allows to analyze how the virtual group can be an innovative way to resolve critical professional situations and how interactions, studied through a Social Network Analysis, can be predictive of the structuring of the online working group. Specifically, in the study 2237 conversational shifts of an Italian nurse house Whatsapp group were analyzed, from which three situations characterizing the help professions were extracted: the management of emergencies, decision making and problem solving. The positive sentiment shows that Whatsapp is a facilitator for organizational well-being.*

**Keywords** - Whatsapp group, Positive Psychology of new media, quanti-qualitative methodologies, help professions.

## I. INTRODUCTION

Positive Psychology (Seligman & Csikszentmihalyi, 2014) has revolutionized the way we look at human experience, aiming at individual and collective well-being. Positive psychology, without the will to replace or ignore, completes the traditional areas of psychology. By emphasizing the study of positive human development, this field helps to balance other approaches that focus on disorder and that can only produce limited knowledge. One of the areas that, since the digital revolution, has divided the opinions of the authors, for example in the

Apocalyptic and Integrated (Eco, 2011), is also the use of mass communication tools.

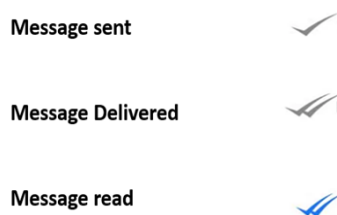
In fact, the evolution of these technologies has produced increasingly sophisticated communication tools that have allowed the transition from traditional media, such as radio and television, to new media, which includes messaging. But also the messaging has undergone great transformations because, from asynchronous mode, where there is not the same space-time availability of the interlocutors, it has arrived in synchronous mode, where it is possible not only to know the recipient's availability (online / offline), but also know if the interlocutor has received and read the message. What changes is also the way to communicate. In the short message system (SMS), an asynchronous communication mode, the focus was on brevity, thanks to the use of abbreviated words or acronyms especially because they were paid services. The mobility of Internet services has allowed free access and overcoming of the space-time barriers, favoring the passage of synchronous messaging, that has radically transformed communication practices into different contexts, increasingly imitating face-to-face communication, above all for its characteristic of "instantaneousness".

Obviously, these new means based on instantiation have created new signification practices to make the individual capable of improving individual and social well-being. Moreover, these new ways of interacting have impacted on society especially with the emergence of generations of "Digital Natives" (Prensky, 2001), those who are able to intuitively use technology and therefore make use of technological devices to create new meanings within different areas, including the working one. The professional context is increasingly taking advantage of new technologies able to increase technical and transversal skills. Especially in work situations where it is necessary to take care of others, as happens in the health professions and in helping relationships, the new media act as facilitators of processes that lead to an empowerment of specific skills both for the individual worker and for the group. One of the most famous instant messaging (IM) tools and that has also pervaded the working sphere is Whatsapp. But what has changed?

## II. WHAT'S ON NEW? A NETNOGRAPHY OF A WHATSAPP WORK GROUP

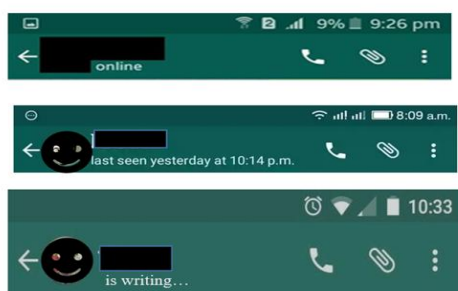
Whatsapp is a free instant messaging application, created in 2009 by two American computer scientists, Jan Koum and Brian Acton, former employees of Yahoo! Subsequently bought by Zuckerberg, creator of Facebook. The name derives from the fusion of the English expression "What's up" (what happens?), and of the term "App" (application). Its use allows to exchange, in addition to messages with texts and emoticons, with contacts in the phonebook, images, videos and audio files and to share the geographical position between anyone who has installed it on any device (computer, smartphone, tablet...) connected to Internet (Acton & Koum, 2014).

Whatsapp marks, in fact, an important turning point in messaging because it allowed the transition from an asynchronous mode of communication, as in the case of SMS or email, to a synchronous mode where it is possible take note of the fact that the message was received and read by the interlocutor, through the so-called "blue checkmarks", as shown in Fig. 1:



[FIG. 1 WHATSAPP CHECKMARKS]

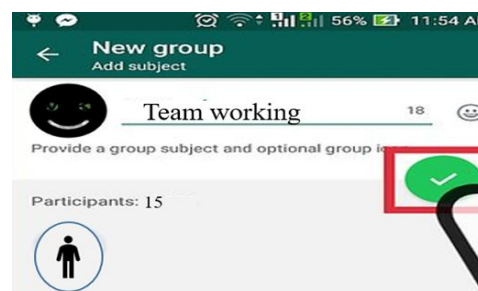
It is, also, possible to understand the availability of the recipient, ie his being connected or having made the last access in a certain period of time, as shown in Fig. 2:



[FIG. 2 RECIPIENT STATUS]

But above all it is possible to create, on the basis of these criteria, groups of people who communicate simultaneously, as happens in a working group, as shown in Fig. 3:

the potentials of new media, starts from the hypothesis that instant support, albeit virtual, by the



[FIG. 3 MODEL OF WHATSAPP WORK GROUP CREATION]

Working groups online via Whatsapp chat have positive and negative aspects. In fact, it is necessary to consider the emergence of social phenomena, such as the establishment of sub-groups that develop suburban modes of communication. The creation of an ingroup and an outgroup online, ie this contrast between "us" and "their", emerges in the case of groups that present elements that are potentially a source of division. Even unwritten implicit rules can be a source of difficulty (Wallace, 2015). The emergence of misunderstandings may also depend on the overlap of word shifts, which could hinder the achievement of a goal. To avoid the overlap of this polyphony of voices, in fact, a function has been added by which, in the group, it is possible to choose the single message to be answered as shown in Fig. 4:



[FIG. 4 WHATSAPP GROUP COMMAND TO CHOOSE SINGLE MESSAGE]

Other positive aspects will be explored in the contribution, starting from the assumption that its impact in the clinical field has not been studied yet (Veneroni et al., 2015).

## II. METHODOLOGICAL FRAMEWORK

WhatsApp is a powerful tool for communication in helping professions, exposed to burnout risk (Baiocco, 2004) and professional/life unease. For this reason, the study, taking a positive view of analyzing team, can be a useful facilitation in rescue and organization situations. By "instant support" we mean

overcoming the space-time barriers and therefore the closeness of the rest of the team even though they are not physically at work, thus constituting a virtual working community. Starting from the assumption that the helping professions have in their mandate the connotation of responding to the multiple requests of those who need or need their professional help, many technical and transversal skills are required to these operators in the sector.

Specifically, among the skills necessary for the helping professions, as shown in *Fig. 5*, there are: communication skills, problem solving, the ability to manage the problems of others, organizational skills, ability to interact in a group, ability to facilitate and support of work relationships, personal skills referred to oneself (Gandini, 2005).

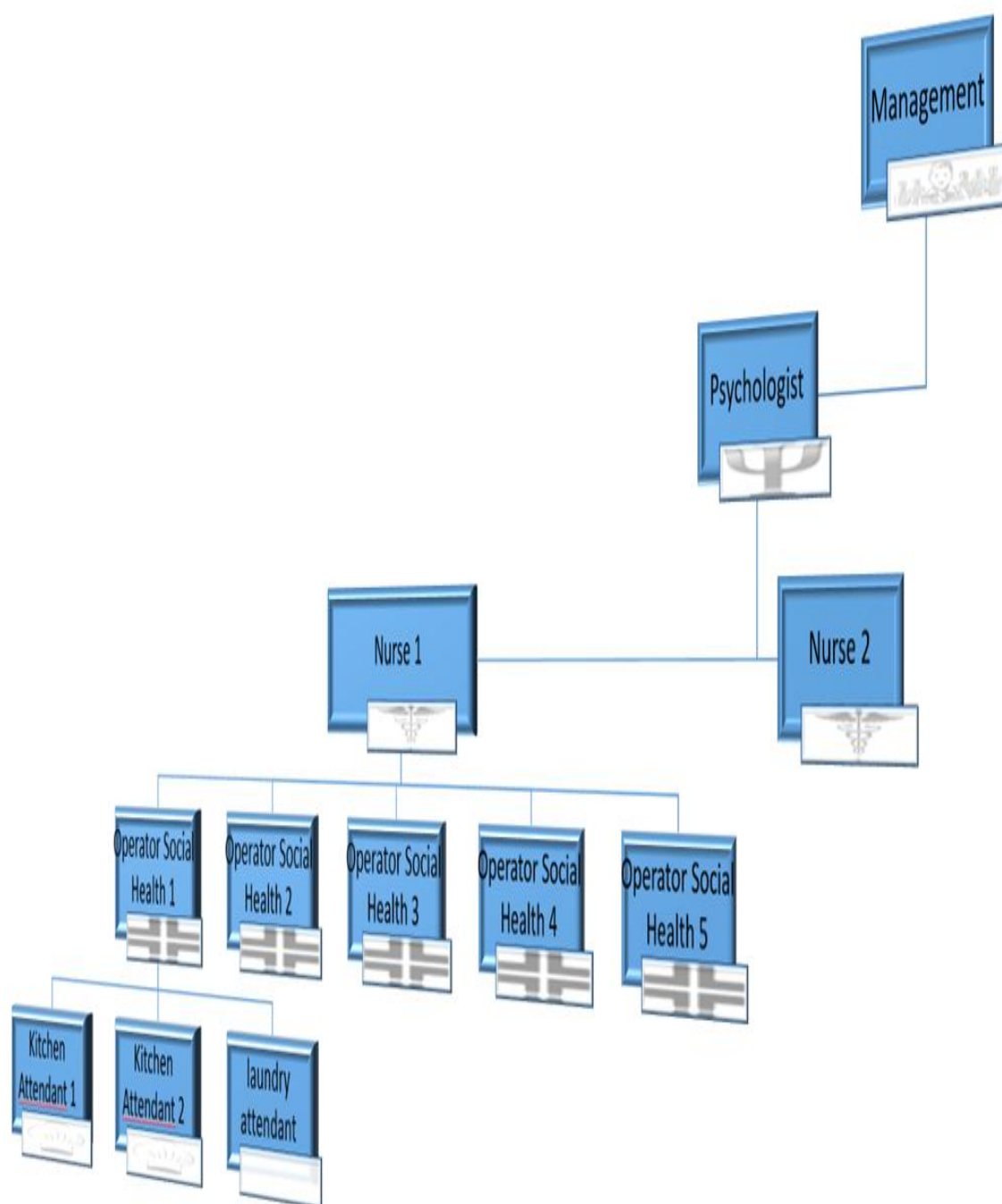
Capacità di comunicare	Essere chiari Mantenersi aderenti al tema Ascoltare con attenzione
Capacità di risolvere problemi e prendere decisioni	Individuare il problema e l'obiettivo Formulare criteri di soluzione Procurarsi dati e informazioni utili
Capacità di pianificare e programmare	Stabilire con chiarezza mete e traguardi Prevedere ostacoli e interferenze Formulare piani alternativi per imprevisti
Capacità di gestire problemi di persone	Definire con chiarezza profili di compiti Condurre colloqui in un clima imparziale e di apertura Valutare le prestazioni rispetto agli standard
Capacità organizzative	Definire con chiarezza i flussi di lavoro Promuovere riunioni opportunamente Delegare compiti e iniziative
Capacità di interagire in gruppo	Proporre idee Stimolare l'ascolto e la partecipazione di tutti alle riunioni Riconoscere tensioni e conflitti nel gruppo
Capacità di agevolazione e sostegno delle relazioni di lavoro	Dichiarare apertamente apprezzamento e approvazione Favorire opportunità di crescita e sviluppo dei collaboratori Ricerca imparzialità ed equità nelle relazioni coi collaboratori
Capacità personali riferite a sé	Essere creativi Essere disposti ad apprendere dall'esperienza Affrontare e accettare il cambiamento

[FIG. 5 HELP PROFESSIONALS SKILLS CLASSIFICATION, GANDINI 2005]

Based on these premises, the study aims to demonstrate how a Whatsapp group can be a support for networking in helping professions. Following the signing of an informed consent of the management and of the entire team, 2237 conversational shifts of the Whatsapp group of a retirement home for the elderly were analyzed using qualitative-quantitative methods comprising a Social Network Analysis (Wolfe, 1997) and a Sentiment Analysis (Pang & Lee,

2008), whose results have been analyzed qualitatively through a Diatextual Analysis (Manuti & Mininni, 2017), ie the communicative exchanges have been interpreted in light of the dense network of intertwining of text and context of enunciation.

As regards the context, in fact, it is necessary to define the enunciation context starting from the organization chart, shown in *Fig. 6*:



[FIG. 6 ORGANIZATIONAL CHART]

In fact, it is a small, vertically structured organization, in which a high degree of power emerges on the part of the Management and professional figures with more responsibilities.

### III. SOCIAL NETWORK ANALYSIS

To study quantitatively the virtual work Whatsapp group, a Social Network Analysis (SNA) was carried out using the Gephi software.

“Social Network Analysis is a multidisciplinary methodology that allows the analysis of interactions by bringing out the structural relationships and the direction of the relationship itself. The output

obtained will allow us to visualize a series of 'nodes', which represent the envoys of the single diaphragm and the links (the 'edges') that are unidirectional or bidirectional" (Quatera & Papapicco, 2018).

In this specific case, SNA aims to identify the number and the directionality (unidirectional or bidirectional) of the interactions are analyzed starting from the professional figure who posed a question. The following results emerge from the Social Network Analysis:



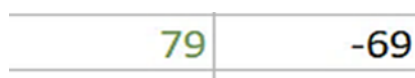
[GRAPH 1 SOCIAL NETWORK ANALYSIS OF NURSE HOUSE WHATSAPP GROUP]

## V. SENTIMENT ANALYSIS AND DIATEXTUAL ANALYSIS

As it can be seen from the graph, two professional figures emerge, towards which most of the connections (edges) and therefore of the communicative acts are directed. As can be seen from the different color of the edges (the links), there is always a bidirectionality: it is of the Operator Social Health 1 and the Psychologist (i.e. black ones are bidirectional, green and red ones are unidirectional). From these initial data we can confirm that, even in the context of the helping professions, a virtual Whatsapp group acts as an equalizer of status, so the social/professional roles become a less relevant variable in a Whatsapp work group and good ideas can emerge independently from those who propose them.

Starting from a context of virtual enunciation, like the one studied through Social Network Analysis, devoid of hierarchical structure, it is important to evaluate if the Whatsapp group of the nursing home can be a valid support for the health workers involved and in which situations it is more effective. After a first reading of the group's conversational shifts, taking up again the classification of the skills detected by Gandini (2005), three situations were recognized: one of problem solving; one of decision making and the other of emergency management. A Sentiment Analysis (Pang & Lee, 2008) was carried out on the textual data connected to each situation. Sentiment Analysis is an automatic procedure to extract an emotional polarity (positive, negative or neutral) from textual data.

From the results the prevalence of positive polarity emerged in the conversational situations of decision making and management of emergencies, as shown in the *Graphs 2 and 3*:

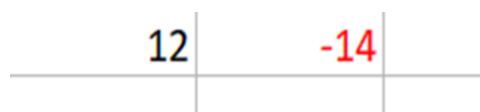


[GRAPH 2 PREVALENCE OF POSITIVE SENTIMENT IN DECISION MAKING SITUATIONS]



[GRAPH 3 PREVALENCE OF POSITIVE SENTIMENT IN DECISION MAKING SITUATIONS]

While sentiment was predominantly negative in problem solving situations, as shown in the Graph 4:



[GRAPH 4 PREVALENCE OF NEGATIVE SENTIMENT IN PROBLEM SOLVING SITUATION]

Considering qualitatively the conversational rounds, subdivided in three situations as "diatexts" (Manuti & Mininni, 2017), term with Greek prefix 'dia' which means 'through', it is possible to bring out the meaning The light of the thick plot between text and context. In fact, from these analyzes, the value of polarity is confirmed by the fact that in the problem solving situation Conversational shifts are full of attenuators like the occurrence of the verb "Try" which indicates the set of attempts which, however, does not lead to a solution, as shown in this example:

**E.g. 1**

"OSS 1 Signori avete valutato il cambio stanza per la signora I.? continua a non voler sentire il rumore del materasso

PSICOLOGO Per cortesia, L'Infermiere in turno può convocarmi i figli di I per domattina alle 10.30? Grazie.

Proverò

a parlare con loro nuovamente..."

**En Translate E.g. 1**

"OSS 1 Gentlemen have you evaluated the change of room for Mrs. I?

she still does not want to hear the sound of the mattress

PSYCHOLOGIST By courtesy, can the nurse in turn convene the sons of I. for tomorrow morning at 10.30? Thank you. I will try to talk with them again ... "

This is in contrast to what happens in the other two situations in which there is a frequent use of verbs for the imperative by the two central figures in social network analysis, that is the psychologist and the Healthcare Professional Operator. From this it emerges that these two resources turn out to be the reference points both for communications and in situations because they are able to support other professional figures in the decisions and management of emergencies, even if they are not in the same place, speeding up the two processes, as in the example of management of the emancipations reported and translated:

**E.g. 2**

"OSS4: Il problema è che sono ripetuti

PSICOLOGO: Per giunta ripetuti

OSS4: Quindi mi consigli di chiamarle o aspetto che vengano?

PSICOLOGO: Aspetta orario di visita "

**En Translate E.g. 2**

"OSS4: The problem is that they are repeated

PSYCHOLOGIST: In addition, repeated

OSS4: So you advise me to call them or wait for them to come?

PSYCHOLOGIST: Wait for visiting hours "

In this example of the communication exchange Whatsapp of an emergency situation, it is possible to notice how the use of the verb to the imperative "Wait for" by one of the figures, considered as a virtual reference point, is a sign of how, from one side there is a clear project of intervention, on the other side of how the Whatsapp group of work is a useful support for not charging too many responsibilities the operators in turn and build a valid team online and offline.

The same happens in the conversational exchanges of the decision making situation, as shown in the example:

**E.g. 3**

“OSS1: Buongiorno, martedì è previsto un incontro. Dovete darvi la disponibilità entro domani

INFERMIERE 2: Sono in servizio fino alle 12.30, aggiornatemi

OSS4: sono disponibile

[...]

OSS1: L'incontro è previsto per martedì pomeriggio. Non chiedere altre modifiche”

### En Translate E.g. 3

“OSS1: Good morning, a meeting is called for Tuesday. You must give me your availability by tomorrow.

NURSE 2: I'm on duty until 12.30, update me

OSS4: I'm available

[...]

OSS1: Based on everyone's availability, meeting is scheduled for Tuesday afternoon. Do not ask for other changes.”

In this situation, the reference figure, Oss1 acts as the moderator of an online brainstorming to make a decision. even in this situation one notices the use of imperative verbs such as "Must" or "Do not ask". The goal, that is, deciding when to meet is soon reappointed. This indicates how online brainstorming in a Whatsapp group is more effective than face-to-face as members tend to focus on the original request.

## VI. CONCLUSION

From these results obtained through Social Network Analysis, Sentiment Analysis and Diatextual Analysis it has been shown that a Whatsapp working group can be responsible for increasing the organizational well-being especially in helping professions. In particular, the positivity of a working Whatsapp group in the analyzed context emerges in extinguishing a hierarchical relationship, but facilitating the management of organizational emergencies, distributing the load on all team members and not only on the person in turn and speeding up the decision-making process, adopting, however, centralized communication models also online. Problem solving situations were less effective in communicative exchanges because, in the majority related to outcomes derived from people outside the team, ie users.

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