

THE RELATIONSHIP BETWEEN INVOLVEMENT IN THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES AND FAMILY SOCIAL CAPITAL

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Взаимосвязь между вовлеченностью в использование информационно-коммуникационных технологий и внутрисемейным социальным капиталом

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Abstract

The study goal was to empirically test the direct and indirect effects of involvement in the use of information and communication technologies (ICT) and family social capital. To test these effects, we interviewed 104 families (parents and adolescents, $n = 208$). The direct effect test showed that the involvement in ICT use is a significant predictor of family social capital. At the same time, there is an inverse relationship: the higher the level of involvement of family members in ICT use, the lower the level of family social capital and all its components, especially trust. This means that the more adolescents and their parents are involved in ICT use

Резюме

Цель проведенного исследования состояла в эмпирической проверке прямых и непрямых эффектов вовлеченности в использование информационно-коммуникационных технологий (ИКТ) и внутрисемейного социального капитала. Для проверки данных эффектов нами было опрошено 104 семьи (родитель и подросток, итого 208 человек). Проверка прямого эффекта показала, что вовлеченность в использование ИКТ является значимым предиктором внутрисемейного социального капитала. При этом наблюдается обратная связь: чем выше уровень вовлеченности членов семьи в использование ИКТ, тем ниже уровень внутрисемейного социального капитала и всех его составляющих, особенно доверия. Это означает, что чем больше подростки и их родители вовлечены

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(Internet, tablets, phones and other gadgets), the less they trust each other, pay attention to needs and mutual support, and the relationship becomes more distant and formal. As we can see, the primary results obtained using the construct of “family social capital” confirm the “displacement hypothesis”, according to which involvement in ICT use reduces the time for contacts between family members and they “displace” direct interaction, making it formal. The indirect effect test showed that the involvement in ICT use is a significant mediator of the relationship between family social capital and subjective well-being. In this case, involvement in ICT use acts as a coping strategy if individuals are not satisfied with their relationships with relatives. The results obtained confirm the “social compensation hypothesis”.

Keywords: information and communication technologies, ICT, family social capital, adolescents, parents.

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в использование ИКТ (Интернет, планшеты, телефоны и другие гаджеты), тем меньше они доверяют друг другу, уделяют внимание потребностям и взаимной поддержке, отношения становятся более дистанцированными и носят формальный характер. Как видим, полученные первичные результаты с использованием конструкта «внутрисемейный социальный капитал» подтверждают так называемую гипотезу вытеснения, согласно которой вовлеченность в использование ИКТ сокращает время на контакты между членами семьи и они как бы «вытесняют» непосредственное взаимодействие, делая его формальным. Проверка непрямого эффекта показала, что вовлеченность в использование ИКТ является значимым медиатором связи внутрисемейного социального капитала с субъективным благополучием. В данном случае вовлеченность в использование ИКТ выступает как копинг-стратегия, если индивиды не удовлетворены отношениями со своими близкими. Полученные нами результаты подтверждают гипотезу «социальной компенсации».

Ключевые слова: информационно-коммуникационные технологии, ИКТ, внутрисемейный социальный капитал, подростки, родители.

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Сфера научных интересов: родители и дети, взаимоотношения в семье, внутрисемейный социальный капитал, межгрупповые отношения.
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Each of us now lives in the age of information and communication technologies (ICT), which include many gadgets: personal computers, smartphones, tablets, used for work and contacts on the Internet, for shopping anywhere in the world (Abar et al., 2018; O’Keeffe et al., 2011; Soldatova et al., 2017).

The invention of these technologies and their implementation caused a rapid change in society, influencing communication between individuals (Attewell et al.,

2003; Siraj, 2018). Now an increasing number of people are involved in the use of ICT to meet their social and psychological needs (Siraj, 2018).

We can observe the impact of such technologies in almost any sphere of life: from family relations to industrial relations. This fact has led to close attention to them from researchers who intend to find out how ICT affects society and social relationships, in particular family relations (Barbosa Neves et al., 2018; Kobayashi et al., 2006; Siraj, 2018).

A number of studies devoted to how ICT affects relationships within a family show mixed results. Some studies show that these technologies negatively affect this type of relationship. They indicate that ICT displaces social contacts between family members, causing the formation of conflict behavioral patterns (George & Odgers, 2015; Kraut et al., 1999; Kraut et al., 1998; Turkle, 2012). The time spent on the use of ICT is negatively related to the time spent on personal contacts. This fact made them think that the use of ICT has a negative impact on family relationships.

Other studies show that ICT, on the contrary, strengthens relationships in the family. Research has shown that online interaction allows individuals not only to support, but also to maintain social ties, to provide help to family more quickly (Davis, 2013; Jacobsen & Forste, 2001; Peter et al., 2005; Valkenburg & Peter, 2007). ICT cannot be the main consequence of anything (McKenna & Bargh, 2000; Peter et al., 2005), but contextual and individual factors determine the impact on social contacts. That is, in this case, ICT is a tool that can support or strengthen social contacts with the family (Resnick, 2001).

Other studies show that ICT contacts improve the quality of life for those who have limited physical abilities and those who have poorly developed social contacts (Barbosa Neves et al., 2018; Kraut et al., 2002; McKenna et al., 2002). The use of ICT may be an effective way to cope with negative social factors (e.g., dissatisfaction in the family). However, it should be said that due to the correlation design of these studies, it is quite difficult to find the cause-and-effect relationships between social ties and ICT use.

In order to understand the role of ICT in family relationships, it is necessary to take into account the contextual conditions in which they occur. This requires a special construct that would include the psychological components of family relationships. This leads to a contradiction between the need for a special construct to take into account all the components of family relations and the lack of such a construct in the literature. In our opinion, family social capital (FSC) can act as such a construct as a dynamic resource of socio-psychological relations within the family, which is one of the foundations of the subjective well-being of family members. FSC is an integral reciprocal system of child-parent socio-psychological relations, the structure of which includes the following types of relations between parents and children: mutual trust, psychological closeness, parents' attention to the child, and mutual support (Dubrov, 2019). We suppose the use of this construct will help to overcome the limitations of previous research.

The study goal is to test how family social capital is associated with involvement in the use of ICT. We hypothesize that ICT use has the relationship with family

social capital. Since this construct is relatively new, and such studies have not yet been conducted, this study will be an exploratory one.

Method

Sample

The participants of this study were parents and adolescents from Moscow and St. Petersburg, $n = 104$ families. Table 1 shows the gender and age characteristics of the sample.

Procedure

We surveyed participants in secondary schools in Moscow and St. Petersburg. The use of ICT in these cities is most active, which explains the choice of these cities for conducting the research. We used two versions of the questionnaire: one for adolescents and one for parents. The questionnaires provided detailed instructions for the participants. Questionnaires for parents were forwarded by adolescents. The survey was anonymous, but for research purposes, we coded questionnaires for each family. One parent and one adolescent were surveyed in each family. Participation in the survey was voluntary. Before filling out the questionnaire, participants filled out a consent form.

Measurements

Family social capital. The FSC questionnaire (Dubrov, 2016). Respondents expressed the degree of their agreement with 24 statements according to a 6-point Likert scale (1 – absolutely disagree; 6 – absolutely agree). We used two symmetrical versions of the questionnaire, for adolescents ($\alpha > .75$) and their parents ($\alpha > .77$). For example, “I usually feel warmth in my relationship with my parents (child)”.

Involvement in the use of ICT. Methodology for assessing involvement in the use of ICT (Tatarko et al., 2020). Respondents estimated the frequency of using ICT in their daily lives. There were 16 statements with a 5-point rating scale (from 1 – never to 5 – daily). For example, “How often do you use a computer, tablet, or laptop in everyday life?” $\alpha = 0.83/0.76$.

To test the indirect effects of the involvement in ICT use and FSC we measured the *subjective well-being* using the life satisfaction scale (Osin & Leontiev, 2008).

Table 1

Demographic Characteristics of the Study Sample

	N	Male	Female	M(SD) age
Adolescents	104	40.4%	59.6%	14.8 (1.65)
Parents	104	44.4%	55.6%	43.0 (6.92)
Total	208	42.8%	57.2%	

The scale consists of five statements with which the participants expressed their degree of agreement on a 6-point scale (from 1 – absolutely disagree to 6 – completely agree). For example, “In general, my life is close to ideal.” $\alpha = 0.82/0.75$.

Data Processing

We used linear regression analysis to test direct links between the involvement in the use of ICT and FSC. To test indirect effects, we used regression analysis with additional mediation analysis. To improve the reliability of the results, we cleaned the data from the effects of such socio-demographic variables as gender, age, parents' education, and family income. All the calculations we carried out using SPSS 23.

Results

Table 2 shows the descriptive statistics of FSC and the levels of involvement in the use of ICT in the perception of adolescents and their parents.

Table 2 shows that, in general, the surveyed families have an average level of FSC. In the sample of parents, the highest value is observed for “Parental support”. The smallest values are for “Trust”. In the sample of adolescents, the highest value is also observed for “Parental support”, and the lowest values are observed for “Psychological closeness”.

As for involvement in the use of ICT, it can be noted that parents demonstrate low levels of involvement. This suggests that, in general, the younger generation is more involved in the use of these technologies.

As for subjective well-being, adolescents and their parents demonstrate average levels of satisfaction with their lives. The differences between adolescents and their parents for this variable are statistically insignificant.

Table 2

Descriptive Statistics of FSC, the Levels of Involvement in the Use of ICT and Subjective Well-Being in the Perception of Adolescents and Their Parents

FSC components	Parents		Adolescents		<i>t</i>	Family	
	M	SD	M	SD		M	SD
Trust	4.93	0.88	4.45	1.13	***	4.69	0.84
Psychological closeness	5.02	0.81	4.32	1.01	***	4.67	0.76
Attention	5.37	0.71	4.68	0.93	***	5.02	0.70
Support from parents	5.53	0.70	4.85	1.14	***	5.18	0.75
Support from adolescents	4.97	0.92	4.58	1.03	***	4.78	0.84
FSC	5.16	0.70	4.58	0.89	***	4.87	0.69
Involvement in ICT use	2.81	0.70	2.90	0.58	***	2.85	0.51
Subjective well-being	3.59	0.78	3.54	0.75		3.56	0.61

*** $p < .001$.

Table 3 presents the results of regression analysis of data, where the dependent variable was the components of the FSC, and the independent variable was the involvement in the use of ICT.

As can be seen from Table 3, involvement in the use of ICT is a significant predictor of FSC and its components. The strongest relation is observed with the FSC as a whole and “Trust”, and the least with “Attention from parents”. This variable explains 14% and 12% of the variance, respectively. However, the relationship here is reversed, that is, the higher the level of involvement in the use of ICT, the lower the level of FSC and all its components, especially trust.

Now we turn to the test of the indirect links between involvement in the use of ICT and FSC. This test was carried out using the variable “Subjective well-being”, which implies the degree of satisfaction with the life of individuals. In our previous studies, FSC significantly positively predicted this variable (Dubrov, 2016).

Figure 1 presents a mediation model in which FSC acts as an independent variable and subjective well-being as a dependent and involvement in the use of ICT as a mediator.

As we can see, indirect links between involvement in the use of ICT and FSC are significant and explain 24% of the variance.

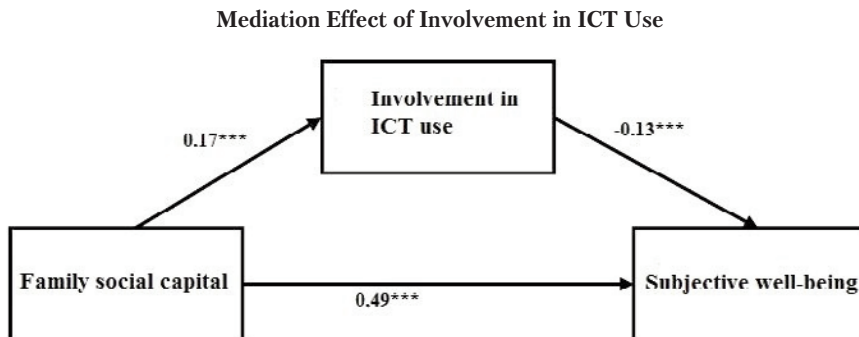
Table 3

The Relationship between the Involvement in the Use of ICT and FSC

FSC components	B	SE	β	R^2	F
Trust	-0.56	0.14	-.38***	.14	17.06***
Psychological closeness	-0.42	0.13	-.32**	.10	11.46**
Attention	-0.36	0.12	-.29*	.09	9.57*
Support from parents	-0.41	0.13	-.31**	.10	10.93**
Support from adolescents	-0.48	0.14	-.32**	.11	11.98**
FSC	-0.46	0.11	-.37***	.14	16.28***

* $p < .05$, ** $p < .01$, *** $p < .001$.

Figure 1



Discussion

We have established that involvement in ICT use is a significant predictor of FSC and its components. This means that the more adolescents and their parents are involved in the use of ICT, the less they trust each other, pay attention to others' needs and mutual support, and the relationship becomes more distant and formal. The primary results obtained confirm the so-called "displacement hypothesis", according to which involvement in ICT use reduces the time for contact between family members and it seems to "displace" direct interaction, making it formal (see Dubrov, 2020; George & Odgers, 2015; Przybylski & Weinstein, 2017).

The data obtained correlate with a number of studies conducted on the problem of the use of ICT in everyday life and relationships between family members.

However, if we consider indirect connections, then involvement in ICT use acts as a coping strategy if individuals are not satisfied with their relationships with their family members. In this case, our results confirm the hypothesis of "social compensation" (see Dubrov, 2020; Valkenburg & Peter, 2007).

Conclusion

The invasion of ICT into everyday life can affect family relationships. The role of involvement in ICT use on family relationships has been interpreted in the literature in different ways. Some of them confirmed that ICT can help maintain and strengthen family relationships and cohesion, while others pointed out that these technologies, especially when it comes to their excessive use, weaken relationships between family members, especially when they are used to communicate with non-relatives (Lee & Chae, 2007; Mesch, 2003; Valenzuela et al., 2014). Possible reasons for such contradictory results may be due to the fact that contextual variables related to family relationships were not taken into account. To solve this problem, we used a special construct "family social capital". We have determined that the higher the level of involvement of family members in ICT use, the lower the level of FSC and all its components, especially trust. However, the test of the indirect relation between these variables showed that involvement in the use of ICT acts as a coping strategy for individuals who are not satisfied with their relationships with their family members. By means of ICT, they can compensate, for example, for a low level of social capital in the family by building online relationships outside the family. Thus, ICT can act as a certain resource that allows individuals with low social resources to compensate for their lack (Przybylski & Weinstein, 2017).

However, in order to get a full understanding of the role of involvement in ICT use, it is also necessary to understand for what purpose individuals use these technologies. To do this, a qualitative methodology or experiment is needed on a sample bigger than we had in this study. This allows the analysis of each specific case of ICT use in families and provides the understanding of the direction of the relationships between the variables.

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