

Intermediated Communication and Aging

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Abstract- Time spent in front of a computer may constitute a risk for the smoothness of the emotional contact and for the mental flow, especially for the senior-age category of population. In this study, we hypothesized that increases in age, respectively a multitude of worries related to the health condition, in association to a time spent in front of a computer higher than two hours per day, will determine a decrease in the feeling of success. We collected data via Internet and on paper-based format, through a back-translated measure. The examination of the hypotheses of study was in a multi-cultural sample of $N = 261$ participants, almost equally-sized by gender, having calculated cumulative frequency equal to 5.9 for the age of 35, 60, 63, 64 years old. The results obtained from conducting *TWO-WAY ANOVA* proved entire support of the hypotheses of this study. We discuss the limitations and the implications of these results for the development and maintenance of a healthy life-expectancy within various populations.

Index Terms- aging, health, virtual communication, feeling of success

I. INTRODUCTION

The growth of the elder population and that of the industrialization of the society have become quotidian realities. A negative consequence of the latter mentioned fact is the increase in the number of people searching for the available supplies and procuring provisions to serve to their daily living, through virtual means, a fact which may affect in an undesirable manner the quality of the interpersonal relationships, determining a decrease in the levels of the self-esteem and an increase in worries, even in passive and overt-aggressive types of behaviors. In previous studies, the authors gathered practical proves according to which the face-to-face transactions improve the sense of reality, preventing the affective-dependency and the Ego-split [1], and evidenced the need of education of the population in the spirit of literacy of using the intermediate means of communication [2]. The satisfaction of needs is a utopia in referring exclusively to a virtual environment. Moreover, there is proof according to which a moderate daily use of intermediate means of communication associate to a higher degree of family well-being [3]. We refer to techno-stress to represent a continuous experience of negative affect determined by the length of time spent in front of a computer or smart-phone, in the detriment of face-to-face encounters. We assume that the aforementioned will have a negative effect on all three dimensional facets of health: physical, emotional, and relational. In addition, it is well-known the fact that the increase in age associates positively with behaviors of withdrawal from an active social life [4], and with a diminished quality of health [5].

Therefore, considering the above statements, we formulate the first hypothesis (*H1*) in the following terms: increases in age, in association with the mediator variable referring to a length of time of over two hours per day spent in interactions through intermediate means of communication will determine decreases in the feeling of success. Secondly, we state that the multitude of worries related to the health condition associated with the aforementioned mediator factor, will have a similar effect on the outcome referring to the feeling of success (*H2*).

II. METHOD

In this section, we describe in brief the procedure, measurement instrument and sample of this study. Almost half of the participants of this study received monetary incentives for conferring their Internet-based answers to the questionnaires that we had developed into English language and back-translated into Romanian and Japanese languages. Prior to offering their answers to the questionnaire, the participants received written informed consent, stipulating the purpose of the research, the non-harmful effects of it, on the respondents and the voluntary withdrawn from the completion of the questionnaire, at any desired moment.

We used seven items to measure the feeling of success. In the order of the loading values, indicated in the output of Exploratory Factor Analysis, the content of these was: "I feel successful." (.95), "I am actively engaged in my life." (.87), "I find easily to adapt to the main roles of my life." (.79), "In general, I feel happy." (.77), "In comparing to other people of my age, I perform at least as well." (.75), "I do something rewarding every day." (.60), "I feel grateful for living in a sustainable environment." (.56). The values in the brackets are weighed loadings. This scale had a reliability Cronbach alpha of .91. The scale of answer provided to the participants was of seven-intervals, ranging from the value of "0" ("It does not apply to me at all") to the value of "6" ("I strongly feel so"/"I totally agree").

Through formulations constituting in single-item measures of this study, we asked the participants to provide to us the information referring to their age, time that they spent daily in communicating through phone or Internet and to answer if they had during a previous week any worries related to their health, as well as to provide advice for another person suffering. We coded the latter in the following manner, if they acknowledge an experience of suffering to another person and had no worries of health, we attributed the value of "2", if they either did not acknowledged suffering, or had worries related to health, we attributed the value of "1" and if they did not acknowledged suffering and had recent health-worries, we attributed the value of "0". Thus, we created, through addition, a composite variable designed to measure the worries about health. Also, we created a

transformed variable of intermediated time spent communicating, coded as following: lowest, below 60 minutes per day, medium, between 61 to 120 minutes, and highest, above a self-reported time spent in virtual communication of 120 minutes during a day. We mention that the characteristics of this sample referring to the mean age was of 51.55 years old ($SD = 13.67$). It comprised

149 females and 102 males. This sample was multicultural, 110 of it being represented by a population of U.S. nationality, 112, Asian-Japanese and 30, Eastern Europeans, living in Romania.

III. RESULTS

Table 1
Correlations Among and Descriptive Statistics For Key Study Variables

	<i>M (SD)</i>	C	G	A	HW	Com	FSL
Culture (C)	0.68 (0.66)		.05	-.04	-.21**	-.23**	-.29
Gender (G)	0.41 (0.49)			-.03	-.16*	-.07	-.13
Age-groups (A)	0.53 (0.50)				-.22**	-.07	-.13*
Worries about health (HW)	0.99 (0.74)					.11	.28**
Time per day spent with intermediated communication (minutes) (Com)	117.28 (124.48)						.06
Feeling of successful life (FSL)	4.66 (1.18)						

Notes. N 's range from 236 to 261 due to occasional missing data. For gender, 0 = female, 1 = male, for age groups, 0 = aged above 18, up to 45 years old; 1 = aged between 46 to 70 years old, at the time of answering to the questionnaire.
* $p < .05$; ** $p < .01$.

To examine the hypotheses, we conducted 2 x 3 and 3 x 3 analyses of variance; the significant results are shown in the below graphs, in Figure 1 and in Figure 2. We found full support of both hypotheses stated in the Introduction section of this article. Thus, for the middle-aged persons, spending more than two hours daily in intermediated interactions with others is a premise of their feeling of successful life. A time between one to two hours daily spent in intermediated communication type of interactions is the most recommendable activity to follow for those over the age of 45 years old. This probably also correspondent to the educational level acquired by the person engaging in the behavior of intermediated communication.

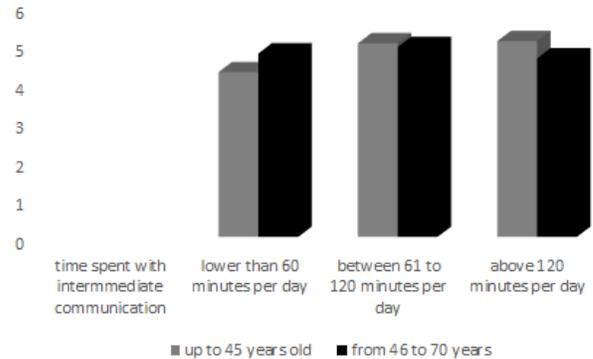


Figure 1. Interaction effect of age and time spent with intermediated communication, on feeling of successful life ($F = 3.68, p < .05, \eta^2 = .03$)

The analysis of post-hoc main effects, through Bonferroni paired-comparisons, revealed the existence of significant mean differences between those communicating through intermediated means less than one hour per a day and those communicating between one and two hours per a day ($F = 3.67, p < .05, \eta^2 = .03$).

The condition of a good functioning and good health-status, a composite of health-related worries and the acknowledgement of the experience of suffering to another person, if associated to a maximum of two hours per day of intermediated communication proved to associate to the highest levels of feeling of successful life. In the condition of a precarious health, one hour of intermediated communication per day determines increases in the feeling of successful life. If the health condition is good, overpassing the maximum of two hours per day of intermediate communication associates to an obvious decreased feeling of successful life.



Figure 2. Interaction effect of worries about health and time spent with intermediated communication, on feeling of successful life ($F = 2.90, p < .05, \eta^2 = .05$)

The results also revealed the existence of significant mean differences between the group characterized by the presence of health worries and lack of acknowledgement of suffering to another person and the immediate next to it group ($F = 10.01, p < .001, \eta^2 = .08$). The value of this difference was equal to 0.80. In addition, there was a significant squared mean difference between the group communicating through intermediate means less than one hour daily and that communicating in virtual manner between one to two hours daily ($MSE = 1.22, p < .05$).

IV. DISCUSSION, LIMITATIONS, CONCLUSIONS

The finding presented above reflect the risks for the aging population exposed to high amounts of communication through technological means, to feeling unsuccessful and therefore, depressed, nervous or anxious. Furthermore, in accord to the results, we consider that especially in the case of senior-aged category of population, complains about health condition may reflect in fact an unhealthy, inappropriate relational style of human interactions.

To note, neglecting the non-verbal indicators that confer valuable information about the emotional state of mind of another person is a main risk of over-use of intermediated communication. Such clues that are present into face to face interactions worth consideration for the perspective of aiming to maintain during life high levels of overall relational well-being. Moreover, since the dimensions of health are strong related, having implications over the life-expectancy of a population [6], the provision of opportunities to eye-contact would be a valuable care-resource.

We believe that an original point of this research that worth mentioned refers to the cutting point of two hours daily intermediated communication, a maximum above which there may have been noticed a risk for the well-being expressed through the feeling of life-success.

From the results presented in the above section, we remark that for the continuity of the feeling a success, and thus for surpassing eventual emotional blockages, it is important the connection to the experience of the needs of the self, of “here and

now”. This also constitutes a valuable strategy of preserving health.

Among the limitations, we mention the absence of indicators measured through well-designed instruments referring to attentional focus. Also, the decline in cognitive abilities was not a variable of this study. Moreover, in a future study, it would be of value to consider the content of the virtual activity in which a person engages in, and, eventually, the socio-individual value attributed to it.

On the basis of the above findings and discussion, there are a few conclusions to emphasize. First, in the nowadays globalized society, there may be necessary the implementation, since early-stages of development, and the reinforcement, of programs for the cultivation of a reciprocity of genuine interest within the social interactions. Second, since we brought evidence according to which age has an important role in interaction with the mediated-communication, we consider that it might be necessary to initiate, in accord to the medical personnel, inside the hospitals and clinics, mentorship type of trainings for the middle-aged to elder generation to preserve their social skills. Thirdly, from an individual perspective, “stepping back mentally” to be available to observe the natural environment may be the simplest modality of exercise in order to verify the anchor of the self in the reality, especially if the type of work implies restricted time spent in the presence of human persons.

We believe that there is a great amount of implications of the findings of this study, for the daily life. In the following, we enumerate only a few. Thus, mainly in an educational context, the establishment of rules the envision moderation in the use of the technological means of communication during the interactions with colleagues and subordinates, respectively superiors would confer a basis for the development of a healthy life-style and for a mutual-sustainable work and learning environment. In an organizational context, the refraining from abusive use of technological means for relating to other persons would contribute to the maintenance of work-life balance, preventing the escalation of conflicts. Improvement of the observation-skills of the non-verbal clues during a debate would be a valuable preventive factor of negative spillover, from work to home, or reversely. By all means, based on the above-evidenced findings, we recommend a great deal of precaution in the habit of accessing the virtual, intermediate means of communication for the fulfilling of needs. To specify, in case of abusive use, gratification feeling may transgress into an illusion of empowerment. Furthermore, this may constitute a determinant of the experience of rejection that may trigger deep feelings of depression and of isolation from society. We pledge for carefulness in the modality of interacting with another human being, especially concerning the population of elder age. Experiential learning and behavioral modelling are valuable modalities to prevent the collapse of the gratifying relationships in an era dominated by the virtual type of human rapports. Moreover, these constitute a pillar of authentic self-expression and life-planning.

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