

DEVELOPMENTAL PSYCHOLOGY

Digital Socialization of Adolescents in the Russian Federation: Parental Mediation, Online Risks, and Digital Competence

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Background. Digital socialization is understood to be mediated by all available digital technological processes for mastering and appropriating a social experience online. Understanding of this new type of socialization requires studying parental mediation strategies for children's online activity, as well as the level of digital literacy of both children and parents, including through the prism of adolescents' confrontation with online risks.

Objective. To study digital socialization and the role of parents in this process; to reveal relationships between parental user activity, mediation, and digital competence, and adolescents' user activity, digital competence, and experience of online risks.

Design. The study was conducted on the basis of the EU Kids Online 2017–2019 survey methodology. The sample consisted of 1,553 schoolchildren aged 12–17 and 1,219 parents of adolescents the same age, all from the Russian Federation.

Results. The findings show that parents underestimate the online risks faced by adolescents, especially the most common communication and content online risks. Adolescents often do not notice parental “restrictive” and “active” mediation of their online activities. Adolescents' request for parental help with their online difficulties depends not on the parents' digital competence, but on their active mediation. In following parental active mediation and safety mediation strategies, adolescents are more likely to face online risks, but at the same time they use active coping strategies. The negative relationship between the adolescents' digital competence and parental restrictive mediation and technical control suggests that excessive control and limitations hinder the development of knowledge and skills in the safe mastering of the Internet.

Conclusion. The digital gap between adolescents and parents is observed both in confrontation with online risks and awareness of this experience, and in the application of parental mediation strategies. Parental active mediation provides stronger digital socialization and more constructive ways of coping with the threats of the digital world — online risks, which are the consequence of deep immersion into this world.

Keywords: digital socialization, adolescents, parental mediation, digital competence, online risks

Introduction

Digital technologies today are a major socialization agent that contends with family and school. The uniqueness of the younger generation is that traditional forms of socialization increasingly coexist with, and are crowded out and sometimes replaced by, new ways of acquiring the necessary knowledge and skills — digital socialization (Smith, Hewitt, & Skrbiš, 2015; Soldatova, 2018; Stornaiuolo, 2017). Digital socialization is understood as being mediated by all available digital technological processes of mastering and appropriating social experiences acquired online (Soldatova, 2018). Adolescents, as the most active Internet users, are at the forefront in the development of digital technologies. Studies have shown that a new lifestyle in the digital world creates a special social situation for the development of a child, which is characterized by a decrease of dominance of the adult in parent–child relationships in online contexts and mixed reality (Soldatova, Rasskazova, & Nestik, 2017).

This situation is determined by the digital gap between the generations of children and parents. Many parents do not quickly learn about digital technologies, and this determines the prevalence of children's independent and spontaneous development and use of them. This, however, does not contribute to the formation of a sufficient level of digital competence among children and adolescents, who are still very much in need of the support of adults, primarily their parents, both to develop new online opportunities and to cope with online risks.

Digital competence can be understood as consisting of (1) technical competence; (2) the ability to use digital technologies in a meaningful way for working, studying, and in everyday life; (3) the ability to evaluate digital technologies critically; and (4) motivation to participate in and commit to the digital culture (Ilomäki, Paavola, Lakkala, & Kantosalu, 2016). In this paper, we rely on the definition of digital competence as a personal capability and readiness to make confident, effective, critical, and safe choices and the implementation of digital technologies in various domains (information, communication, consumption, and the technosphere), which are based on continuous learning competencies (system of knowledge, skills, motivation, and responsibility) (Soldatova & Rasskazova, 2014).

Assessing the opportunities for adults and especially parents to participate in the role of experts in digital socialization and the effective and safe use of technologies, requires studying parental mediation strategies for children's online activity, as well as the level of digital literacy of both children and parents, including through the prism of adolescents' confrontation with online risks (Clark, 2012; Haddon, 2012; Helsper, Kalmus, Hasebrink, Sagvari, & de Haan, 2013; Ilomäki et al., 2016; Khurana, Bleakley, Jordan, & Romer, 2015; Lau & Yuen, 2013; Leung & Lee, 2012; Livingstone, Haddon, Görzig, & Ólafsson, 2011; Livingstone et al., 2017; Nathanson, 2015; Nikken & Schols, 2015; Smahelova, Juhová, Cermak, & Smahel, 2017; Shin, 2013; Soldatova & Rasskazova, 2014; Soldatova & Rasskazova, 2016; Vaala & Bleakley, 2015).

The digital competence of both parents and adolescents can mediate the choice of parental mediation strategies. These can be active mediation of Internet use (actively discussing and/or sharing the activity); active mediation of Internet safety; restrictive mediation (the establishment of rules that limit and regulate online time, the place of use, activities); technical controls; and monitoring (checking on the

child's online activities after use) (Livingstone et al., 2011). Mediation strategies can also help the child with the experience of dealing with online risks: communication (rude or inappropriate); technical (password theft or computer viruses, spyware and other programs that interfere with system operations, online theft of personal data or misuse of personal information); content (inappropriate or harmful); and consumer risks (online fraud, cash theft or unwanted spending) (Soldatova, Shliapnikov, & Zhurina, 2015).

The aim of the present study was to find relationships between parental user activity, mediation, and digital competence, on the one hand, and adolescents' user activity, digital competence, and experience of online risks on the other. We hypothesized that:

Hypothesis 1: There is a discrepancy in appraisals of online risks and parental mediation strategies between parents and adolescents: Adolescents report higher online risk and lower parental mediation than do parents.

Hypothesis 2: Personal meetings with online friends are among the most frequent online risks for adolescents. Other widespread risks include cyberaggression and negative content (violent, aggressive, hateful, sexual, etc.). Older adolescents more frequently report experience of online risks; there are almost no gender differences among them.

Hypothesis 3: Parental digital competence is related to adolescents' readiness to ask for their help, more productive strategies of coping with online risks, and lower risks related to misuse of personal information and being cheated online.

Hypothesis 4: Parental active mediation and safety mediation are related to higher readiness of adolescents to tell them (and possibly others) about their stressful experience online, more productive strategies of coping with online risks, and lower risks related to cyberaggression, misuse of personal information, and being cheated online.

Hypothesis 5: Parental restriction and technical mediation are related to lower online risks, but also to adolescents' poorer communication and technical abilities for coping with them (like how to change privacy settings), and trying to keep online risks secret.

Methods

Participants

The study involved 1,553 adolescents aged 12–17 years and 1,219 parents of adolescents the same age from eight federal districts (15 cities) of the Russian Federation. Among the schoolchildren, 471 were aged 12–13 years (218 boys — 46.3%; 241 girls — 51.2%; 12 did not indicate gender — 2.5%) and 1,082 were aged 14–17 years (493 boys — 45.6%; 541 girls — 50.0%; 48 did not indicate gender — 4.4%).

Among parents, 220 participants were men (18.0%), 959 were women (78.7%), and in 40 cases gender was not indicated (3.3%). In the group of parents, 409 people answered about their children 12–13 years old (33.6%); 796 (65.3%) about adolescents 14–17 years old; 14 did not specify the age of their child (1.1%). The sample comprised 510 parents of boys (41.8%), 645 parents of girls (52.9%), and in 64 cases these data were omitted (5.3%).

The sample of adolescents and parents was balanced according to their place of residence (relevant city districts) and the socioeconomic status of their families.

Measures

The study was conducted mostly on the basis of the EU Kids Online 2017–2019 survey methodology (Smahel et al., 2020). Findings were made by the following methods:

User activity. The assessment of user activity included two questions: “About how long do you spend on the Internet during a regular weekday (school day)?” and “About how long do you spend on the Internet during a regular weekend day?” There were 14 possible answers for each item, ranging from “Almost no time” and “Less than half an hour per day” to “12 hours per day and more”.

Parental mediation. To rate parental technical control, adolescents were asked, “Does your parent/guardian make use of any of the following...?” and parents were asked, “Do you (or another parent/guardian) make use of any of the following...?” The question consisted of seven items with the possible answers “Yes”/“No”, e.g., “Parental controls or other means of blocking or filtering some types of content”, and “Parental controls that filter the apps I can download”.

Parental active mediation and parental safety mediation were studied with the question for adolescents, “When you use the Internet, how often does your parent/guardian do any of these things?” and for parents, “When your child uses the Internet, how often do you do these things?” The questions for rating parental active mediation included four items (e.g., “Encourages me to explore and learn things on the Internet”). The questions for rating parental safety mediation included five items (e.g., “Talks to me about what to do if something online bothers or upsets me”). The answers to the question were estimated on a Likert Scale from 1 (“Never”) to 5 (“Very often”).

For appraisal of parental restriction, adolescents were asked, “Does your parent/guardian allow you to do the following things on the Internet, and if so, do you need their permission to do them?” and parents were asked, “Do you allow your child to do the following things on the Internet and if so, do they need your permission to do them?” The questions included five items, for example, “Use a social networking site”, “Play games with other people online”. Answers were estimated on a Likert Scale from 1 (e.g., “I am allowed to do this anytime”) to 4 (e.g., “I do not know if I am allowed to do this”).

For appraisal of adolescents’ request for parental mediation, adolescents answered the following question: “Have you ever done any of these things?” The question consisted of three items and was estimated on a Likert Scale from 1 (“Never”) to 5 (“Very often”), e.g., “Told my parent/guardian about things that bother or upset me on the Internet”.

Online risks. To evaluate the child’s confrontation with general online risks, a question was asked with two possible answers (“Yes”/“No”) for both adolescents and parents: “In the past year, has anything ever happened online that bothered or upset you in some way (e.g., made you feel upset, uncomfortable, scared, or made you think that you shouldn’t have seen it)?”

Two questions were asked about finding support and coping strategies in the following situation: “The last time something happened online that bothered or upset you, did you talk to any of these people about it?” (10 options were possible, e.g., “My mother or father”, “A teacher”) and “The last time you had problems with something or someone online that bothered or upset you in some way, did you do any of these things afterwards?” (13 options, e.g., “I ignored the problem or hoped the problem would go away by itself”).

Some of the questions were about concrete risks. Communication risk assessment included questions about meeting strangers (two items, for example, “In the past year, have you ever met anyone face-to-face whom you first got to know on the Internet?”) and cyberaggression (two items, e.g., “In the past year, how often did this happen in any of the following ways? Via a mobile phone or Internet, computer, tablet, etc.”). Confrontation with content risks was studied by asking, “In the past year, have you seen online content or online discussions where people talked about or showed any of these things?” with seven items (e.g., “Ways of committing suicide”). To assess confrontation with technical and consumer risks, the following question was asked: “In the past year, has any of the following happened to you on the Internet?” with seven items (e.g., “The device I use got a virus or spyware”, “I lost money by being cheated on the Internet”). Parents responded about their children’s experience.

Digital competence. We used the Brief Index of Digital Competence (IDC) (Soldatova & Rasskazova, 2018), which consists of four scales: Knowledge (eight items, “The possibilities of providing information about myself on the Internet and the ways to limit access to it are well known to me”), Skills (eight items, “Creating several user accounts for a specific computer: I have done it and know how to do it on the Internet”), Motivation (eight items, “I would like to learn how to use the Internet effectively for shopping, using payment systems and Internet banking”), and Safety (eight items, “Determine which files are worth downloading and which are not: I know how to do this”).

Procedure

The survey used the personal interview method and questionnaires for each age group. Forty-eight experienced interviewers/psychologists were selected for conducting the survey via a university network. Questions were asked to respondents individually, face-to-face. Adolescents took part in the survey only if they use the Internet. Parents took part only if they had children aged 12–17 who use the Internet. The parent interview was conducted with the parent who knew most about the child and their Internet use. The participants were informed about the study’s objectives and its voluntary and confidential nature.

Data Analysis

Statistical analysis included Student’s t-test and correlational analysis. Taking into account our sample sizes, the *p*-level for rejecting the null hypothesis was chosen to be $p < .01$. For all the scales’ consistency, Cronbach’s alpha varies from acceptable (.66–.70) to good (> .80).

Results

User Activity, Online Risks, Digital Competence, and Parental Mediation: Comparisons of Children and Parents

As expected, adolescents spent more time online than their parents (*Table 1*). Possibly as a result, they are more skilled (both for technical skills and safety) online, but there are no differences in knowledge about and motivation to improve digital competence between adolescents and parents. Interestingly, adolescents appraise any parental mediation (both active participation and restriction) as lower than parents do. In other words, there is a discrepancy between parental intentions to participate and adolescents' subjective perception of parental mediation, such that the adolescents underestimate and/or the parents overestimate the mediation. The same pattern was found for adolescents' active search for parental help: Adolescents appraise it as lower than parents do.

Boys and girls did not differ by digital competence and parental mediation, but girls spent more time on the Internet, more frequently combined it with other daytime activities, and asked for parental mediation ($t = -3.76 - -2.78$, $p < .01$, $\eta^2 = .01$). However, effect sizes for these differences were rather low.

Table 1

User activity, digital competence, and parental mediation: Comparison of adolescents and parents

Scales	Adolescents		Parents		Student's t-test	Effect size η^2
	Mean	Std. Deviation	Mean	Std. Deviation		
User activity	6.61	2.94	4.77	2.52	17.31**	.10
Parental mediation — Technical control	.18	.26	.38	.35	-16.43**	.10
Parental mediation — Active mediation of Internet use	2.43	.85	3.02	.76	-18.78**	.11
Parental mediation — Safety mediation of Internet use	2.41	1.05	3.08	.97	-17.08**	.10
Parental mediation — Restrictions	1.31	.57	1.57	.73	-1.20**	.04
Adolescents' request for parental mediation	2.14	1.03	2.57	1.00	-1.83**	.04
IDC — Knowledge	51.93	33.95	47.18	31.70	1.85	.01
IDC — Motivation	35.36	30.88	37.42	29.22	-.87	.00
IDC — Skills	59.26	32.34	40.78	27.61	7.82**	.09
IDC — Safety	60.09	33.72	39.52	31.91	8.04**	.09
IDC — General	51.75	22.21	41.13	19.38	6.50**	.06

Note: IDC = Index of Digital Competence. ** $p < .01$.

Table 2
Online risks to adolescents: Comparison of parents' and children's appraisals

Online risks	Adolescents	Parents' appraisals	Pearson's χ^2	Cramer's V
General online risks	48.3%	32.5%	58.18**	.16
Contact with strangers on the Internet	64.5%	46.9%	74.45**	.18
Meeting offline with Internet acquaintances	47.4%	15.2%	247.19**	.35
Cyberaggression — Victim (at least once per month)	23.4%	—	—	—
Cyberaggression — Aggressor (at least once per month)	14.1%	—	—	—
Somebody used my personal information in a way I didn't like	14.1%	7.5%	26.84**	.10
The device I use got a virus or spyware	15.8%	11.9%	7.71**	.06
I lost money by being cheated on the Internet	12.8%	11.8%	.55	.02
Somebody used my password to access my information or to pretend to be me	15.9%	4.7%	78.58**	.18
Somebody created a page or image about me that was hostile or hurtful	7.2%	9.2%	3.60	.04
I spent too much money on in-app purchases or online games	11.0%	23.3%	68.85**	.17
Someone found out where I was because they tracked my phone or device	5.4%	2.2%	11.44**	.07
I saw online: Ways of physically harming or hurting oneself	53.0%	20.6%	256.23**	.33
I saw online: Ways of committing suicide	27.7%	6.0%	183.62**	.27
I saw online: Ways to be very thin	50.5%	22.4%	197.29**	.28
I saw online: Hate messages that attack certain groups or individuals	51.9%	18.8%	276.23**	.34
I saw online: Experiences of taking drugs	31.1%	11.5%	129.47**	.23
I saw online: Gory or violent images, for example of people hurting other people or animals	25.0%	22.2%	2.21	.03
I saw online: Obscene pictures or videos	52.7%	16.3%	269.68	.35

Note: ** $p < .01$.

Comparisons of adolescents 12–13 and 14–17 years old reveal no differences in digital competence and parental active mediation, but adolescents 12–13 years old spent less time online ($t = -8.97 - -1.91, p < .01, \eta^2 = .05-.08$), more frequently ask for parental mediation ($t = 3.94, p < .01, \eta^2 = .01$), and more frequently reported

parental safety mediation, parental control, and restrictions ($t = 5.88-6.21$, $p < .01$, $\eta^2 = .03$).

As shown in *Table 2*, almost one in two adolescents reported experience of encountering online something that disturbed or upset them. The most frequent online risks include communication with strangers, seeing ways of causing physical harm to other people, losing weight, aggressive messages to groups or individuals, obscene pictures or videos. Rarely do adolescents report that they were initiators of cyberbullying, that their personal information was misused, that they were cheated online, or spent too much money online, or their device was infected by a virus. However, even for these situations, more than one adolescent out of ten had such an experience. For almost every online risk (except cheating online, unpleasant content, and gory or violent images), there are differences between adolescents' reports and parental appraisals. In most cases, parents underestimate online risks and probably do not know that their children have experienced them. The only exception is spending too much money online: Parents appraise this risk much higher than do adolescents.

Girls more frequently than boys (55.5% versus 40.4%, $\chi^2 = 29.70$, $p < .01$, Cramer's $V = .15$) report that they encountered online something that disturbed or upset them. There were no gender differences in general coping with online risks except one: Girls more frequently reported the problem online (clicked on a "report abuse" button, contacted an Internet advisor; 11.1% versus 5.7%, $\chi^2 = 7.20$, $p < .01$, Cramer's $V = .10$). Girls less frequently than boys reported that they initiated cyberaggression at least once per month (8.7% versus 19.6%, $\chi^2 = 20.94$, $p < .01$, Cramer's $V = .17$) and that they spent too much money online (7.8% versus 14.3%, $\chi^2 = 15.23$, $p < .01$, Cramer's $V = .10$). They more frequently reported that they saw content describing ways of weight loss (60.7% versus 39.4%, $\chi^2 = 63.04$, $p < .01$, Cramer's $V = .21$). No other gender differences in the experience of online risks were found.

Surprisingly, there were no age differences in general online risks and just a few differences in ways of coping with them. Adolescents 14–17 years old more frequently change privacy settings after experience of risks online than do those 12–13 years old (18.9% versus 9.5%, $\chi^2 = 12.35$, $p < .01$, Cramer's $V = .12$) and report the problem online (11.8% versus 4.4%, $\chi^2 = 11.93$, $p < .01$, Cramer's $V = .12$). Also older children more frequently identify as "friends" people whom they do not know personally (72.3% versus 47.7%, $\chi^2 = 82.52$, $p < .01$, Cramer's $V = .24$) and meet them offline (51.9% versus 34.6%, $\chi^2 = 23.01$, $p < .01$, Cramer's $V = .15$), more frequently report being aggressors in cyberbullying at least once per month (17.6% versus 10.7%, $\chi^2 = 87.51$, $p < .01$, Cramer's $V = .33$), lost money or were cheated online (15.1% versus 7.7%, $\chi^2 = 15.50$, $p < .01$, Cramer's $V = .10$), spent too much money online (13.2% versus 6.6%, $\chi^2 = 13.93$, $p < .01$, Cramer's $V = .10$). Older adolescents more frequently encounter almost every one of the listed online risks related to negative content (ways of causing physical harm, committing suicide, losing weight, aggressive messages, experience of taking drugs, cruelty or violence, obscene pictures, $\chi^2 = 26.76-83.37$, $p < .01$, Cramer's $V = .14-.25$) — probably because they are more active online or because they are intentionally looking for such context.

Relationship Between Parental Mediation, Parental Digital Competence, and Adolescents' User Activity and Online Risks

Parental mediation strategies are almost unrelated to adolescents' user activity. Parents reporting higher active and safety mediation appraise their children as more active online than parents reporting lower active and safety mediation, but adolescents' data do not support this result. However, active parental participation and safety mediation are indeed associated with adolescents' readiness to ask parents for help and tell them about online problems. This result is supported by both the adolescent and parent data. Higher parental restrictions and technical control are related to lower adolescent digital competence. Interestingly, higher restrictions correlate with lower digital skills and safety, while higher technical control is related to less knowledge about the Internet. Parental digital competence was unrelated to their children's readiness to ask for their help.

General Online Risks

Both adolescents' and parents' digital competence were unrelated to general online risk experience, but adolescents who reported the experience of something that disturbed them online were more active users than adolescents who denied having this experience ($t = -4.36$ – -3.40 , $p < .01$, $\eta^2 = .01$). They also more frequently asked their parents to help with something online ($t = -5.96$, $p < .01$, $\eta^2 = .03$) and felt more active mediation and safety mediation from parents in their Internet use ($t = -3.15$ – -2.90 , $p < .01$, $\eta^2 = .01$). There were no differences in their appraisals of parental restrictions and technical control.

Parents who reported that their children experienced something that disturbed them online described their children as actively asking for help regarding their online activities ($t = -12.94$, $p < .01$, $\eta^2 = .15$) and were rated higher on parental active and safety mediation ($t = -9.17$ – -4.17 , $p < .01$, $\eta^2 = .02$ – $.08$).

Adolescents who reported higher active and safety parental mediation ($t = -9.96$ – -6.34 , $p < .01$, $\eta^2 = .05$ – $.11$) and fewer restrictions ($t = 3.41$, $p < .01$, $\eta^2 = .01$) more frequently told their parents about their problem online. Interestingly, active and safety parental mediations were also related to sharing the experience of online risk with brothers and sisters ($t = -6.43$ – -4.25 , $p < .01$, $\eta^2 = .02$ – $.05$).

Adolescents reporting higher technical parental control are less frequently inclined to share their experience of online risk with a friend ($t = 3.12$, $p < .01$, $\eta^2 = .01$), while those reporting lower safety parental mediation more frequently keep their experience secret ($t = 3.50$, $p < .01$, $\eta^2 = .02$).

Higher subjective active and safety parental mediation in adolescents was related to closing apps or windows when feeling anxious or disturbed online ($t = -4.29$ – -3.77 , $p < .01$, $\eta^2 = .02$). Higher safety parental mediation is related to changing of privacy settings as a reaction to online risk ($t = -2.76$, $p < .01$, $\eta^2 = .01$). Adolescents experiencing more parental restrictions less frequently block other people from communication with them and less frequently report a problem online (e.g., by clicking on a "report abuse" button or contacting an Internet advisor, $t = 3.06$ – 3.27 , $p < .01$, $\eta^2 = .01$). No other differences in reaction to online risk related to parental mediation strategies were found.

Table 3

Relationships of parental mediation strategies to adolescents' user activity, asking for mediation, digital competence, and experience of cyberaggression (parental appraisals are given after "/")

Adolescents' user activity, digital competence and experience of cyberaggression	Parental mediation — Technical control	Parental mediation — Active mediation of Internet use	Parental mediation — Safety mediation of Internet use	Parental mediation — Restrictions
User activity	-.12** / .04	-.01 / .15**	-.14** / .16**	-.12** / -.07*
Adolescents' request for parental mediation	.28** / .09**	.50** / .41**	.66** / .61**	.14** / -.01
IDC — Knowledge	-.22**	-.09	-.09	-.17**
IDC — Motivation	-.06	.02	.02	.02
IDC — Skills	-.18**	-.05	-.03	-.25**
IDC — Safety	-.14*	.00	.08	-.22**
IDC — General	-.22**	-.05	.00	-.24**
Experience of cyberaggression as a victim	.05	.05	-.04	.04
Experience of cyberaggression as an initiator	.06	-.02	-.08*	.01

Note: IDC = Index of Digital Competence; * $p < .05$; ** $p < .01$.

Online Communication Risks

Adolescents communicating online with strangers and making friends with them report less parental technical control, restriction, and safety mediation ($t = 3.58-5.70$, $p < .01$, $\eta^2 = .01-.02$). Parents informed that their children communicate with strangers online report lower technical control and restrictions ($t = 2.84-5.43$, $p < .01$, $\eta^2 = .01-.03$), but not less safety mediation. However, none of the parental strategies were related to personal meetings with online friends (which are typical for almost 50% of the adolescents).

Frequency of experience of cyberaggression (as a victim) and initiation of cyberaggression (as an antagonist) were unrelated to parental mediation (see Table 3).

Online Content Risks

Adolescents with higher parental restrictions and technical controls rarely reported that they saw ways of causing physical harm online ($t = 3.36-3.54$, $p < .01$, $\eta^2 = .01$). Seeing dangerous ways of losing weight online corresponded to higher active and safety parental mediation ($t = -2.95 - -2.83$, $p < .01$, $\eta^2 = .01$), but lower restrictions ($t = 2.78$, $p < .01$, $\eta^2 = .01$). Higher subjective parental restrictions were also more typical of those who reject seeing hate messages that attack certain groups or individuals online ($t = 3.25$, $p < .01$, $\eta^2 = .01$). Experience of seeing drug use was related to lower safety mediation only ($t = 3.94$, $p < .01$, $\eta^2 = .01$). Experience of seeing images of cruelty and violence was related to higher active parental mediation only ($t = -3.71$, $p < .01$, $\eta^2 = .01$). There were no differences in parental mediation between those who

reported seeing ways of committing suicide online and those who did not, or between those who reported that they saw sexual images online and those who did not.

Parents using more restrictions and technical controls rarely reported that their children saw dangerous ways of losing weight online ($t = 2.77\text{--}4.54$, $p < .01$, $\eta^2 = .01\text{--}.02$). Those using more restrictions rarely reported that their children encountered content about physical harm ($t = 3.42$, $p < .01$, $\eta^2 = .01$), using drugs ($t = 3.14$, $p < .01$, $\eta^2 = .01$), images of cruelty or violence ($t = 4.69$, $p < .01$, $\eta^2 = .02$), or sexual images ($t = 4.60$, $p < .01$, $\eta^2 = .03$). Having seen hate messages online is related to lower parental restrictions and technical control ($t = 4.36\text{--}5.91$, $p < .01$, $\eta^2 = .01\text{--}.03$), but higher safety mediation ($t = -4.04$, $p < .01$, $\eta^2 = .02$).

Technical and Consumer Online Risks

Adolescents who reported that their devices were infected by a virus appraised their parental technical control, restrictions and active mediation as higher ($t = -4.83\text{--}-2.77$, $p < .01$, $\eta^2 = .01\text{--}.02$) while adolescents who reported that somebody misused their password or created unpleasant content about them online, or that they had lost too much money online also appraise their parental technical control and restrictions as higher ($t = -5.27\text{--}-2.75$, $p < .01$, $\eta^2 = .01\text{--}.02$). Adolescents who were cheated or lost money on the Internet described their parents as higher in active and safety mediation ($t = -3.99\text{--}-3.75$, $p < .01$, $\eta^2 = .01$). In the sample of adolescents, risk of misuse of personal information was unrelated to parental mediation.

Parents who reported that their children experienced misuse of their personal information online were lower in restrictions ($t = 3.31$, $p < .01$, $\eta^2 = .01$) and higher in safety mediation ($t = -2.89$, $p < .01$, $\eta^2 = .01$) compared to those who do not. Infection of an adolescent's device by a virus was more frequently reported by parents with lower restrictions ($t = 3.08$, $p < .01$, $\eta^2 = .01$).

Discussion

Online risks and parental mediation: divergence in assessments of adolescents and parents. According to our **first hypothesis**, adolescents are much less likely than their parents to note any strategies of their parents to participate in their online activities — both restrictions and support. With regard to most of the online risks, especially regarding communication (meeting strangers) and content (encountering negative content), adolescents note that they had had such an experience, and parents mostly deny it. The exception is spending too much money online, which parents note more often than adolescents, most likely due to ambiguity in the wording regarding what is considered “too much” money for an adolescent.

In our view, the discrepancy in the estimates of parental mediation partly reflects the general discrepancy between purposeful participation (desired by the initiator) and subjectively perceived (by the recipient) participation. In other words, adolescents tend not to notice and underestimate their parents' actions, both restrictive and supportive, and parents tend to believe that they are doing more than their children actually notice. From a practical point of view, this result is important because parents may have the illusion that they are doing everything they can to help their child online, whereas adolescents do not follow their parents' restrictions, simply because they do not notice them. In contrast to the discrepancy in the assessment of

parental mediation, the discrepancy in the assessment of online risks is apparently due to the lack of awareness on the part of parents and their underestimation of risk.

Online risks and their dependence on adolescent gender and age. According to our **second hypothesis**, the online activity of Russian adolescents cannot be called safe. Our results are consistent with data from other studies on children in different countries (Blum-Ross & Livingstone, 2016; Livingstone et al., 2011; Lupiáñez-Villanueva et al., 2016; Ofcom, 2016; Soldatova & Rasskazova, 2016). Almost every second child meets in person with those whom he or she had talked with only on the Internet, and more than half came across a description online of how to cause physical harm, as well as sexual content, hateful messages in relation to individuals and groups of people, and methods for excessive weight loss. One adolescent out of three or four notes having been a victim of cyberaggression, having seen descriptions of suicide methods, someone's drug use experience, images of cruelty and violence. One out of ten has experienced the abuse of personal information online, password theft, or fraud. Content and communication risks are most prevalent (Livingstone et al., 2011; Lupiáñez-Villanueva et al., 2016; Ofcom, 2016; Ofcom, 2018). Adolescents aged 12–13 spend less time online than those aged 14–17, but age-related differences in digital competence and exposure to online risks are fewer than similarities (Lupiáñez-Villanueva et al., 2016; Ofcom, 2016).

Adolescents aged 12–13 are no less competent online than those aged 14–17 (at least based on their assessment of their specific knowledge and skills). However, when faced with online risks, older adolescents are more likely to report a problem online and change the privacy settings of their profile. Given that adolescents aged 12–13 years often also know how to do this (they possess the necessary skills), we can assume that older adolescents are more psychologically prepared to solve problems online at a technical level, perceiving them as everyday problems that are technical in nature and do not affect them personally.

With regard to specific online risks, the second hypothesis has also been confirmed: Adolescents aged 14–17 are more likely to meet in person with online friends. These results are consistent with a study showing that when using social media, half of secondary school pupils and over one quarter of primary school pupils have communicated with people they do not know (Clarke & Crowther, 2015). Adolescents aged 14–17 are subject to online fraud, initiate cyberaggression, and encounter almost any negative content. Contrary to the second hypothesis, girls are more likely than boys to say that something upset or worried them online, but when comparing the frequency of individual online risks, the differences between boys and girls are minimal. Boys more often say that they are aggressors online and spend too much money on the Internet, whereas girls say that they see information about methods of excessive weight loss.

Parental mediation and the exposure of adolescents to online risks. Contrary to our **third hypothesis** and the results of other studies (Clark, 2011; Livingstone et al., 2017; Nikken & Schols, 2015; Pasquier, Simões, & Kredens, 2012; Shin & Huh, 2011), the digital competence of parents is hardly connected at all to the willingness of adolescents to ask for their help and report problems online, and is not related to online risks and coping strategies. In our view, this result is explained by the fact that more successful and trusting interaction of children and parents about the Internet does not depend on the knowledge and skills of the parents, but on the interest, trust, or, conversely, the restrictions that are created in this interaction. According to

this explanation, adolescents often turn to parents who adhere to active mediation and safety mediation, regardless of the restrictions and control they exert.

Unlike parental digital competency, parental mediation strategies, although not related to adolescent user activity and the risk of overuse of the Internet, involve a series of other online risks, as well as digital competence. In line with **Hypothesis 4**, active parental mediation and safety mediation, according to estimates of both adolescents and parents, are associated with a greater willingness on the part of adolescents to ask their parents for help. In contrast, as **Hypothesis 5** predicts, parental technical controls and restrictions are associated with lower digital competencies on the part of adolescents. One can assume that restrictions and control impede the formation of user skills, including the skills of safe use of the Internet.

If we combine the results obtained on the relationship between parental mediation strategies and online risks, active mediation and safety mediation strategies are associated with a greater likelihood that adolescents who encountered these online risks (according to both the adolescents and their parents) would tell their parents and brothers or sisters about them. As well as the fact that in a conundrum online, an adolescent will simply close the page that caused negative feelings. The data indicate that adolescents are more likely to face some content-related risks when there is active parental mediation, and online fraud is more common among adolescents whose parents support their user activity. Similar findings are presented in studies conducted under the supervision of S. Livingstone (Livingstone et al., 2017). Thus, active mediation is not only associated with higher risks, but also opens up more opportunities for coping with them.

Parental mediation of security is additionally related to the fact that adolescents will try not to hide what happened, but to share it with at least someone, as well as change their privacy settings after facing online risks, and are less likely to make friends with those whom they do not know offline.

Restriction and technical control strategies with a common likelihood of adolescents encountering online risks are not associated with each other, but are associated with a lesser likelihood of online dating (although not related to the likelihood of personal meetings with online acquaintances). Restrictions from parents are less likely to mean that an adolescent will tell them about an online problem that has arisen, block contacts with those who have bothered or upset them online, or complain online about the problem. Although according to parents, restrictions and technical control are associated with a lower risk of adolescents encountering negative content, according to adolescents, this is true only for certain types of content. These results are partly consistent with the findings that using restrictive mediation reduces the encounter with online risks (Chang et al., 2015; Lau & Yuen, 2013; Mesch, 2009).

Limitations and control are connected with the fact that adolescents are less likely to encounter online methods of physical abuse, losing weight, and hateful messages (Chang et al., 2015; Lau & Yuen, 2013; Mesch, 2009; Ofcom, 2016). However, an encounter with someone else's experience in using drugs is associated only with a lower level of security mediation, and an encounter with an image of cruelty is associated with more active mediation. Similarly, if, according to the parents, the restrictions are associated with a lower risk of infection of the adolescent's digital device with a virus and the abuse of personal information, then, according to the adolescents, technical control and restrictions are associated with a greater risk of the device's damage, password theft, and excessive cash costs.

In general, the data indicate that the advantages of restrictive parental mediation strategies are the ability to protect the child from certain types of negative content, as well as online dating. Their limitations are determined by greater passivity and lower digital competence of the adolescents themselves, as well as the fact that they often hide their activity online from their parents and do not ask for their help. In addition, restriction and technical control strategies do not seem to help with regard to technical risks and fraud; adolescents whose parents use these strategies face these risks even more often than adolescents whose parents do not use them, but rarely tell their parents about them. The advantages of active mediation and security mediation are related to more open communication, when adolescents more often tell their parents about what happened online and ask for their help, are more willing to change privacy settings, and their limitations concern the greater risk of encountering negative content and online fraud.

Conclusions

Adolescents often do not pay much attention to parental bans and their parents actively taking part in their online activities, while their parents underestimate the risks (primarily regarding communication and content) encountered by their children. Meeting in person with online friends, hateful messages, sexual content, ways of inflicting physical harm, cyberaggression, ways of taking drugs and committing suicide are the most common online risks, and many of these are underestimated by parents. In regard to meeting in person with online friends, excessive financial costs, fraud and all types of negative content, older adolescents (14–17 years) fall into the risk group. Gender differences in encountering online risks are isolated and can be explained by the pattern of social requirements and images of men and women that are typical of Russian culture. The study shows that the decision of adolescents to look for help from their parents in regard to online difficulties depends not on the digital competence of their parents, but on the way their parents mediate: active support while using the Internet and attention to safety measures. On the one hand, parental active mediation and safety mediation are related to adolescents' greater willingness to share with their parents what happened online or take some measures (for example, to change privacy settings); on the other, they are more related to a higher probability of encountering online risks by adolescents, in particular negative content or online fraud. By comparison, restrictive mediation and technical control are less related to general online risks, but more related to technical risks and theft of personal information, which parents may not be aware of. Negative correlation between adolescents' digital competence and their parents' restrictive mediation and technical control allow us to suggest that excessive control and restrictions interfere with developing skills and expertise in exploring the Internet, including safe exploration.

Limitations

The limitations of this study are primarily in the characteristics of the sample. Only subjective estimates obtained in two different samples were used: parents and adolescents. Unlike studies performed on parent–child pairs, this does not reveal the sources of discrepancies in their assessments and perceptions. Respondents were residents of large cities. These sampling features may limit generalization of the results.

Acknowledgements

This study was supported by the Russian Science Foundation, project No. 18-18-00365. The authors express their appreciation for the help of all the specialists from different cities who took part in data collection and digitizing.

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Original manuscript received May 24, 2020

Revised manuscript accepted November 18, 2020

First published online December 30, 2020

To cite this article: Soldatova, G.U., Rasskazova, E.I., Chigarkova, S.V. (2020). Digital Socialization of Adolescents in the Russian Federation: Parental Mediation, Online Risks, and Digital Competence. *Psychology in Russia: State of the Art, 13*(4), 191–206. DOI: 10.11621/pir.2020.0413