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Virtual interactions with acquaintances

Olivia VELARDE [CV] [ORCID] [GGS] Professor at the Department of Sociology: Methodology and Theory - Universidad Complutense de Madrid (UCM), Spain - ovelarde@ucm.es

Francisco BERNETE [CV] [ORCID] [GGS] Professor at the Department of Sociology: Methodology and Theory - Universidad Complutense de Madrid (UCM), Spain - fbernete@ucm.es

Belén CASAS-MÁS [CV] [ORCID] [GGS] Professor at the Department of Sociology: Methodology and Theory - Universidad Complutense de Madrid (UCM), Spain - bcasas@ucm.es

Abstract

Introduction: This article examines the socio-historical -and irreversible- transformations generated by the digitalisation of interpersonal relations, particularly, in the online communication of internet users with acquaintances, i.e., people they know, but are not a close friend. **Methods:** The study is based on a survey carried out among a sample of 2,801 Internet users and the analysis of data with discriminatory and structural methods, which resulted in the identification of four different types of communicators. **Results and conclusions:** The specific functions of online interactions with acquaintances are instrumental. Two kinds of transformations are identified: sociogenetic and anthropogenic. As predicted by the research hypotheses, these interactions are experiencing sociogenetic transformations, which reduced the digital gap, but no anthropogenic transformations, which would alter the position acquaintances occupy in the system of social distances and the functions they perform in social relations.

Keywords: Socio-historical changes; digitalisation; Interpersonal communication; acquaintances sociogenesis; anthropogenesis.

Contents: 1. Introduction. 2. Approach. 3. Contributions. 4. Hypotheses. 5. Methods. 6. Results. 6.1 Test results for first hypothesis. 6.2. Test results for second hypothesis. 6.3. Test results for third hypothesis. 6.4. Test results for fourth hypothesis. 6.5. Test results for fifth hypothesis. 7. Conclusions. 8. Developments. 9. Notes. 10. References.

Translation by **CA Martínez-Arcos** (PhD in Communication, University of London)

1. Introduction

The existence of virtual resources for social interactions has increased the number and types of people internet users communicate with. One of the most important developments is occurring in the online communication with acquaintances, i.e., people one knows, but who are not close friends. This article will show that the identification of the characteristics of the people who communicate with acquaintances and of the functions of this type of communication is of strategic interest to monitor the impact of digitalisation on interpersonal relationships.

The theoretical and practical distinctions between interactions with acquaintances and with people with other ties have been analysed since before virtual contacts even existed, for instance, in the 1940s by Barker (1942), and in the 1980s by Doyle (1982). Research on this subject continued during the 1990s, when digital social spaces emerged, and stopped after 2000, as computer tools and applications that allow users to communicate in different ways with different types of people started to proliferate. This process can be summarised as follows: at first, the distinction between virtual communications continued to be based on the strength of the bond. If the relationship was strong it was considered to be a “friendship” and if it was weak it was considered as an “acquaintanceship” (Shah and Jehn, 1993:149). This distinction still refers to the degree of face-to-face contact and the greater or lesser importance of the interaction. Still in 2017, Yi *et al.* (2017) differentiated between “acquaintances” and “strangers”, based on similar criteria: acquaintances would be those who often meet in the same place, at the same time and for the same purpose. These approaches, which were valid before the digital revolution, are currently outdated because since the cyberspace is a place for interactions, it has become irrelevant to base the frequency of the contacts in geographical proximity or distance (Wright 2004: 240) and because communicating with more frequency in the virtual space is not necessarily based on the existence of shared purposes (Velarde and Casas, 2017).

Research on this issue ceased before it was able to establish criteria to differentiate between friends, acquaintances and strangers in the digital age. The reason for that abandonment is based on two unverified assumptions: that differences would disappear among those who communicate on the web, if these differences were based on different bonds; and that the same types of messages would be used. For example, Licoppe (2004) refers to the permanent connection “with others” thanks to mobile technologies; and Ling (2014) points out that these technologies have allowed users to have more information about the activities carried out by “people around them”. The few times that specific references to virtual communications with acquaintances are made, they are attributed to the characteristics of virtual communications as a whole.

2. Approach

Due to theoretical reasons, we believe that the digitalisation of communications with acquaintances has specific features. We have to go back to the concept of “social distance”, with which Ecology operates since it was introduced by the founder of this discipline (von Uexküll, 1921). In essence, von Uexküll, and ecologists, take into account the fact that there are “functional circles”, which differentiate between greater and minor distances between people, according to the ties that exist between them (von Uexküll, 2016).

The closest circle includes relatives (partner, family), the intermediate one includes friendships, and the outermost includes acquaintances. This organisation of the distances corresponds to the different functions performed by people; the more affective and essential they are, the closer they are; and the more neutral, instrumental and expendable, the much more external they are (Martín Serrano, 2012). It is concluded that communications with acquaintances should be characterised by the predominance of instrumental functions.

The study presented in this article aims to determine two things: 1) whether internet users who digitalise their interactions with acquaintances have specific features (and if so, identify them), and 2) whether those digital interactions still fulfil, instrumental functions most of the times. These questions are related to the socio-historical -and therefore irreversible- transformations that are being generated by the social applications of digitalisation (Velarde, Bernete and Franco, 2015). According to Martín Serrano, studies of the effects of the social uses of new technologies can be applied to address basic theoretical issues, which are necessary to understand and anticipate those socio-historical changes. The monitoring of the effects of digitalisation in interpersonal relationships has theoretical projection because we can determine up to what point digitalisation is going to produce sociogenetic or anthropogenic transformations in social interactions. Sociogenetic transformations refer to changes that require structural or functional modifications of societies, including all the modifications that can be carried out to close the digital gap, while anthropogenic transformations refer to changes that require the modification of the behaviour patterns that human societies have established for their organisation and operation, from the beginning of anthropogenesis. Anthropogenic behaviour patterns establish the limits that sociogenetic changes cannot cross, as long as the transformations of the environment do not reflect on human selection (Martín Serrano, 2019).

The configuration of social distances, with the separations established according to the bond that exist between people, is an anthropogenic pattern (Martín Serrano, 2007). Ergo: changes that have occurred as a result of the digitalisation of communications with acquaintances will be sociogenetic, and eventually can follow their course until the digital gap is filled up. However, there will not be any anthropogenic change that implies transformations in the nature of the bond because such changes imply adaptative transformations that require the course of generations. For the same reasons, the functions of the relationships with acquaintances will neither be transformed, although in all digital contacts the same applications are used.

This research has been designed to study both issues. It starts with a detailed review of the state of the art guided by two objectives: first, to compile the relevant information to contextualise our problem of study. The “contributions” section presents the most paradigmatic publications and the most relevant results for this contextualisation. Second, to identify the issues on which there is little or none information and yet need to be clarified to be able to complete this study. The corresponding indicators have been designed and the necessary information has been collected, by means of a survey, as mentioned below.

3. Contributions

There are some references to the concept of “digitalisation” in the literature. It is described in its physical and interactive dimensions (López Navas, 2015). Levy indicates that, in its physical meaning,

“digitalisation” is the same as “digital information”. The literature takes into account its lack of location in digital networks: information is contained in a platform that is physically located somewhere else; but it also is virtually present at every point on the network whenever it is requested (Lévy, 2007:36).

Most publications refer to the lack of spatial location and the temporary availability. This feature is extended to the spaces and times in which communication develops. The current possibility to establish virtual communications usually increases the number of people with whom one can keep in touch and the frequency. However, there is also evidence that this ease *does not* necessarily reinforce the bonds between communicators (Trejo, R., 2000). At the same time, digitalisation alters the temporal characteristics that affect the development of interactions. For example, technology now allows postponed contact(s); asynchronous messages and simultaneity of virtual and face-to-face interactions (Merejo, 2009).

Castells (2001) considers that the Internet enhances sociability, both in near and distance relationships. Herrero and Gracia (2010:14) mention the positive effect of online sociability “for certain people with difficulties in face-to-face social interaction or at risk of isolation and social exclusion”. The review of studies of online interactions carried out by Telefónica Foundation also refers to the usefulness of the Internet “in the development of users’ social life”. According to this report, 35% of internet users have found professional colleagues, 32.3% have found relations to participate in leisure activities, and 9.8% have found contacts to participate in political activities (Fundación Telefónica, 2016:116).

With regards to differences according to age: young people use the Internet in greater numbers to maintain their social relations. This use is more predominant between the ages of 20 and 24 (Bernete, 2010; García Galera et al., 2016; Tapia, 2016). However, 24% of internet users over the age of 65 found professional colleagues who became part of their social network (Fundación Telefónica, 2016:116). For their part, Herrero and Gracia (2009) proved that 70% of Spanish internet users aged 55 to 74 years maintained and boosted their social relations thanks to the Internet. Regarding gender, Spain’s National Statistics Institute points out that “women’s participation (70%) is greater than that of men (63%). This difference has been increasing since 2013” (INE, 2016:8).

According to the 7th Annual Study of Social Networks, “81% of internet users aged 16 to 55 use social networks, which represents more than 15 million users in our country” (IAB, 2016:8). Social interaction “is the main use given to social networks (chat / messaging, monitoring of friend’s activities). This result had already been proven ten years before (Haddon 2006; Boyd and Ellison, 2007).

Another line of analysis focuses on the virtual vs. face-to-face dichotomy (Jaskula, 2012). For Ángel-Franco and Alzate-Marín (2015:13), virtual relations “represent an extension of face-to-face social relations”. Meanwhile, the study of the information society in Spain warned us about the blurring of the line separating the real and virtual worlds (Fundación Telefónica, 2016). Sabater (2014:25) considers that face-to-face relationships determine virtual relationships in young people. According to this author, “only one-fifth of young people claim to add strangers ‘to flirt’ with them. The new interactions are enabled by common friends.

4. Hypotheses

1. The bond Internet users have with their acquaintances is, in principle, not as close as the bond they have with the rest of their virtual contacts (in this study, the partner, family members and friends). Therefore, it is expected that those who communicate with acquaintances, have demographic traits that differentiate them from the whole of virtual communicators. Based on those features we can identify different types of people who communicate with acquaintances online.
2. There has been a significant and ongoing increase in the use of the Internet to communicate with acquaintances. This increase suggests that in this kind of contacts the sociodemographic constrictions that are generally included in the digital gap have decreased or disappeared. If that were the case, those reductions or disappearances, will be reflected in the aforementioned types.
3. If one takes into account the nature of the bond, we can expect instrumental functions will predominate, over relational ones, in interactions with acquaintances. This specialisation could be reflected on several levels. In this study, the following levels have been considered:
4. When comparing face-to-face to virtual contacts, there will be a more widespread preference for the former -which involves physical presence- among those who relate with people who belong to the closest circles, and a less widespread preference among those who relate with acquaintances.
5. Digital resources that mainly have an instrumental application will be downloaded much more when they come from acquaintances.
6. The traits and behaviours that configure the types of people who communicate with acquaintances reflect the characteristics that correspond to the instrumental function of these contacts.

5. Methods

To achieve the research objectives, the purpose-created survey, titled “Digitalisation of everyday activities”, was applied to a sample of 2,801 people aged 16 to 74 years and representative of the diversity of Internet users at the national level [1]. The survey is part of a wider Innovation, Development and Research project titled *Time uses related to digitalisation. Generational transformations*, in which the authors of this article participate.

The day prior to the application of the survey, a total of 1477 Internet users contacted other people via online devices [2]. We call this set, “all the virtual communicators”, who represent 6% of the 2,801 surveyed people. The survey provides the results that correspond to that sub-group and breaks down the results depending on the link between people who communicate to each other. The questionnaire contains items that inquire about Internet users’ contacts with acquaintances, explicitly catalogued as “non-friends”, which is the group under analysis in this article. We identify them here as “virtual communicators with acquaintances”. The questionnaire also collects identical information about Internet users’ contacts with their partner, family, friends and strangers. This article takes into account data from these other contacts to make comparisons according to the type of relationship. However, the corresponding specific analysis are in charge of other members of our research group.

A total of 717 Internet users are “virtual communicators with acquaintances”, which represent 48% of “all virtual communicators “. They constitute the third largest group. To contextualise this data, it is worth mentioning that of all communicators, 76% talked to friends; 63% to family, 47% to partners and 10% to strangers.

The identities and behaviours of the Internet users who used virtual tools to communicate with other people have certain characteristics that make them different. In this survey, these differences are mostly related to the following variables: age; sex, marital status; household composition; level of studies; employment situation; perception of economic situation; internet usage habits; population of place of residence; and the day of the week to which the answers correspond.

The general table included at the end of this article crosses results with each of these variables. Column “A” corresponds to the sample of “all virtual communicators” and column “B” to the sample of “virtual communicators with acquaintances”. There are outstanding variations in both groups, with a significant confidence level of 95.5%, using arrows (↓ ↑), depending on the direction of the deviation.

In the sample of “virtual communicators with acquaintances” the crosses with these variables have been treated with structural programs. The objective is to identify how all the typologies that these variables generate are configured. Such level of analysis is used to see whether there are different types of communicators and, if any, identify their defining features. As this typological analysis has obtained results, it has been found that the factors that determine the number of online communicators with acquaintances function as a system. Exploratory techniques for analysing extensive data sets, CHAID and XAID, were used to perform these systemic and structural analyses. These techniques generate a segment tree, that shows the settings for the sample disaggregation, when it is crossed with all the variables. The partitioning process continues as long as interdependencies are significant. The minimum level of significance is set by the analyst. In this case we set it at 100%, to be able to identify the structures that differentiate the types of communicators [3].

Survey data treatments and results are described below, according to the initial research hypotheses.

6. Results

6.1. Test results for first hypothesis

Two analysis were performed to determine:

1. Whether “virtual communicators with acquaintances” have sociodemographic traits that differentiate them from the rest of “virtual communicators”. This verification is described based on a) the comparison of the sociodemographic features across the groups “virtual communicators with acquaintances” and “all virtual communicators”.
2. Whether there are different types of virtual communicators with acquaintances, based on their features. It was confirmed with structural methods and it is described in b) Repertoire of configurations that determine the distributions of virtual communicators with acquaintances.

a) Comparison of the sociodemographic features across the groups “virtual communicators with acquaintances” and “all virtual communicators”

The general table presents the distribution of the sociodemographic variables and the significant variations. Column “A” corresponds to the sample of all virtual communicators and column “B” to the sample of all the virtual communicators with acquaintances. Those deviations were compared, resulting in the identification of general deviations, because they appear in both samples, and specific deviations, which exists in only one of the samples. These results are presented below.

-General variations:

The characteristics of internet users that belong to both groups are the following:

In both groups, the percentage of internet users is higher when they have higher education.

In both groups, this percentage increases among those who are always connected to the internet by necessity; and decreases in those who connect only when necessary.

In both cases, internet users associate “doing their job” with the reduction of communication.

-Specific variations, which only in the sub group “virtual communicators with acquaintances”:

Age, sex, civil status, level of studies, occupation, perception of economic status, internet usage habits and population of place of residence are the variables where the group “virtual communicators with acquaintances” differs in a meaningful way from the set of “all virtual communicators”. These differences are systematically reproduced in Table 1.

Table 1. Differences between the two groups

Variables	Factors that only affect virtual communicators		Factors that only affect virtual communicators with acquaintances	
	Increasing	Decreasing	Increasing	Decreasing
Age	16 to 34	45 to 54	45 to 54	
Sex	Majority of women.		Majority of men	
Civil status	Single	In domestic partnership	Split or divorced	
Level of studies		Elementary or none. Vocational training/ baccalaureate	Vocational training /baccalaureate, equivalents	Secondary studies (1st stage), equivalents
Occupations	Students	Pensioner or disabled		

Perception of economic situation	Positive (good, very good)	Negative (regular, bad, very bad)	Negative (regular, bad, very bad)	Positive (good, very good)
Internet usage habits	Always online			
Population of place of residence		Less than 50,000		

Percentages are reflected in the general table included at the end of the article. Source: Authors' own creation based on the survey "Digitalisation of daily activities". R+D+I project "Time uses related to digitalisation".

b) Repertoire of configurations that determine the distributions of virtual communicators with acquaintances.

It has been confirmed that there is a large number of significant variations that make it possible to differentiate virtual communicators with acquaintances. The segmentation analysis has identified the existing interdependencies in all of these variations, with a significance level of 100%. This typological analysis shows that the factors that determine the increase or decrease in the number of virtual communicators with acquaintances with respect to the average percentage (48%), work as a system, which has the following structure:

-Sex emerges as the discriminatory variable that configures the influence of the other variables. Figure 1 shows the structures it generates. The configuration operates by differentiating four types of virtual communicators with acquaintances:

-Two types of men are distinguished. In both groups, those who talk to acquaintances (marked with the + sign) constitute the majority. These two types are differentiated depending on the fulfilment of the following two criteria:

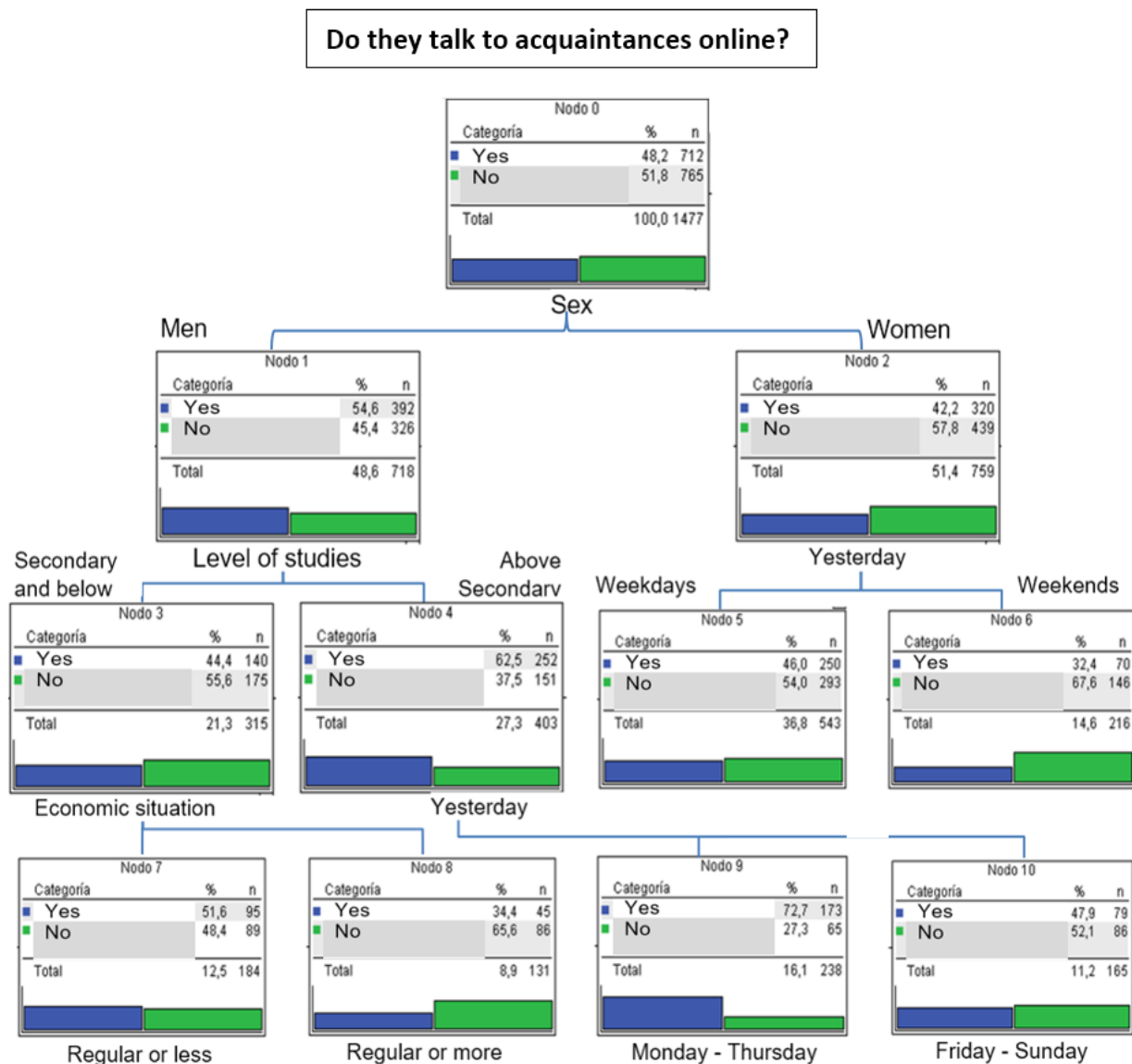
- +Type 1: Men with at least baccalaureate or equivalent. Provided that contact with acquaintances has occurred on business days. If these conditions are met, the percentage rises to 73%.
- +Type 2: Men with a lower level of studies. But in the event that their economic situation *is not positive* (51.6%).

-Two types of women. In both group, those who kept these contacts are a minority (marked with the - sign).

- Type 3: women who get online on weekdays (46.0%)
- Type 4: women who get online on weekends (24%)

Figure 1. Configuration of virtual communications with acquaintances

Significance levels: 100% in all disaggregations



6.2. Test results for second hypothesis

The objective is to determine whether the constraints that are part of the digital gap at the scale of the whole of virtual communications have been reduced or have disappeared in online communications with acquaintances.

The results that have been used to contrast the first hypothesis are used now to test the second hypothesis.

In both groups, two components of the digital gap are present:

“Doing their job” is associated with the reduction of online communicators.

And in both cases dedication to the Internet is discriminatory: the number of communicators among internet users who connect only when necessary decreases; and increases among those who are always connected to the Internet out of necessity.

Factors that are constitutive of the digital gap, on a scale of the whole of virtual communications, stop operating in communications with acquaintances. These differences are shown in Table 1 and are correlated to each other:

The number of virtual communicators with acquaintances is not affected in any way by age, civil status or occupation; by having elementary education or lack of it; nor by the population size of the place of residence.

Internet users’ assessment of their economic situation affects the group of virtual communications as well as the group of virtual communications with acquaintances, but in an inverse and positive way. Online communication with acquaintances is more common among those who have an unfavourable perception of their economy; and less common among those who perceive it favourably. This indicates that this difference is not likely to respond to any socioeconomic disadvantage of users who talk to acquaintances online. Instead, it would reflect some of the specific functions that online acquaintances perform.

An equivalent investment operates in the formal education variable. In the group of all virtual communicators, the number decreases among those who have vocational training or baccalaureate. On the other hand, in the group of virtual communicators with acquaintances, the number increases in that same educational segment.

These results validate the hypothesis that online communications with acquaintances is no longer influenced by sociodemographic variables that are usually considered to contribute to the digital gap. The results also ratify that “this gap must be conceived as the result of a mediations caused by digitalisation, which function as a system.” (Velarde and Casas-Mas, 2018).

From this point, our hypotheses refer, from several perspectives, to the specialisation of virtual communications with acquaintances based on instrumental functions.

6.3. Test results for third hypothesis

The evaluations of the face-to-face and virtual interactions are compared depending on the relationship between communicators. The hypothesis says that the positive assessment of face-to-face communication will be more widespread when ties are close, because it involves physical presence; and that it will be less widespread when ties are more distant, like in the case of acquaintances.

The comparison is based on the analyses described below:

- a) Internet users’ assessment of their virtual interactions according to the ties they have with those they communicate with.
 - b) The characteristics of internet users who communicate with acquaintances according to the previous assessments.
 - c) The conformation of the factors involved in the belief that when it comes to acquaintances, face-to-face communication is better than virtual communication.
-
- a) Internet users’ assessment of their virtual interactions according to the ties they have with those they communicate with.

The reflection on virtual versus face-to-face communication is very present in the collective imaginary and in numerous publications (Sabater *et al.*, 2017; Turkle, 2012; Bernete, 2010). This study analyses this assessment in the following way:

First, participants were asked to indicate which of the online conversations they engaged in on the previous day was the most important. Then they were asked to imagine the development and results of this conversation had it been in person, instead of virtual. This question was made for each one of the different online conversations internet users had on the previous day. The counts are presented in Table 1.

Table 2. Internet users’ assessment of their virtual interactions according to the ties they have with those they communicate with

If conversations had been in person, their development and results would have been...	Talked to:			
	Partner	Family	Friends	Acquaintances
Better	58	50	54 +	43 -
Same	36 -	45 +	37	44 +
Unsure	5 -	4	5	9 +
Same + unsure	41	48	42	53
Worst	1	1	4	4
Unanswered		1		
Respondents	345	459	545	347

Source: Authors’ own creation based on the survey “Digitalisation of daily activities”. R+D+I project “Time uses related to digitalisation”.

The previous table shows a general picture: only very few believe that face-to-face contacts are worse than virtual ones. And in fact, regardless of the tie, the majority considers that face-to-face

communication is better, with the exception of those who talk with acquaintances online. In this case, the majority is constituted by those who believe face-to-face communication is equal, plus those who are unsure which one is the best (53%). Although this disaggregation has reduced the sample size, these differences are significant and compatible with the hypothesis.

b) Characteristics of internet users who communicate with acquaintances according to the previous assessments

In his regard, there are two significant variations:

- The proportion of those who believe that face-to-face contact would had been better increases to 52% among the youngest Internet users (16-24 years).

This test clarifies the recurrently verified finding that, in this age segment, a greater number positively values the Internet for their interpersonal contacts (see for example, Ángel-Franco and Alzate-Marín, 2015). However, when asked to compare online and face-to-face interactions, as we do here, they prefer the latter at least for contacts with their acquaintances. Both results are compatible: users can prefer online communication and value personal contact better.

- Face-to-face interactions are better assessed when they are performed on Sundays (57%) while virtual interactions are better assessed when they take place on weekdays (61%).

That difference may be related to the different types of “acquaintances” with whom users talk online on each of those days. This possibility is contemplated in the following section. The differences are reflected in the general Table located at the end of this article.

On this occasion we carried out the corresponding segmentation analysis:

c) The conformation of the factors involved in the belief that when it comes to acquaintances, face-to-face communication is better than virtual communication.

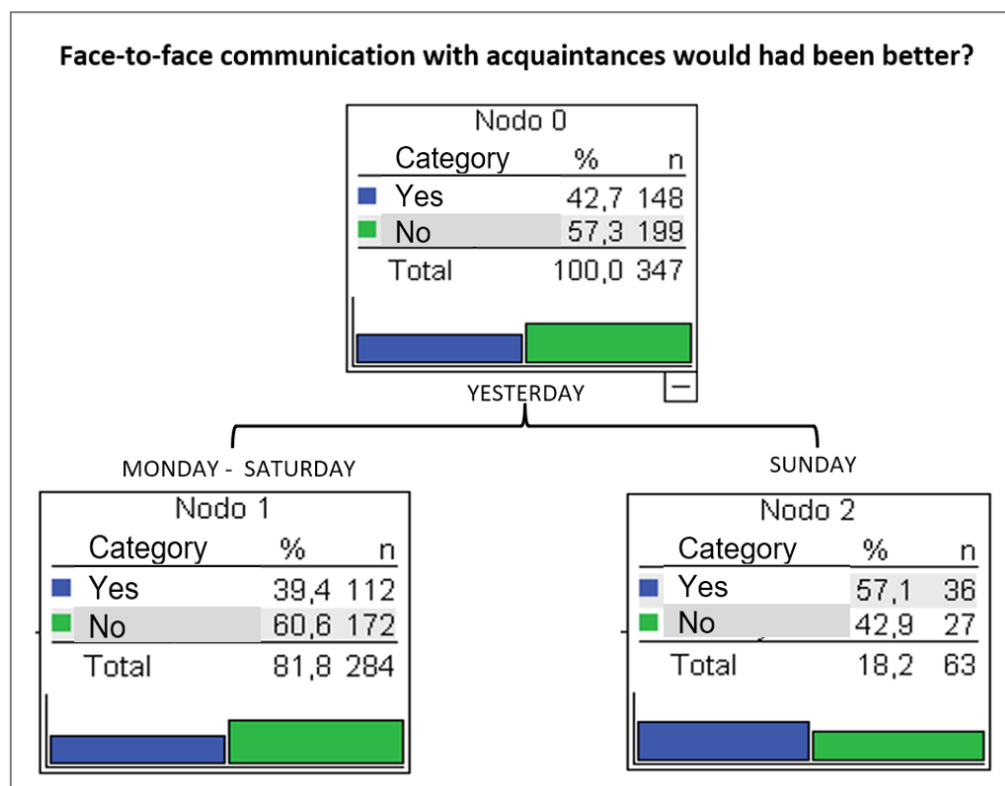
For a structure to appear, the level of significance has to be reduced to 93%. In this case, “the day of the week” in which the contact was made emerges as the only structuring variable, with the following result:

- Face-to-face communication is better valued among the majority of those who talked online to acquaintances on Sundays (57%) and among the minority of those who did so on the remaining days of the week (39%).

We do not establish types with 93% of significance. With all the caution that this level requires, the result confirms that the kind of relationship that is established with acquaintances will change depending on the day of the week in which the contact is made. “Sunday” contacts could be mostly “social”, while those established on weekdays could be “professional” in most cases. Figure 2 reflects such distinctions.

Figure 2. “confirmation of the factors involved in the belief that when it comes to acquaintances, face-to-face communication is better than virtual communication”

Significance levels: 93%.



6.4. Test results for fourth hypothesis

According to this hypothesis, if instrumental functions predominate in interactions with acquaintances, this specialisation should be reflected in a larger number of users who download instrumental resources sent by their acquaintances. The analysis and results are presented below.

- Downloading of materials that have an informative use, depending on the tie between Internet users and the people they communicate with.

The materials used in most cases are classified as “instrumental” to make arrangements or develop activities (for example, completing documents, installing programs). They overlap with “relational” materials, which usually facilitate interaction between people (for example: sharing a family video).

Informative materials perform an instrumental function, in most cases, and a relational function, in much fewer cases. For that reason, they have been chosen for this analysis. Table 2 present a repertoire of informative materials and the percentage of Internet users who downloaded them during their communications, according to the type of contact.

Table 3. Percentages of Internet users who downloaded informative materials sent by the people they talked to the day before via the Internet (multiple response).

Downloaded materials:	People they talked to the day before via the Internet:			
	Partner	Family	Friends	Acquaintances
Forms	5	3	5	9 ↑
Newspaper articles or online magazines	9	7	11 ↑	11 ↑
Articles from encyclopedias such as Wikipedia / scientific and academic documents	5	4	6	8 ↑
Other text documents	5	7	12	14 ↑
Programs, applications	5	4	9 ↑	9 ↑
N, in each column	345	459	545	347

Source: Authors' own creation based on the survey "Digitalisation of daily activities". R+D+I project "Time uses related to digitalisation".

The highest percentages of Internet users who download these materials appear, in all cases, when they are sent by acquaintances. These percentages are also high when the materials are sent by friends and are articles from online newspapers or magazines and of programs or apps. Again, the breakdown reduces the samples, but not so much as to make the results less significant. The data are internally consistent and compatible with the hypothesis.

6.5. Test results for fifth hypothesis

This hypothesis proposes that the predominance of the instrumental function over the relational function in interactions with acquaintances should be reflected in the traits that shape the types of those who communicate with acquaintances. The analysis is presented below.

- Repertoire of types of virtual communicators with acquaintances. Features and analysis.

Table 2 correlates the four types that have been identified. The first two correspond to men and the other two to women. The percentages of males are above the percentage of reference, as those of women are lower.

The table disaggregates the configurations of the factors included in each of the types. Each configuration is a hierarchical structure (Cf. Martin Serrano, 2011). For example: to become part of the +type 1, it is necessary to be a man with at least a Baccalaureate or equivalent studies; *on the condition that* the online contacts were made on a working day.

The table shows that, in the generation of these types, two types of determinations are operating:

1. Self-perception of the economic situation, provided it is described as unsatisfactory: “regular” or “bad” or “very bad” (in +type 2, corresponding to men with a lower level of studies).

2. The day the contact was made. This dimension discriminates between those who responded in weekdays (+type 1, men with a lower level of studies and -type 3 women); and those who did it on weekends (-type 4, women).

-In the group of males with lower levels of studies (+type 2) there is correspondence between self-perception of an unsatisfactory economic situation and being unemployed.

This association is compatible with the predominance of the instrumental uses of these interactions (e.g., contacting acquaintances in professional networks and equivalents).

-In two types, one for each sex, (+type 1, males with higher education; women, -type 3) there are correspondences between online contact with acquaintances on weekdays and the active status of communicators.

In these types, the results also are compatible with an instrumental function of the interactions, related to job performance and maintenance. And as a counterpart of that same dimension:

-In one of the types for women (-type 4) there are correspondences between contact in holidays and not being active.

In this type, the results are compatible with the idea that the women who use these interactions with instrumental purposes are not a majority. This type has the smallest number of communicators.

Table 4. Types of virtual communicators with acquaintances

Percentage of reference (48%)	Types	Configurations			
Largest (73%)	+Type 1:	Men	Baccalaureate or equivalent	Contact is made on weekdays.	
Largest (51.6%)	+Type 2:	Men	Baccalaureate or equivalent		Unsatisfactory economic situation
Smallest (46%)	-Type 3:	Women		Contact is made on weekdays.	
Smallest (24%)	-Type 4:	Women		Contact is made on weekends	

Source: Authors’ own creation based on the survey “Digitalisation of daily activities”. R+D+I project “Time uses related to digitalisation”.

7. Conclusions

The designs and analyses of this study have been made and have been described according to a repertoire of hypotheses, which derive from the assumption that digitalisation has not erased the features that differentiate those who talk to acquaintances, and which we have tried to identify. The other assumption is that the instrumental function that distinguishes these contacts has neither being cancelled, and this specialisation is what we have tried to specify. The foundations of these assumptions are:

-First, the different social distances established according to the type of relationship meet functions related to anthropogenesis. Therefore, relationships between acquaintances have to remain different from the relationships established with the rest of the virtual contacts (in this study, partner, family, friends).

-Second, the specialisation of these interactions in instrumental functions continues to be one of the distinctive traits, because it has adaptive value.

The conclusions drawn from this study are presented below in the context of the corresponding hypothesis.

Hypothesis 1. People who communicate online with acquaintances have sociodemographic traits that differentiate them from the rest of “virtual communicators”, and based on such traits, it will be possible to identify the different types of virtual communicators with acquaintances.

It has been confirmed that those who connect online with acquaintances are characterised and differentiated according to their ages, sex, status civil, formal education, occupations, perception of economic situation, internet usage habits and the population size of the place of residence.

These features are structured, i.e., increases and decreases in the number of communicators attributable to the sociodemographic differences between communicators, accumulate, counteract or annul each other. As a result of these interdependencies, four types of virtual communicators with acquaintances are constituted, and identified and described in this article. The conclusions that can be drawn about the different types of communicators are presented at the end of the article.

Is concluded what the hypothesis that digitalisation of relationships between people continues to maintain differences between who communicate with their friends and those who do it with the rest of your contacts.

Hypothesis 2. Based on the confirmation of the important and ongoing increase in the use of the internet to communicate with acquaintances, in this kind of contacts, the socio-demographic constrictions that are considered part of the digital gap have reduced or disappeared because they impede or limit that exercise in the whole of all virtual communicators.

This hypothesis has been proven, based on the analysis of the influence of each one of the variables of this study. The number of virtual communicators with acquaintances is not affected in any way by age, civil status or occupation; by having elementary education or lack of it; nor by the population size of the place of residence. Instead:

- Dedication to the Internet is still discriminatory: it decreases the number of internet users who get online only when necessary and increases among those who are always connected out of necessity;
- The number of female communicators who work and talk to acquaintances online keeps on decreasing.

Features related to the specialisation in instrumental contacts, like being active and working on the day of the week in question, which are characteristics of these intentions, have a positive effect on the increase in the number of these communicators.

It is concluded that the reduction of the digital gap in these contacts is related to participation in activities that require the use instrumental of digital networks. As it has been explained in the introduction, these changes are sociogenetic. Theoretically they will be able to continue until the digital gap is closed.

Taking into account the nature of the tie with acquaintances, instrumental functions would have to continue to dominate in virtual communications more than relational functions. That specialisation will be reflected on several levels. The following hypothesis applies to each one of those communicators under study.

Hypothesis 3. Since virtual contacts with acquaintances are mostly instrumental, the percentage of communicators who prefer physical contact will be low.

The majority opinion of those who communicated with people in their closest circles (partners, family, friends) is that face-to-face communication is better. Instead, such assessment is a minority among the virtual communicators with acquaintances. This finding is consistent with the fact that the social distance with acquaintances is greater, which confirms the hypothesis of the predominant instrumental function in these communications.

Hypothesis 4. Downloadable digital resources that are sent by acquaintances will be more frequently instrumental than when they come from people with closer ties.

The percentages of internet users who download a repertoire of informative materials that have a mainly instrumental use have been calculated. When these materials come from acquaintances, the percentages appear, in all cases, among the highest. The results are internally consistent and compatible with the idea that the percentage of those who maintain an instrument relationship is higher, when the virtual contact is made with acquaintances.

Hypothesis 5. The more instrumental than relational character of the intersections with acquaintances should also be reflected in the traits that shape the types of internet users who communicate with acquaintances.

The mostly instrumental orientation (versus relational) of virtual interactions changes depending on sex. Men interact virtually with acquaintances more than women, who communicate with close people, like partners and relatives, more than men. These results are similar to those obtained in the study “Digital society in Spain 2017” (Fundación Telefónica, 2018).

To interpret these differences, it is useful to see how sex is involved in the configuration of the four types of virtual communicators with acquaintances that have been identified: two for women and two for men. We have concluded that the instrumental function (versus relational) in the interactions operates in both women and men, according to the activities they carry out:

-Two types of virtual communicators with acquaintances are differentiated among women. The criterion is the working or non-working distinction.

Therefore, we are differentiating relationships with acquaintances according to the family and workplace spaces and times in which they take place. This differentiation may be related to the different kinds of “acquaintances” with whom they connect on each of those dates and environments. Thus, relationships with acquaintances in working days are also “working” relations in many cases (type 3) so contacts with these acquaintances on weekends prevail (type 4). The existence of these two different functions corresponds to another factor. There is a mostly better assessment of virtual interactions when they take place in working days, and of face-to-face interactions when they are performed on Sundays.

-Two types have been identified among men and in both of them men connect with acquaintances. The orientation of both is instrumental.

-Men with a higher level of formal education. Whenever the connection is made on working days (type 1). It is possible to reach the same conclusion that for type 3.

-Men with secondary education (or equivalent) and an unfavourable perception of their economic situation (type 2). As this condition is related to unemployment, we can assume that, often, these contacts are used to get help or economic resources.

Therefore, three types have been configured for instrumental interactions, and one for relational functions, which is only for women. The percentage of women who are part of the instrumental type (type 3) is 46.0%, which is close to the average percentage (48%) and is much higher than the percentage corresponding to the relational type (type 4, 24%). We could conclude that in the case of women, the digitalisation of communication with acquaintances is also aimed at increasing the instrumental functions, even if with more delay.

The following conclusions summarise all the previous:

The digitalisation of interpersonal relationships with acquaintances is still overdetermined by the position they occupy and the functions they perform, in the system of social distances.

The preservation of that framework is compatible with the reduction of the discriminating factors that generate the digital gap.

That reduction is oriented to facilitating the instrumental functions specifically performed by the interactions with acquaintances.

General table. Distribution of virtual communicators according to their traits and circumstances.

GROUPS:	A) ALL VIRTUAL COMMUNICATORS	B) VIRTUAL COMMUNICATORS WITH ACQUAINTANCES	
	A) Talked to any person	B) Talked to acquaintances	B 1) Consider face-to-face relationships would have been better
BASES:	Internet users N: 2801	Virtual Communicators N: 1447	N: 347
Sample in each variable:	N: 1447	N: 712	N:148
Percentage of reference:	56%	48 %	43 %
VARIABLES			
AGE GROUPS			
16-24	80 ↑	43	52 ↑
25-34	64 ↑	41 ↓	47
35-44	51	49	41
45-54	48 ↓	52 ↑	39
55-64	45 ↓	45	39
65 +	45 ↓	39	
SEX			
Male	54	52 ↑	40
Female	59 ↑	40	45
MARITAL STATUS			
Single	67 ↑	44	45
Married/in partnership	51 ↓	46	
Separated/divorced	---	59 ↑	
HOUSEHOLD COMPOSITION			
Unipersonal	57,	48	-----
Parent with child(ren)	60	42	-----
Partner without children	52 ↓	44	42
Partner with children	55	47	38
STUDIES			
Elementary + secondary	39 ↓	35	-----
Secondary (stage 1) /equivalent	50	28 ↓	-----
Secondary (stage 2) /equivalent	51	43	46
Vocational training /Baccalaureate	55 ↓	50 ↑	39

Higher education	65 ↑		49 ↑	41
EMPLOYMENT SITUATION				
Employed	55		46	44
Pensioner/disabled	40 ↓		41	-----
Unemployed	53		47	-----
Student	79 ↑		46	48
Domestic work	49 ↓		32 ↓	-----
ECONOMIC SITUATION				
Very good + good	61 ↑		44	41
Regular	53 ↓		48	46
Bad + very Bad	51 ↓		43	39
INTERNET USE				
Always if possible	64 ↑		48	43
Always out of necessity	69 ↑		54 ↑	38
When necessary	45 ↓		38 ↓	48
As little as possible	-----		-----	-----
POPULATION				
Capital	58		47	
Non-capital -50,000	53 ↓		41	
Non-capital +50000	58		47	
YESTERDAY WAS				
Monday to Thursday	58		49 ↑	39
Friday	58		48	
Saturday	52		32 ↓	57 ↑

Source: Authors' own creation based on the survey "Digitalisation of daily activities". R+D+I project "Time uses related to digitalisation".

8. Developments

The members of our research group and other scientific and educational institutions are carrying out the research needed to understand and monitor the socio-historical changes related to the social uses of new technologies. The R&D project of which this article is part is examining the effects of digitalisation, while this article focuses on the such effects on interpersonal relationships, which is has been a very relevant subject matter.

The theoretical basis of this research is provided by Martín Serrano's works, mainly those related to the social production of communication in the age of globalisation. The theory takes into account the sociogenetic and anthropogenic dimensions of that production. This article aims to design and test analytical models that can be used to monitor those dimensions and to provide empirical evidence to that theory.

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Dates:

-Start of research: 01/01/2016

-End of research: 31/12/2019

9. Notes

1. Survey’s technical data: “Digitalisation of daily activities”. Universe of study: Spanish Internet users between 16 and 74 years of age. Sample of 2,801 persons, representative in terms of place of residence, ages, sex, marital status. Sample error: 1.9% for a N.C. of 95%. Fieldwork: November 2016. Online application. Sample obtained from a panel certified with the standard ISO263 62 for Access Panels Online.

2. In the survey “Digitalisation of daily activities”, internet users were asked about the various online services they used to communicate. In the case of those who talked to acquaintances, 79% used instant messaging (WhatsApp, Hangouts, etc.); 51% used social networks (Facebook, Twitter, LinkedIn, etc.), 49% used video-conference apps (Skype or similar) and 10% used SMS.

3. Interactions detected with the segmentation programs CHAID and XAID appear when the effects of an independent (explanatory) variable on a dependent variable (to be explained) depend on the values that adopt the categories of another independent variable. When the dependent variable is ordinal, nominal or categorical, CHAID is employed to measure the associations between qualitative variables with chi square; and when the variables are continuous, interval or ratio, XAID is used to calculate the sums of squares, of the total, between groups and intra-groups. A description of the model is available in Spanish language at Aldás (2013). The manual of reference in Spanish is Escobar (2007).

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