NEW FORMS OF SOCIAL INTERACTION: VIRTUAL COMMUNICATION AND HEALTH

NUEVAS FORMAS DE INTERACCIÓN SOCIAL: COMUNICACIÓN VIRTUAL Y SALUD

SHORT TITLE: NEW FORMS OF SOCIAL INTERACTION

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ABSTRACT

It is examined if the relationship empirically demonstrated between health and face-to-face social interactions is confirmed when it is virtual. The objective is to know if the perception of psychological well-being and receiving social support would explain the frequency of participation in virtual social networks (VSN). An ex-post-facto design was applied to a sample of 510 university Internet users (age, M = 22.89, SD = 5.67, 78.9% women). The level of psychological well-being (Spanish adaptation of the Ryff Psychological Well-Being Scale), social support (Family Social Support and Friends questionnaire - AFA) and the frequency of use of VSN are evaluated. To determine the relationships between the variables, correlation and hierarchical regression analyzes were carried out. The relative contribution of the perception of psychological well-being and of obtaining social support in the frequency of VSN use is confirmed, controlling the influences of age and gender. Specifically, the perception of having less ability to dominate the social environment and to obtain social support for friendships through VSN explains and allows predicting the increase in the frequency of use of such networks.

Keywords: Social network; relationships; personal satisfaction; social support; social communication; Internet.

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Duazary: Revista Internacional de Ciencias de la Salud / ISSN: 1794-5992 / Vol. 15, No. 3, septiembre - diciembre de 2018

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RESUMEN

Se examina si la relación demostrada empíricamente entre salud e interacciones sociales presenciales se confirma cuando ésta es virtual. El objetivo es conocer si la percepción de bienestar psicológico y de recibir apoyo social explicaría la frecuencia de participación en redes sociales virtuales (RSV). Se aplica un diseño ex-post-facto sobre una muestra de 510 internautas universitarios (edad; M =22,89; DT= 5,67; 78,9% mujeres). Se evalúa el nivel de bienestar psicológico (adaptación española de la Escala de Bienestar Psicológico de Ryff), de apoyo social (cuestionario Apoyo Social Familiar y Amigos - AFA) y la frecuencia de uso de las RSV. Para determinar las relaciones entre las variables se realizaron análisis de correlación y de regresión jerárquica Se confirma la contribución relativa de la percepción de bienestar psicológico y de obtención de apoyo social en la frecuencia de uso de RSV, controlando las influencias de la edad y el género. Concretamente, la percepción de poseer menor capacidad de dominar el ambiente social y la de obtener apoyo social por las amistades a través de las RSV, explica y permite predecir el incremento en la frecuencia de uso de dichas redes.

Palabras clave: Red social; relaciones interpersonales; satisfacción personal; apoyo social; comunicación social; internet.

INTRODUCTION

In a recent report on trends in use and participation in social networks worldwide, it is registered that 24.11% of the world's users spend between 30 minutes and one hour per day on social networks. Young people between 16 and 24 years are the most likely to become users of these platforms and those who participate most and interact through comments. Among its main reasons are finding fun or entertaining content[1]. If to the daily activities in this age group is added the dedication to participate in virtual social networks (VSN). To what do they take time? Are virtual relations replacing social relations? Do they lose something of what social relations bring?

The arrival of the Internet has involved a transformation in social life and interpersonal communication. Discussions are ongoing on the possible benefits or damages derived from it, highlighting the existence of three paradigms that underlie the basis of such debates[2]. Next, these three paradigms are briefly described. The efficiency hypothesis that would explain how the Internet offers an additional technology to participate in social interaction and the coordination of social activities. That is, it would be a new means to create new relationships, complement those that are maintained with friends and family, and perform other operations, such as making purchases. The hydraulic or displacement model that would defend that the time that is invested in an activity is subtracted, or displaced, to that which is dedicated to others. Interacting in a network would involve a social exercise, which does not complement the social time itself, but competes with the realization of social activities and contributes to social isolation by replacing face-to-face interactions with virtual ones. And, the community hypothesis that emphasizes the need to differentiate between the quality and the amount of time associated with the use of the Internet and its effects. Highlights the unique ability of the Internet to overcome the physical distance between the people interacting, as well as to establish and maintain links between individuals. It also considers that the use of the Internet facilitates the creation of "virtual social communities" that could act as a source of exchanges and social support, and that would expand the options for interaction beyond what face-to-face contact allows.

It is this distinction between virtual and face-to-face communities, or face-to-face and mediated

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social interaction, which motivates the realization of this research. Given the proven link between social support and various indicators of well-being, do the new VSNs contribute the same? Is there a causal relationship between welfare, perceived social support and use of VSN? In this context, the objective was to study the influence that the perception of obtaining welfare and social support has on the participation in RSV, specifically in the frequency of connection to this type of networks.

Concepts such as «social networks», «community support systems», «social support», or «environmental resources», have been key to the development of theoretical and research lines that link social networks and health[3]. Social support has been consolidated as a fundamental factor in psychological well-being[4], although most of the evidence is obtained from research focused on face-to-face social networks (FSN). There is not so much evidence about whether the new VSNs function as social networks understood in the psychosocial sense of the word, that is, contributing social support, and therefore, improving or protecting health and well-being. Assuming that any social change, including the way in which people communicate and interact - for example, using the internet as a means and tool - will bring about changes in social support systems, and therefore changes in health and well-being[5,6], it is necessary to explore the possibilities of "online" social relationships as possible sources of such support. In the 90s there are studies that linked the use of the Internet with social activity "offline" and psychological well-being, providing contradictory evidence. Some associate it with social isolation and distress, and others with higher levels of trust towards others and more extensive social networks, without going into evaluating especially the relationship between internet use and support depending on the sources that provide such support (family or friends).

New forms of virtual social relationship can provide benefits similar to face-to-face[7], and allow connections to be established between people who could not otherwise take place, even if it is not the objective, holding "latent links" between people who share an "offline" connection[8]. In this line, users involved in virtual social activities can experience an improvement in psychological well-being by perceiving themselves as more capable of creating and maintaining lasting social relationships[9]. It is likely that the type of support that is seen on the Internet covers the needs when one feels lonely or abandoned, and that is valued based on their participation in activities and relationships that are carried out and established through the virtual social network[10]. It has been proven that the size of the social network facilitates the integration of the person in the social context[11].

Networks are used by many young people to interact with friends and colleagues, satisfying without effort and with an immediate and fun way their need to communicate with them, especially with their closest contacts[12]. The perception of obtaining social support does not depend so much on the greater or lesser use of VSN, but on the type of person with whom the users connect (depending on their emotional state or attitude) or the kind of links, they have with it (family, partner, partners in a problem or having a common concern)[13]. New technologies allow, for example, members of the same household to communicate and coordinate home hours and tasks when they are physically separated[13].

Some authors[14,15] argue that frequent Internet users tend to be more alone, as well as having different values and a certain lack of emotional and social skills. Insecure people with low self-esteem are more likely to use e-mail than direct communication since e-mail helps them avoid

interaction anxiety[16]. Several studies consider the chronic use of the Internet as a risk factor for the development of adverse psychological states such as feelings of loneliness, confusion, anxiety, depression, fatigue, development of addictive behaviors or deterioration of social skills[17]. People with diminished self-esteem prefer "online" than face-to-face communication and perceive VSN as a safe place that allows them to avoid social situations that are violent or embarrassing to them[18].

Studying the social network, Facebook was found, at first, that its use, instead of improving welfare, undermined, concluding that the average of its use predicted a decrease in life satisfaction over time. However, several types of evidence indicated that it was not that their use made people feel worse, but that they used more media precisely when they felt wrong[19].

In the present investigation, we work under the hypothesis that the relationships found between the benefits derived from face-to-face social interactions concerning well-being and obtaining social support will also be seen when the interactions are mediated by computer support. More specifically, the objective is to answer the following questions: Is there a relationship between welfare, perceived social support and frequency of use of VSN? To what extent does well-being and perceived social support explain the frequency of use of VSNs and predict it?

MATERIALS AND METHODS

Type of study

A study was carried out with an ex-post-facto design, observing and recording the variables of interest, and analyzing if there is any relationship between them in their natural context.

Sample

Due to the weight that age has both in familiarity with the use of the internet, and in the establishment of social networks, a sample of university students from the Universities of Cadiz and Seville was selected, considering that at lower ages they are still in the process of formation of the support networks, and in more mature people are already consolidated and stable. Likewise, these populations include both natives and immigrants in 2.0 technologies.

Specifically, in this study, a total of 510 students participated (20.7% male, 78.9% female) belonging to different undergraduate degrees from the Universities of Cadiz and Seville. The average age was 22.89 years (standard deviation = 5.67) with a range of 18 to 75 years. Regarding the undergraduate studies that were, 9.0% were Tourism students, 11.1% of Social Work, 8% of Labor Relations, 23.6% of Psychopedagogy, 12.1% of Psychology, 4% of Pedagogy, 30.9% of Teaching, 10.2% of Law, 6% of Labor Sciences and 0.2% of Administration and Finance. Finally, 25.6% were first-year students, 24.2% second, 33.6% third and 15.4% fourth.

Under these criteria, to obtain the data, the questionnaires were administered to the students present in the classrooms of the various subjects mentioned. All participants answered voluntarily and anonymously.

Variables and Instruments

Perceived Psychological Wellbeing: It was evaluated through the Psychological Wellbeing Scale of Ryff[20]. This multidimensional scale consists of 39 items in which the respondent is asked to rate their agreement with each statement. The score for each item should be marked on a Likert scale, with six options ranging from one, which means "totally disagree" to 6 which

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means "totally agree." It provides information on five dimensions: Self-acceptance, positive relationships with other people, autonomy, personal growth, control of the environment and purpose in life. The reliability found for this study, applying Cronbach's alpha coefficient, was 0.89; 0.62; 0.78; 0.68; 0.67 and 0.81.

Perceived social support: The perceived social support was assessed through the Social Support Family and Friends questionnaire, AFA (by its acronym in Spanish)[21]. It consists of 15 items in which the interviewee is asked to evaluate to what extent someone important to him or her, their family or friends, is considered a source of support. The score for each item must be marked on a Likert scale, among five options that range from one, which means "Never" to five meaning "Always." The same questionnaire was used to obtain the social support perceived in both types of social networks. At first, the same instructions that the original proposes were applied. In a second moment, the individuals were asked to think about those important people when establishing a relationship through a VSN. Regarding the reliability of the measurements obtained in the sample, applying the Cronbach alpha coefficient, we received: family support for the RSP, $\alpha = 0.89$; for VSN, $\alpha = 0.96$; regarding the support of friends for FSN, $\alpha = 0.88$; and for RSV $\alpha = 0.93$.

Frequency of use of VSN: It was evaluated by an adaptation of the questionnaire of Hampton *et al*[22]. The translation of the question SNS3 on the frequency of use of VSN was used. «How often do you connect to social networks on the Internet?», In which participants respond between one «less than once a month», two «once a month», three «once a week», four «Once a day», five «several times a day» to six «constantly connected».

Sociodemographic questionnaire: To evaluate the control variables, a self-made survey explicitly designed for this study was used. It collects data such as gender, age, Academic year and degree.

Statistic analysis

The analysis of the data was carried out through the use of the statistical program SPSS v. 22. Correlation and hierarchical regression analysis were performed to know the possible predictive and explanatory capacity of the evaluated variables on the frequency of use of VSN, controlling the weight of the control variables (gender and age).

Declaration on ethical aspects

Given the ethical considerations indicated in the Declaration of Helsinki, this research is considered low risk, and at all times adhered entirely to it. The tests were administered within the class schedule of the students and in the presence of the researcher and his teacher. Previously, the approval of the different centers was requested, the objectives of the study were explained, and the informed consent of each one of the participants who voluntarily agreed to be evaluated was obtained, guaranteeing the confidentiality and anonymity of the information collected, as well as the non-performance of individual analyzes.

RESULTS

Most of the sample, 74.1%, reported being connected to virtual social networks "several times a day" or being "constantly connected," compared to 4.5% who did it "once a month," or "less than once a month" as we see in figure 1.

Figure 1. Percentage of the frequency of use of virtual social networks.
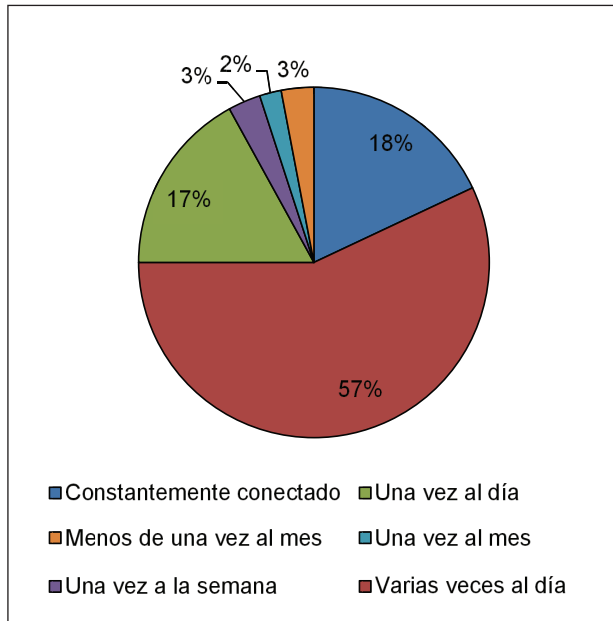
To verify the possible existence of a relationship between the frequency of use of VSN concerning psychological well-being and perceived social support, the Pearson correlation analyzes were carried out, as shown in Table 1. As can be seen, the frequency of use of VSN is related in a negative and statistically significant way with the dimension of well-being, the domain of the environment and with age. And positively with the perceptions of obtaining social support from friends both through the FSN, VSN, and the family through the VSN. Specifically, those people who perceive getting higher levels of social support from their friends through their FSN, as well as by their families and friends in the VSN make more frequent use of VSN.

Regarding the relationship between the domain of age and age concerning the frequency of use of VSN, a pattern of inverse correlations was found. People with higher levels of age and older domain report lower levels of frequency of use of this type of mediated interaction. On the other hand, no significant correlations were found between the recurrence of use of VSN and the levels obtained from the rest of the indicators of welfare and social support evaluated.

Table 1. Pearson correlations of the frequency of use of VSN concerning psychological well-being perceived social support and age.

	Frequency of use of virtual social networks				
	Pearson correlation	Sig. (bilateral)	Sum of squares and cross products	Covariance	N
Auto acceptance	-.086	.056	-33.145	-.067	496
Positive relationships	.045	.313	20.082	.040	497
Autonomy	-.018	.685	-6.735	-.014	494
Domain of the environment	-.141**	.002	-48.056	-.099	488
Personal growth	-.23	.604	-6.721	-.014	493
Purpose in life	-.074	.099	-28.585	-.058	494
Family support in FSN	.054	.232	177.536	.356	500
Support from friends in FSN	.154**	.001	407.512	.817	500

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	Frequency of use of virtual social networks				
	Pearson correlation	**Sig. (bilateral)**	**Sum of squares and cross products**	**Covariance**	**N**
Family support in VSN	.122**	.007	622.467	1.283	486
Support from friends in VSN	.290**	.000	996.567	2.059	485
Age	-.295**	.000	-691.827	-1.395	497
** The correlation is significant at the 0.01 level (bilateral)					

To check whether the perception of the domain of the environment and the perceptions of obtaining social support from friends through the FSN and VSN, and the family through the VSN predict the frequency of use of the VSN, a hierarchical regression analysis that allowed controlling and differentiating the possible effect of gender and age as covariates. In this analysis, only the welfare and social support dimensions that had correlated statistically significantly with the frequency of VSN use were introduced (Table 2).

Table 2. Summary of the hierarchical regression analysis between welfare criteria and perceived social support concerning the frequency of use of VSN.

Variable / predictor variable	R^2	Change in R^2	Sig. Change in F	B
Frequency of use of VSN				
Step 1	.13	.065	(2. 467) 16.314 (sig. .000)	
Age				-.167 (sig. .000)
Gender				.038 (sig. .409)
Step 2		.065	(4, 463) 8.607 (sig. .000)	
Domain Environment				-.145 (sig. .002)
Support from friends in FSN				.028 (sig. .618)
Family support in FSN				.030 (sig. .529)
Support from friends in VSN				.225 (sig. .000)

As can be observed, the perception of the domain of the environment and obtaining social support from friends through VSN was a significant predictor of the frequency of use of VSN, even after controlling the effect of age and gender. Notably, the perception of the domain of the environment appeared as a negative predictor of the level of frequency of use of VSN, while the perception of obtaining social support from friends through VSN looked like a positive predictor.

The results also showed the implication of the age variable when predicting in a significant and negative way the frequency of use of this type of social networks, with a lower degree of use by older people. Gender and the rest of the variables related to well-being and the perception of receiving social support through face-to-face and virtual social networks were not significant predictors of the frequency of use of VSN.

DISCUSSION

This study corroborates the results found in other studies on the relationship between the use of social networks and "online" communication, psychological well-being and the perception of receiving social support through them[7-10,14-19]. The analyzes carried out reported statistically significant positive correlations between the perception of receiving social support through FSN by friends, as well as between VSN by family and friends regarding the frequency of the use of VSN. In turn, statistically significant negative correlations were found between the perception of environmental domain and age with respect to the frequency of use of VSN, indicating that younger people and those who perceive having less control of the context in which they operate and where they can satisfy their wishes, they will use VSN more frequently, finding in the virtual world a context where they can relate with less difficulty. The hierarchical regression analysis showed that the perception of obtaining support from friends in the VSN and not having a domain of the environment explains, in part, and allows predicting the frequency of use of RSV. In addition, these effects were maintained even after controlling the influence of gender and age.

These results are consistent with other studies in which it is concluded that mediated or "online" communication helps insecure people avoid the

anxiety generated by direct interaction[16], correlating their frequency of use with lower psychological well-being[19], with the feeling of loneliness and the perception of lack of social skills in "offline" relationships[14,15] or self-esteem[18]. The use of VSN seems to provide social support in general, and on the part of friends in particular, when face-to-face relationships are more complicated, due to physical distance or psychological state. In this sense, the results would go in the line of those who defend that it is not that VSN use makes people feel worse, but that they use them more precisely when they feel bad, possibly because they also get with this type of interaction mediated a source of social support[19]. They, therefore, support the "community hypothesis" and that VSNs facilitate the creation of virtual "communities" that, like social ones, act as a source of welfare and social support, helping people who perceive themselves to be inefficient in the management and control of the daily responsibilities to increase the frequency of their interpersonal relationships through a mediated interaction. They would confirm that this new form of mediated relationship can provide benefits similar to those provided by face-to-face interactions[7], and allow connections to be established between people who would not otherwise take place, maintaining and maintaining links between those who also share "offline" connections8. In fact, currently, several studies show that the Virtual Learning Environments in university favors the development of personal and professional abilities[23-25].

CONCLUSION

To preventive educational interventions and being cautious with the generalization of the data, the evidence considers that a person who, being able to interact directly, very frequently uses interactions in VSN, does so in part because he does not perceive himself capable of controlling their social context. Thus, faced

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with an increase in the use of VSN by a person, one should explore if there has been any significant change in their social environment that they now observe as alien to their control, and lacks the social skills to face it. Interactions mediated by VSN would allow to experience the perception of greater control over the environment and to modify the conditions of it for their benefit. It should, therefore, develop educational programs to increase the social and emotional capabilities that allow enjoying the FSN and its benefits for health. That simultaneously encourages participation in virtual communities that act as a fundamental complement to social interactions when face-to-face meetings are not possible but do not displace them, nor lead to social isolation.

In turn, it can be seen that, as the age increases, a lower degree of use of VSN is observed. This may be indicative that the experience provided by the passage of time facilitates the acquisition of such skills when they have not been taught intentionally. It could also only indicate that the elderly, who did not learn to communicate on the Internet at the time, still do not know the benefits that this new form of communication would bring.

However, this study has certain limitations among which I would highlight the difficulty of generalizing the results to other populations. A sample of university students has been studied. It is unknown whether increasing the size of the same or including other communities; the results would be the same. In turn, we must be cautious when selecting the age groups of the participants under study, due to the existing gap between digital natives and digital immigrants.

Despite these limitations, the present study initiates an essential line of research on the relationship between VSN and health. The new VSNs seem to function as such social networks, acting as a source of social support, and improving or protecting health and well-being. It will be necessary to expand the studies to confirm these results and continue to investigate the similarities and differences of both types of social networks, for example, the types of social support they provide

DECLARATION ON CONFLICT OF INTEREST

The authors declare no conflict of interest.

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