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### CHAPTER 30

## THE ROLE OF INFORMATION - COMMUNICATION TECHNOLOGIES IN MAINTAINING INTERPERSONAL RELATIONS AMONG FEMALE STUDENT POPULATION DURING THE STATE OF EMERGENCY<sup>3</sup>

**Abstract:** Measures to prevent the spread of the COVID-19 virus epidemic have led to numerous changes in everyday life and the way of functioning, especially during the state of emergency. An integral part of those changes were changes in the way of maintaining interpersonal relations and communications. The fear of infection, along with avoiding physical contact, as a preventive measure to suppress the spread of the disease, led to changes in the way of maintaining interpersonal communication, emphasizing the term “social distancing”. Therefore, the goal of this research was to study the way of maintaining interpersonal communication and contact through information and communication technologies during the state of emergency. An online survey was conducted on a sample of 514 female students of Teacher Training Faculties in Serbia, immediately after the lifting of the state of emergency. The survey included questions related to socio-demographic data, as well as questions in regarding the use of information and communication

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technologies during the state of emergency. The results confirm the initial assumption about the necessity of maintaining contacts in primary social groups, even in the conditions of a state of emergency, where in the situation of reduction of direct contacts, information and communication technology can play a positive role as an intermediary. Based on the obtained results, two trends are noticeable: the decreasing use of landline telephones, as well as stratification in terms of the form of communication in relation to the closeness of the relationship. On the other hand, the survival and maintenance of interpersonal relationships contributes to reducing the feeling of insecurity and anxiety caused by the COVID-19 pandemic and emphasizes the importance of interpersonal communication and maintaining closeness for the psycho-social well-being of the individual.

*Keywords: social networks, COVID-19, information technologies, communication, students of teaching faculties, Serbia.*

## 1. INTRODUCTION

When we understand communication in the socio-anthropological paradigm, it is an exclusively human characteristic and at the same time an inherently human need. The evolution of communication, which communication scientists often point out as the thread of the evolution of the human species in general, indicates changes in the ways and means of communication, but confirms that it is a constant of sociality. Sociability without communication is not possible, it is a notorious sociological fact, which along with the understanding of man as a sociocultural superstructure on a biological basis, leads to the conclusion that symbolic interaction with other people is the specificity of man as a species.

The most significant and widespread form of communication practice, interpersonal communication, although it is often determined by the number of subjects participating in it (two subjects, one-to-one communication; see e.g. Floyd 2009), is actually fundamentally different from other forms of communication by the reciprocity of the roles of the sender and recipient. This reciprocity is limited to the number of participants, but not necessarily to two. Unmediated interpersonal communication with expressiveness surpasses all other forms of communication “due to the fact that people can establish an active relationship with the communication partner or partners and the messages communicated to them with all their senses” (Miletić & Miletić 2017: 87).

Interpersonal communication is not exclusive, but it is a specific feature of primary social groups. Closeness and intimacy of relationships among few members, relative permanence and non-specialized nature are characteristics of primary social groups, such as family, neighborhood or group of friends, and a group defined in

this way is necessarily characterized by immediate contact (Cooley 2017; Marković, Golenkova & Šuvaković 2009), above all face to face. These groups are primary chronologically, as the first groups to which an individual belongs during his life, but also in terms of the importance they have for the individual and the formation of his personality (Rot 1999). Stuart Tubbs points out the closeness between participants as an often mentioned specific feature of interpersonal communication and it is certainly the communication model of the most intimate relationships we experience (Tubbs 2009).

In theory, interpersonal communication is often reduced to face-to-face communication, which is also the ideal-typical element of defining primary social groups, but the development of new technologies radically changes this model of communication. The replacement of unmediated interpersonal communication with technologically mediated one is not a novelty of our time, it started already with the appearance of the letter, then the telegraph and the telephone, but the all-pervasive presence of interpersonal communication media in everyday life is a phenomenon of the digital age. When new technologies became an extension of our nervous system as predicted by McLuhan, mediators became an integral part of interpersonal communication. Frequent (founded and unfounded) criticisms against the use of new communication technologies mostly recognize in them the danger to closeness and sociability. Even before the COVID-19 pandemic and the introduction of social distancing measures, there were researchers who recognized the role of new technologies as “relationship enablers” (Konijn, Utz, Tanis et al. 2008: 3), as well as research that showed that new information and communication technologies can actually serve as a complement to the maintenance of already existing social ties and relationships and the establishment of new ones (Petrović 2013). Especially for young people, new ICTs are becoming “an indispensable means of information and an intermediary in interpersonal and group communication, but also a source of information of vital importance” (Baščarević & Kragović 2014: 75), and the most significant among them is the Internet, with numerous services offered by with the possibility of communication of many with many, at the same time “provides the possibility of intrapersonal, interpersonal, group and mass communication” (Kragović 2013: 43). The COVID-19 pandemic, in addition to health problems, led to a series of social problems, from economic, to political, to legal and ethical, and showed the “social vulnerability” of modern societies (Marković Savić 2020: 659), causing a dramatic turn in everyday life. There have been changes in the functioning of the security, health, education, and traffic sectors (Petrović, Dimić, Ljubojević 2021), major changes in the labor market, etc. On the other hand, the individual remained alone, condemned to physical distance, which threatened to turn into social distance. Students who were displaced from their permanent place of residence due to the needs of their studies, poor financial condition, and who had to work while studying found themselves in a particularly unfavorable

situation. In a situation where the need for them to stay in the place of study ceases, because classes are online and can be followed from anywhere, where their opportunities for work are reduced, where movement is difficult due to limitations in means of transportation, where due to difficult supply and store opening hours, the question of what can be bought and where because physical contact with others is prohibited as a basic anti-pandemic measure, the assumption was that most of them had returned home. The family is the primary group to which an individual belongs and which by its function satisfies his basic needs, especially for security and belonging, which, on an individual level, were threatened by the onset of the pandemic. It is also assumed that, in the given circumstances, they tried to bridge the impossibility of social contacts in different ways, with the help of information and communication technologies, but at the same time respecting anti-pandemic measures, so that their personal safety and the safety of family members would not be endangered. Therefore, the goal of this research was to establish whether the students of teacher training colleges managed to maintain their interpersonal relationships during the state of emergency, as the peak of the pandemic, in what way and how they reconciled the issue of compliance with the measures of “social”, i.e., physical distance and staying in touch with your social environment.

## 2. METHODS

### Sample

The sample consisted of 514 undergraduate students from five teaching faculties across Serbia: Belgrade, Užice, Jagodina, Vranje and Leposavić. Given that the profession of educator and teacher is considered dominantly, even exclusively female, very few men enroll and even fewer graduate from the Faculty of Teacher Education (according to the data of the RZS from 2021, 91% of the total student population of teaching faculties in Serbia are women) and because of this, 3% of the male respondents who answered the survey were excluded from further processing because the frequency distribution in relation to the categories of independent variables was very small and unbalanced, and therefore adequate conclusions could not be drawn based on such data. The average age of female students was  $M = 22.04$  ( $SD = 2.88$ ).

### Procedure

Data were collected through voluntary participation in an online anonymous survey. According to the type, it is a virtual exponential non-discriminatory snowball sample (Parker, Scott & Geddes 2019). It was considered that the snowball sample is particularly suitable for examining various marginal groups, as a rule,

difficult for researchers to reach for various social reasons, whether it is people who are engaged in some kind of illegal activities such as drug addiction and prostitution (Anieting & Mosugu 2017; Tanasey 2007) whether it is about different stigmatized social groups (infected or suffering from AIDS, members of LGBT). The COVID-19 pandemic also revealed its new dimension: its virtual design is suitable for carrying out tests at the time of pandemics or epidemics of infectious diseases. Therefore, not only specific populations are suitable for examination with this sample, but also specific social situations that dictate its use. Although researches based on this type of sample are traditionally designed, recently it is most often applied virtually (Baltar & Brunet 2012). Since our research was conducted immediately after the end of the state of emergency, in July 2020, and if the pandemic was still current, conducting a field survey would be unethical, as it would endanger the health of both the respondents and the interviewer, and in addition, it would pose a danger for public health due to the ease of spread of the SARS-CoV2 virus, which would inevitably occur with a large number of contacts during the conduct of research.

### **Instruments**

The survey consisted of questions about the socio-demographic characteristics of the sample (gender, major, year of study) and questions about changes in daily life habits due to the declaration of a state of emergency (whether they stayed in their place of study during the state of emergency, ways of maintaining interpersonal relationships during the state of emergency, whether they adhered to epidemiological protection measures during the state of emergency).

### **Variables**

The independent variables in this research were major: teachers ( $n = 256$ ) and educators ( $n = 258$ ) and year of study (first  $n = 132$ , second  $n = 106$ , third  $n = 148$ , fourth  $n = 91$ , fifth  $n = 37$ ). It should be noted here that the basic studies at the Faculty of Education last 4 years, although in other countries, in accordance with the Bologna Declaration (signed in 2003 by Serbia (then the State Union of Serbia and Montenegro) and adopted and implemented since 2005), they last 3 years. 240 ESPB points are earned, while an additional 60 ESPB points are obtained for master's studies lasting one year. Also, after the school reform, completed master's studies become a mandatory condition for employment in the profession, which, in a certain sense, makes them mandatory. The third independent variable was region. Five faculties are grouped into three categories: Belgrade Faculty of Education (covering the region of Belgrade with 1,668,273 inhabitants, according to the latest population census from 2022, as the capital and the largest educational

and university center), Central Serbia (faculties from Jagodina, Vranje, Užice, which include the region with the highest population of 3422270 inhabitants from three cities which, according to the last census of 2022, have from 50 000 to 100 000 inhabitants\* and the region of Kosovo and Metohija which is covered with the Faculty of Education in Prizren, with a temporary seat in Leposavic, which functions under specific circumstances, since it mainly includes students from Serbian communities from Kosovo and Metohija. The Vojvodina region with 1,778,961 inhabitants according to the 2022 census was not included in this research (2022 Census of Population, Households and Dwellings). The sample included 238 female students from the Belgrade region, 148 from the region of Central Serbia and 128 from Kosovo and Metohija.

Dependent variables were: whether they stayed in the place of study during the state of emergency or whether they returned to the place they came from, the way of maintaining communication during the state of emergency (coexistence, landline, mobile, applications, SMS, mail, platform, social networks, visits, without communication) with close and extended family, colleagues and friends, whether they adhered to epidemiological protection measures during the state of emergency.

### Data processing

The data were processed through non-parametric and parametric statistics, and the  $\chi^2$  test, t-test for independent samples and ANOVA were used as statistical techniques to conclude on the significance of the obtained data.

## 3. RESULTS

When it comes to returning home, i.e. staying in the place of study during the state of emergency, no statistically significant differences were obtained in relation to the major and year of study: 66.1% of female students stayed to live in the place of study. Statistically significant differences were obtained in relation to the region of study ( $\chi^2 = 61.633$ ,  $df = 4$ ,  $p < .000$ ). An equal percentage of female students from Belgrade stayed in Belgrade or returned to the place they came from, which means that the largest number of female students from Belgrade - 50% - returned to their place of residence during the state of emergency, while the smallest number of female students from Kosovo and Metohija returned to their place of re When it comes to maintaining social contacts, female students have most personal contacts during the state of emergency, which implied a strict restriction of movement, in one period from 7 a.m. to 3 p.m. (all institutions that were able to switch to online work from home) place of residence 13.2 %. In Central Serbia, 20.9% of female students returned to their place of residence.

When it comes to maintaining social contacts, female students have most personal contacts during the state of emergency, which implied a strict restriction of movement, in one period from 7 a.m. to 3 p.m. (all institutions that were able to switch to online work from home), had with members of the immediate family with whom they shared the household. Also, at the level of personal contacts, 69.6 percent visited friends. In contacts with extended family members and neighbors, the most popular means was a conversation by landline phone; in contacts with friends, a mobile phone with all means of communication (most applications: Viber, What's Up, etc. - 38.5 %), and in contacts with colleagues, the platform dominated, 34.4 %. The least used form of communication with all categories of close people was e-mail, and the highest percentage of female students was ready to give up seeing their neighbors during the state of emergency, 27.4%.

Table 1. Ways of maintaining contact and communication with different close groups of female students of teaching faculties in Serbia during the state of emergency (data are given in percentages - respondents were offered the opportunity to choose several options)

	coexistence	landline	mobile phone	applications	SMS	e-mail	platform	The social networks	visited	No communication
Family	86.8	3.1	11.7	10.3	7.8	1.6	1.8	6.2	14.2	1.0
Extended family	1.9	34	24.1	9.5	9.7	2.5	2.3	5.6	16.1	4.5
Neighbors	0.4	9.3	4.3	2.5	6.4	1.84	1.9	4.3	8.4	27.4
Friends	1.0	1.8	31.9	38.5	26.3	4.7	4.1	34.8	69.6	1.0
Colleagues	0.4	1.2	11.9	31.3	9.7	28.2	34.4	22.8	1.6	3.5
Not used	9.5	50.6	16.1	7.8	40.1	61.3	55.4	26.8	42.8	62.6

When it came to the difference in communication and categories of close people, no statistically significant differences were obtained regarding communication by landline phone, SMS messages, mail, via platforms and social networks on any of the three independent variables. The only independent variable on which statistically significant differences appeared was the region: in relation to cohabitation ( $\chi^2 = 31.247$ ,  $df = 10$ ,  $p < .001$ ), mutual visits ( $\chi^2 = 61.633$ ,  $df = 4$ ,  $p < .000$ ), talking on a mobile phone ( $\chi^2 = 18.835$ ,  $df = 10$ ,  $p < .042$ ), using mobile applications ( $\chi^2 = 18.310$ ,  $df = 10$ ,  $p < .050$ ) and not communicating ( $\chi^2 = 18.744$ ,  $df = 10$ ,  $p < .011$ ). Most of the students in the community were from Belgrade and in direct contact with their family 92%, students from Central Serbia talked the most on mobile phones 91.6% and with friends 34.4%. In the same percentage and with the same category, female students from Belgrade communicated the most, while

female students from Kosovo and Metohija mostly talked with friends and extended family on mobile phones, 24% each. Mobile applications were mostly used by female students from Belgrade to communicate with friends 46.2%, female students from Central Serbia with friends and colleagues, 37% each, while female students from Kosovo and Metohija mostly communicated via mobile applications with colleagues 30.4%. Female students from Belgrade had the fewest visits, 59.3% of them, while most visits were reported by female students from Kosovo and Metohija, 50.7%. Female students from Belgrade mostly saw each other with friends 20.5%, from Central Serbia equally with friends, immediate and extended family 17.5%, and from Kosovo and Metohija with immediate and extended family, 14.5% each. The largest number of female students from Central Serbia was not in communication with others, 41.2%, and the smallest in Kosovo and Metohija, 28.9%. In all categories, female students mostly did not communicate with their neighbors: from Belgrade 30.2%, Central Serbia 29.7% and Kosovo and Metohija 19.5%.

Only 5.8% of female students admit that they did not comply with epidemiological measures during the state of emergency. No statistically significant differences were obtained regarding the field of study and year of study, but there were in relation to the region ( $\chi^2 = 25.847$ ,  $df = 4$ ,  $p < .000$ ): by their own admission, female students from Central Serbia adhered to epidemiological measures the least: 63.3% of the total number of those who admitted direct violation of measures during the state of emergency.

#### 4. DISCUSSION

Empirical research on interpersonal communication during the pandemic is not as numerous as one would expect given its importance and the difficulties it has suffered in the context of social distancing measures. Pride, the focus of researchers dealing with the student population in this challenging period, was mainly on the organization of distance education and learning effects (e.g. Adnan & Anwar 2020; Asgari, Trajkovic, Rahmani et al. 2021; Bond, Bedenlier, Marín et al. al. 2021; Đorđević, Pavlović, & Vesić Pavlović 2021; Šuvaković, Nikolić, & Petrović, 2022). Interpersonal communication in the context of anti-COVID measures was researched on the student population of Timisoara Polytechnic University with the aim of determining the effects that social distancing measures had on verbal and non-verbal communication, personal life of respondents and their expectations regarding communication habits after the end of the pandemic (Dragomir, Fărcașiu, Șimon 2021). Among other things, the researchers came to the conclusion that the restrictions imposed due to anti-COVID measures posed a challenge to interpersonal communication, but that, as an inherently human quality, “it does not disappear, but adapts” and “finds other ways to manifest itself” (Dragomir,

Fărcașiu, Șimon 2021: 12; 13), which is in accordance with the data obtained in our research. Perception of the imposition of isolation and physical distancing, restrictions on movement (both pedestrian, city and suburban traffic), inability to attend classes, unavailability of facilities for spending free time (sports centers, cinemas, theaters, cafes, etc.), and difficult logistical supply basic foodstuffs, along with issues directly related to safety, health (physical and mental) and the financial situation of the family, led to the fact that a large number of female students from Belgrade decided to return to their place of residence. On the other hand, it seems that in smaller towns there was a perception that these basic human needs (food, safety, companionship) were not so threatened, or that there were ways to overcome the deprivations.

A radical turn in everyday life, fear, panic, economic insecurity are the unwanted consequences of measures introduced to prevent the spread of infection and protect people's health. Social distancing and lockdown have made social networks the dominant form of communication and, along with the mobile phone, the basic instrument for maintaining personal contacts, as shown by the results of empirical research conducted in Malaysia, one of the countries that was among the first to be affected by the pandemic (Salman 2021), and creative the use of technology in maintaining contact with family was also recognized in research on family life in Australia during the pandemic (Carroll et al. 2020), which was also confirmed in our research. The mobile phone proved to be the primary means of maintaining contact and interpersonal relations during the state of emergency, while its function varied in relation to the perception of closeness and the habits of the group with which there was communication: with friends, social networks and applications dominated in maintaining contact, while business communication with professors and colleagues had other, official channels (mainly platform and mail). Also, a decline in the use of landline telephones and SMS messages, as obsolete mediators in communication, can be observed. But, on the other hand, psycho-social insecurity is often nourished by information and misinformation that spread precisely through social networks, which were leading as a source of panic in relation to interpersonal communication<sup>4</sup> with family members, colleagues and friends (Salman 2021: 86).

The imprecise (and unfortunate, we would say) coined phrase social distancing, should actually mean physical distancing, because in crisis situations like a pandemic, the necessity of social and emotional closeness, especially with family, friends, peers and colleagues, is shown (Ventriglio et al. 2020). The obligation to wear protective masks as one of the measures to prevent the spread of the corona virus emphasized the importance of non-verbal communication in interpersonal

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<sup>4</sup> Social networks as a virtual medium provide the possibility of both interpersonal and group and mass communication, and here their role as a generator of panic does not refer to the option of interpersonal communication, especially not with members of primary social groups.

contacts and was recognized as an obstacle to effective communication (Otsiulah & Morara 2022). This can be particularly important in areas with a specific legal and political situation, such as Kosovo and Metohija. Namely, during the entire period of the COVID-19 epidemic, a double set of protection measures was in force in the territory of the Autonomous provinces of Kosovo & Metohija - one prescribed by the institutions of the Republic of Serbia and which was in force in all institutions of which it was the founder (including at the University) and the other prescribed by the temporary institutions in Priština, whose observance was very seriously taken care of by the Kosovo Police Service.

The sudden transition to online teaching also presented a challenge, not only of a technical but also of a communicative nature. In sociological research, social inequalities such as digital, but also numerous other aspects of social inequality can affect the availability of studies (distance of the place of residence from the place of study, material possibilities, price of accommodation, availability of transport, etc.) direct communication between lecturers and students, as well as the students themselves - among whom the sense of community was lost (Chen 2021). And research conducted on the student population in our country indirectly confirms the need for direct interpersonal contact with professors and colleagues: the lack of interaction is the most frequently mentioned drawback of online teaching in Serbia during the pandemic (Kaličanin, Brdar & Vesić 2021; Šuvaković, Nikolić & Petrović 2022).

## 5. CONCLUSION

What can be concluded based on the results of research conducted on a sample of female students of Teacher Training Faculties in Serbia is that the immediate health risk, nor social prohibitions, did not overcome the need for immediate contact with close family and friends. Namely, only every hundredth respondent chooses the answer “we haven’t seen each other” with friends. Social networks and mobile phones were mediators in the majority of cases in communication with family members, friends and colleagues, which is consistent with the findings of other researches, but also confirms the basic theoretical assumption about communication in primary social groups as a necessity that in the case of physical distance adjusts, but does not disappear. It even happened that in a situation where direct contacts are reduced, information and communication technology can play a positive role as a mediator, contrary to the usual views on the role of information and communication technologies in the process of individual alienation. A somewhat weaker intensity of contact with neighbors and wider relatives is a general trend even before the state of emergency, which refers to the weakening of the importance of these social groups in an individual’s life. Maintaining direct close contacts during the state of emergency could also mean a violation of prescribed

measures (except in the case of household members), but it certainly represented a health risk. A certain number of respondents confirm such behavior, which indicates the need to re-establish more intense physical contacts with people from the close social environment and as a desire to return to normal and usual patterns of communication and maintaining interpersonal relationships in the time that preceded the COVID-19 pandemic.

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