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Parental internet activity and communication through the new media - literature review

Aktywność internetowa i komunikacja rodziców z wykorzystaniem nowych mediów – przegląd literatury¹

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Abstract: Global economic and social transformations, as well as technological progress, require people to modify used methods of communication. Traditional forms of information exchange have given way to the so-called new media enabling trouble-free communication using the Internet. These changes also affected family life. Digitization, appearing at each stage of the functioning of the family system, is to some extent based on remote communication processes, allowing its individual members to carry out their development tasks. According to the theory of social learning, parents constitute the basic pattern of behavior that children derive from and reproduce. Therefore, parental functioning in the virtual world is important for the later adaptive use of the Web by representatives of the younger generation. In addition, online communication acts as a source of information and a normalizer of social relations, fosters building interpersonal competencies and identity, and modifies the way of fulfilling the parental role. Based on the above-mentioned aspects, this article characterizes the process of digitization of motherhood and fatherhood, showing the basic ways and consequences of using the Internet by parents, and systematizing the knowledge about communication functions in the context of mothers and fathers online activity.

Keywords: parenting, mothers, fathers, online communication, Internet

Abstrakt: Globalne transformacje gospodarczo-społeczne oraz postęp technologiczny wymagają od ludzi modyfikacji w zakresie stosowanych przez nich sposobów komunikacji. Tradycyjne formy wymiany informacji ustąpiły tzw. nowym mediom umożliwiającym bezproblemową komunikację na odległość z wykorzystaniem Internetu. Zmiany te nie ominęły także życia rodzinnego. Cyfryzacja, pojawiająca się na każdym z etapów funkcjonowania systemu rodzinnego, opiera się w pewnej części na zdalnych procesach komunikacyjnych, pozwalających poszczególnym jego członkom realizować ich zadania rozwojowe. Rodzice, zgodnie z teorią społecznego uczenia się, stanowią podstawowy wzorzec zachowań, z którego czerpią i który powielają dzieci. Ich funkcjonowanie w świecie wirtualnym ma zatem znaczenie dla późniejszego adaptacyjnego korzystania z Sieci przez przedstawicieli młodszego pokolenia. Ponadto, komunikacja online pełni funkcję źródła informacji oraz normalizatora relacji społecznych, sprzyja budowaniu kompetencji interpersonalnych oraz tożsamości i modyfikuje sposób realizowania roli rodzicielskiej. Opierając się na powyższych aspektach w niniejszym artykule scharakteryzowano proces digitalizacji macierzyństwa i ojcostwa ukazując podstawowe sposoby użytkowania Internetu przez rodziców wraz z ich konsekwencjami oraz systematyzując wiedzę na temat poszczególnych funkcji komunikacji w kontekście internetowej aktywności matek i ojców.

Słowa kluczowe: rodzicielstwo, matki, ojcowie, komunikacja online, Internet

¹ Artykuł w języku polskim dostępny jest na stronie:
<https://www.stowarzyszeniefidesetratio.pl/Presentations0/2021-4Szym2.pdf>

Introduction

The rapid technological change of the last half-century has resulted in the development of innovative solutions that improve communication and stimulate activity in previously inaccessible areas. The dynamics of global trends in medicine, IT, electronics and automation have also impacted everyday life for adults, adolescents and children alike, as has the dramatic social change of the last few decades.

A key factor in the development of civilization allowing faster information exchange was the creation of the Internet. It is recognized that the network was first invented in 1969, when the world's first data transmission between the computers of four American universities was made (Leiner et al., 1997). The first message was sent through the Internet in 1971, which initiated the development of email (Goban-Klas, 2005). In Poland, the Internet became available in the 1990s. Initially, as was the case in the United States, it enabled greater exchange between academic institutions, gradually entering the market of commercial users, and later became available to private individuals in 1995 (Baran, 2013).

Currently, 4.66 billion people use the Internet, which is about 2/3 of the world's population. Of these, 92.6% connect to the Web on various types of mobile devices, such as smartphones or tablets, and 58% report being online continuously. The average user spends six hours 54 minutes a day on the Internet. An analysis of the mobile application market indicates that the largest single group of users are people who use chat applications (including Messenger, WhatsApp or Duo) and social media: these being 90.7% of all users and 88.4%, respectively. In addition, music and shopping applications, video services such as VOD (video on demand) and internet games (DataReportal, 2021; GlobalWebIndex, 2020) are also gaining in popularity.

A sociodemographic profile of internet users created by the Public Opinion Research Center (CBOS, 2020) showed that higher internet activity is often associated with lower age and higher education level, as well as a good financial situation and employment. Among the employed, the highest percentage of internet users are management staff, middle-level and technical staff, office workers, and self-employed people.

1. Online communication and its specificity

An analysis of internet activity of Poles indicates the dominant role of online communication, with the primary forms being email and social media: 91% of internet users spend their time sending and receiving email messages during the week, while 83% use social media such as Facebook, Instagram or Snapchat. A Polish Central Statistical Office (GUS, Statistical Office in Szczecin, 2020) report on personal activities on the Internet, also

emphasizes the common role played by finding information about goods and services, reading the news, conducting interviews, including for educational purposes, and watching user-created video recordings. internet communication seems to be of particular importance for the so-called Millennials, i.e. people born in the period 1981-1997 (Frey, 2018), who grew up with the its development.

Current data indicates that the Internet and communication are interconnected (Greenstein, 2009). Indeed, the two have similar functions (see Table 1). Dijk (2010) highlights the communicative role played by the Internet; however, a detailed analysis of other functions confirms that both provide information, education, build individual and group identity and provide entertainment. The close relationship of the two, combined with the simultaneous growth in popularity and availability of the Internet, made the Web one of the primary communication media in the world, partly taking over the role previously played by traditional and mobile telephone services, with the added possibility of making video calls.

Table 1. Comparison of communication and Internet functions

Functions	
Communication (Dobek-Ostrowska, 2007)	Internet (Dijk, 2010)
<ul style="list-style-type: none"> – informative – educational – personal identification – integrative – mobilizational – entertainment 	<ul style="list-style-type: none"> – informative – educational – identity – sociable – transactional – entertainment – communicative

The possibility of easily obtaining information from various sources worldwide and the grassroots movements of users has led to the creation of virtual societies conditioned by previously-developed norms and principles and dependent on the intragroup hierarchy. Like in non-virtual life, the Internet acts as a carrier of information, emotions and experiences. Previous studies have highlighted the ambiguous nature of the Internet. They report the positive aspects of online communication, associated with the possibility of establishing and maintaining relationships and thus satisfying one's own needs, e.g. affiliation, security or recognition and participation in community life (Bastani & Fazel-Zarandi, 2008; Boase et al., 2006; Collin, 2011; Wellman & Gulia, 2018), as well as its limitations, particularly in information transmission possibilities or digital information security (Archer & Kao, 2018; Lwin et al., 2008).

As Cooper (1998) points out, the ease of internet communication is associated with the so-called Triple-A engine, i.e. its anonymity, accessibility, and affordability. These features constitute both its value and its threatening nature. The overload associated with the ease of obtaining information, and being overwhelmed with thematically-diverse content on websites or social media forces the need to modify the method of data processing and often leads to disorders in the cognitive sphere, e.g. in the area of memory or attention processes, as well as irregularities in the process of making a decision (Carlson, 2003; Kashada et al., 2020; Ruff, 2002). In the interpersonal context, the incompleteness of internet communication may result in increased conflicts and misunderstandings (Bargh & McKenna, 2004; Dreyfus, 2008). The socially-generated need to be constantly online and to immediately react and respond to messages is paradoxically associated with partial withdrawal from the relationship and, as a result, the weakening of non-virtual ties (Błachnio & Przepiórka, 2019; Chotpitayasunondh & Douglas, 2018; Vanden Abeele et al., 2016).

2. Digital parent as a participant in the communication process

Functioning in the postmodern world requires quick adaptation to a socially- and technologically-changing reality. In the last few decades, remote communication, initially using telephones, faxes, and later also the Internet, has become a standard and an integral part of everyday life. These changes have had a particularly strong impact on parents, as a group with a high demand for knowledge resulting from a role overload and a heightened sense of responsibility. They look for information or support differently, they take care of their own psychological needs and those of their children differently, and different issues arouse their concern. Within ten years between 2006 and 2016, the number of parenting website users increased from slightly over 650 thousand to over 8 million. The most numerous group is young adults between 25 and 34 years of age (PBI, 2016). In addition, parenting groups are becoming increasingly popular in social media, which can gather up to several thousand parents from a given area or with a common interest in a specific topic, such as child development, vaccination or educational trends.

The concept of digital parenting refers to both parental mediation and the way mothers and fathers use the Internet for various parenting purposes (Mascheroni et al., 2018). The former has been frequently analyzed in terms of its sociological, psychological and legal aspects. It is usually carried out in three forms, i.e. active mediation, based on conducting educational conversations with children about how to use the Web safely (Shin & Ismail, 2014; Youn, 2008), technical supervision, consisting of monitoring internet activity (Cranor et al., 2014; Gallego et al., 2020) and restrictions, manifested in the imposition of rules related to internet use (Livingstone et al., 2017; Livingstone & Helsper, 2008).

However, data on the effectiveness of particular forms are, however, ambiguous. For example, qualitative analyses of the parent-teenage child interaction in the context of privacy and the nature of communication found that parents tend to monitor the internet activity of their children covertly, e.g. by installing software or by following their posts on Facebook (Erickson et al. 2016). At the same time, in many cases, it is also noticeable that due to the greater technological skills of children, parents felt they had lost control over their internet activities (see Lenhart & Madden, 2007; Mesch, 2009) and often attempted to limit access to networks physically. A study based on twins showed that so-called active parental mediation is not associated with reduced online sharing of personally identifiable content by children (Shin & Faber, 2012). In fact, the opposite results were obtained: Lwin et al. (2008) emphasize that the children demonstrated lower willingness to provide personal information when parents attempted to talk about network security and its potential threats.

Comparing the methods of managing online activity by children in 19 EU countries (Smahel et al., 2020) indicated that in most countries, parents try to teach their children to use the Internet responsibly and provide them with essential information about possible ways of surfing or chatting. However, like in Switzerland, the Czech Republic and Spain, more than half of the children Poland reported that their parents did not talk to them about their internet activity. In most countries, a small percentage of the surveyed children mentioned that their parents had installed software that tracks their network activities or blocks the possibility of visiting certain websites: in Poland, these figures was 19% and 14%, respectively. Interesting results were also obtained concerning the restrictions applied by mothers and fathers. For example, 13% of Polish children revealed that their parents did not allow them to use a camera or microphone on the Web, 9% could not download music and videos from websites, and 10% did not have permission to use social media. In addition, in the case of Poland, 2/3 of the surveyed children reported complying with the internet rules formulated by their parents, while 8% admit that they did not respect them. In line with previous reports (Mutlu-Bayraktar et al., 2018), the studies mentioned above indicate that the parent plays a significant role in communicating information on how children undertake online activity, and highlight the low involvement of Polish parents in educational activities in this area. However, due to the lack of clarity, further, more detailed analyses appear to be necessary.

The second aspect of digital parenting relates to the way parents use the Internet for so-called parenting-related purposes. Online communication has become one of the primary forms of information exchange between parents today, with mothers being the largest individual group, constituting over 60% of users of parenting websites (PBI, 2016). Online activity related to contact with other people experiencing similar difficulties and joys seem to be of particular importance for women; in the first months of a child's life, they are often cut off from social contact in its understood form. In addition, the substitute form of interactions

and conversations on the Internet may provide them with support, the lack of which, especially in the absence of partner support, may be a risk factor for mood disorders such as postpartum depression (see: Kinloch & Jaworska, 2021; Kossakowska, 2019). Gibson and Hanson (2013) report that the use of technology to communicate with other people gave young mothers a sense of belonging to a group, facilitated adaptation to a new role, and helped them maintain a sense of individuality; it also allowed them to retain a personal identity as women, not just as mothers. Moreover, as Lopez (2009) recalls, internet activities, such as creating a blog, can help women face hitherto unknown difficulties and give them a chance to admit that motherhood is not always perfect.

The role of the father has changed over the years, with the traditional model of life changing to a certain extent into partnership in many homes. As a result, fathers began to be more willing and more involved in the educational process (Milkie & Denny, 2014). However, few studies exist on the digitization of paternity. An analysis of the causes of internet use by men with children (Fletcher & St. George, 2011) finds them to be generally similar to those declared by mothers, i.e. being related to the willingness to learn about the life stories of other caregivers, including the educational difficulties they faced. At the same time, these fathers often feel that they are left to themselves and deprived of factual support. Therefore, it is likely that their internet activity is quite utilitarian and intended to eliminate competence and psychological deficits; among fathers, blogging seems to be a natural element of sharing parenthood and is not associated with the desire to be heard, applauded or accepted (Ranson, 2015). To meet the expectations of fathers, new websites or services focused on paternity are being developed, as are mobile applications that facilitate the implementation of the parental role, even during pregnancy by the partner or wife. However, significantly fewer examples exist than those whose recipients are women (Thomas et al., 2018).

Modern parenting clearly entails the contribution of digital activity in various forms, such as participating in support groups, obtaining information from blogs and parenting websites, using pregnancy monitoring applications or those helping organize family life, and spending time in virtual communities (Lupton et al., 2016). When examining parental internet activity in the context of the communication process, it is worth emphasizing that mothers and fathers can act both as sender and recipient. The former is implemented, i.a. in social media; in this case, the interaction is performed in parenting groups, either by active participation in discussions, or by asking questions to other participants and to specialists with whom contact in the non-virtual world would be limited. Indeed, remote communication in group and individual chats has replaced traditional conversations with doctors or family members experienced in parental context (Johnson, 2015). In addition, emails and chat applications, such as Messenger or WhatsApp, have turned out to be particularly useful for mothers who stayed in hospital for a long time after giving birth by

allowing them to keep in contact with loved ones; it was also beneficial when they returned to work after maternity leave (Vancea & Olivera, 2013).

When describing changes in digital fatherhood and motherhood, Scheibling (2019) also indicates that both mothers and fathers seem to modify existing trends regarding online parenting. For example, one newly-created form of internet communication between parents is the so-called sharenting: a portmanteau of the English words share and parenting. In the most general sense, it is the tendency of parents to publish detailed information on the Internet (including posts, photos, videos) about their children and their lives. While the mere fact of showing pictures of one's children is nothing new, in the pre-digital era, only a small family circle had access to them. The popularization of the Internet and the emergence of social networking sites significantly increased the range of potential recipients. Additionally, the shared photos are of a different nature. Brosch (2018) indicates that they most often take three basic forms depending on the level of intimacy and privacy: minor anecdotes and curiosities about the child, posts reporting the daily life and development of a child, and messages that ridicule, embarrass children and sometimes put them in a bad light. In addition, the motives for sharenting and communicating detailed information about children may be classified into four groups (Latipah et al., 2020). Firstly, sharing posts may increase the chance of getting possible support when needed. Second, mothers and fathers who portray their children appear to be more protective: in this sense sharenting is portrayed as an expression of concern for their offspring, despite the threats they pose. Thirdly, it satisfies a desire to participate in social life, which gives a positive perspective on life in the future. Finally, parents may indicate that they publish the photos to document their development progress and to collect audiovisual material in one place.

Another phenomenon worth mentioning is phubbing. It involves using the telephone during a social event, e.g., chatting, reading websites, or browsing social media, which results in ignoring other participants in the conversation. An analysis of the personality traits conducive to phubbing has shown that its predictors include, for example, conscientiousness and neuroticism (Erzen et al., 2021). People engaging in phubbing sometimes do not feel they deliberately neglect others. Still, their actions while using the telephone, e.g. frequent loss of visual contact, emotional reactions inadequate to the course of the conversation, and breaks in the discussion, may be a signal of lack of interest for the partner (McDaniel & Wesselmann, 2021). Phubbing also seems to be of great importance in a parenting context. Excessive use of mobile devices by parents, even when carrying out activities that should be dedicated exclusively to children, such as eating meals together or reading fairy tales in the evening, may deprive young ones of a sense of uniqueness, and reinforce the belief that they are always second in their mother's or father's life. In addition, social learning theory indicates that parents usually act as role models and modify the specific behaviours of the children. As Chotpitayasunondh and Douglas (2018) indicate,

adolescents whose parents used phubbing consider it a social norm and duplicate it in daily meetings. This phenomenon also contributes to the problematic use of telephones by young people (Hong et al., 2019).

3. Parental internet communication

The breadth of online activities is rapidly growing. As such, the diversity of both the positive and negative aspects of parental internet communication makes some systematization seem necessary. Dobek-Ostrowska (2007) proposes six main functions by combining the functions of communication proposed in the literature so far: informative, educational, personal identification, integrative, mobilizational and entertainment. The remainder of the article examines how parents perform specific functions in the context of internet communication.

3.1. Informative function

According to its definition, it refers to the human relationship with the world. It is associated with the expansion of knowledge and exchange of information about the most important aspects of life and our surrounding reality. By collecting this type of data, we can make decisions effectively, both with a low degree of risk and those with a high level of uncertainty (Dobek-Ostrowska, 2007).

When pregnancy is first confirmed, the previous reality of future parents changes. There is a clear need to obtain a wealth of new information about its course, childbirth, and subsequent care for a newborn and infant. Pregnancy and a parenting website were the most frequently searched parenting terms in the United States in 2019-2020 (Statista.com, 2021). An analysis of scientific articles by Daneback and Plantin (2008) on the collection and accumulation of data by parents in the field of medicine, education and social sciences found that at the beginning of the 21st century, these publications were mainly in the form of individual pages or larger websites where parents could find valuable information and advice on topics of interest. Over the next decade or so, this changed with the development of the Internet, with more attention being paid inter alia to the patterns of obtaining information, the so-called user patterns, which also take into account the level of credibility of online sources (see Dworkin et al., 2013). An analysis of Google searches (What Are Young Parents Looking For?, 2017) found that during pregnancy, Polish women, apart from the course of pregnancy, are also interested in a healthy lifestyle, including physical activity and natural products. To avoid complications, they try to verify information on acceptable and unacceptable behaviours during the forty weeks of pregnancy ahead. High number of questions about paternity leave are also recorded, which may be related to the changing relationship model and the increasing involvement of men in the upbringing of children. The

number of questions regarding specific products useful for parents and children, e.g. related to food, hygiene, care, and toys and books, increases during the later years of childhood. Both parents often look for information about milestones in their children's development and solutions to the problems and difficulties they encounter. Questions about parenting trends are also popular, including attachment parenting or eco-parenting. At the same time, in the case of many young parents, the knowledge gap is not filled only by standard searching on the Internet, which is partially a consequence of generational differences and other experiences in online communication. Parents often try to satisfy this need by joining thematic groups on social network sites or participating in discussion forums (Jang et al., 2015). For example, when wanting to enrol a child in a nursery school or kindergarten, in addition to analyzing an individual institution's prospectus, parents also seek a second opinion on social media, expecting practical information and the subjective opinions of other parents.

In a situation where a child suffers from chronic diseases or has other health problems, the Internet becomes one of the primary sources of knowledge about the disorder itself, methods and places of treatment, as well as legal and social issues. As Russo et al (2020) note, 91% of parents of children waiting for surgery seek information about it on the Internet; 74% did so before the surgery and 26% after it. The complexity of the surgical procedure and the distance from the hospital were predictors of online data searches. Moreover, younger parents and parents of young children use the Internet more often than other parents (Sebelesky et al., 2015), which on the one hand may be related to their greater technological competence and openness to new media; on the other hand, it may be connected to a higher demand for information resulting from less parental experience. Mothers and fathers of children staying in paediatric wards often broaden their knowledge about the disease (89%) and possible diagnoses (23%), long-term results (61%), treatment methods (56%), including alternative treatments (23%) and the use of modern technology (1%), potential complications (48%), and support groups (33%) (Sim et al., 2007).

3.2. Educational function

Another function is closely related to the previous one. Education has almost always played an essential role in the lives of young parents. Representatives of older generations passed their knowledge on raising children to their daughters and sons based on their own experience and personal competence. As a result, the guardians made fewer mistakes and could guarantee the safety of their descendants. Digital parents still need knowledge, but they have much greater access to it thanks to technological advances. They can quickly consult not only their relatives, who may not have the necessary information from the medical field, but can also take part in training on the various aspects of childcare. Online forms of education ensure interactive communication with specialists during webinars, chats

or Q&A sessions (questions and answers) (see Amichai-Hamburger, 2008). Moreover, as Nieuwboer et al. (2013) note, online educational programs, as opposed to those organized in a traditional form, have a greater reach and are available to a diverse and wider community, which is their huge advantage.

Education on the Internet concerns two interpersonal systems, i.e. the parent-parent relationship or the parent-specialist relationship. Sometimes these relations will overlap - the parent will become a specialist, the specialist will become the parent. However, the decisive factor in the distinction is the nature of the dependence and the form of the educational message. The former is more informal and usually involves mothers and fathers giving multi-dimensional parenting advice. It can be considered a form of transfer of existing educational practices from the family circle to the virtual world, and increase the potential number of people who can offer help. Sharing positive parenting experiences and acting as an advisor is conducive to building a sense of value and competence. At the same time, getting answers to questions through direct interactions or reading information on blogs on educational topics helps improve the mood of mothers and reduces the level of stress and depressive symptoms (McDaniel et al., 2012).

The second type of relationship is more formalized and takes place more often in email communication, during online training, or remote lectures. The effectiveness of educational programs may vary depending on the degree of cultural adaptation of the content to the participants, the precision of the preparation of the program itself, and the skills and knowledge of the trainer (Nation et al., 2003). For example, a verification of the effectiveness of the Spanish *Educar en Positivo* program (*esp. Educate positively*) showed that the participants demonstrated greater satisfaction with being a parent, and an increased sense of competence, between the initial and final stages of the program (Suárez et al., 2018). The scope of training is very diverse: from issues related to the course of childbirth and remote childbirth schools, through films and instructions on primary care for babies, to courses dedicated to the challenges faced by individual age groups, e.g. related to the issue of toilet training, dealing with emotions by the child, mother or father, punishing and rewarding, or effectively supporting school learning.

3.3. Personal identification function

The Internet, in its users perspective, guarantees a sense of anonymity (Christopherson, 2007). Therefore it favours the formation of an online image which may be inconsistent with that of the user. The very definition of virtual identity has two meanings (Šmahel, 2003). First, it is understood as a form of self-presentation of an internet user. Manago, Graham, Greenfield, and Salimkhan (2008, p. 450) noted in their research that "(...) Whenever you put any kind of information out there you have the intention of what you want people to think about you."

A wide range of activities can now be performed on the Web: their goal may be more focused on providing support and building a community, looking for valuable information or making an online self-presentation. By sharing specific internet content, parents create a specific image of themselves. For example, by answering other people's questions about exciting games with the child and publishing photos of such activities, they can pose as creative and inventive people or spending a lot of time with the child. By showing disorder in the apartment, they can communicate to others that they do not have time to clean, do not pay attention to it, or that, in their opinion, it is not essential in motherhood or fatherhood. By writing a blog about eco-parenting, they want to show that they value natural products and that caring for the planet is vital for them. Research on information shared on Facebook by Portuguese mothers revealed that women differentiate content depending on the scope of this data (César et al., 2018), e.g. they easily shared negative emotions in groups with restricted access, but revealed mainly positive emotions in open groups.

Mazurek (2006) makes an interesting point regarding self-presentation associated with email communication. The seemingly insignificant procedure of selecting an email address is a form of assigning a specific label. The message's recipient will have a different approach to messages sent from email accounts set up on trusted portals, on unknown websites with sometimes infantile-sounding names, or sent from business or government accounts. In the case of the internet space, such nuances seem to matter. The image created by parents is, similarly to the non-virtual world, often dependent on the role played in a given group, as well as individual experiences and motivation, and it sometimes differs from the real needs of the parent and their true self (Trusewicz-Pasikowska, 2018).

Personal identification also involves the creation of a new digital identity based on selected individual and social aspects (Subrahmanyam & Šmahel, 2011). Such a process involves a redefinition of oneself as a parent in webspace. Therefore, the mother and father must discover who they are on the Internet. Not only does this involve creating a self-presentation façade, but it is also associated with becoming a parent with specific preferences, inclinations, and requirements. In discussion forums, parent show themselves in their preferred, or sometimes an accidentally or intentionally completely unprecedented, light, and manifest their views, beliefs, and values. Moreover, such statements are associated with determining social status, duties associated with it, opportunities or prestige in the internet group. For instance, those running parenting blogs or administering social groups are subject to the expectations of other users based on the specific role played in the virtual community, e.g. they expect verification of comments and posts, giving advice or the transfer of full responsibility for the website content or community timeline.

Moreover, parental internet activity can also be used to document and track the process of the family development, thus not only constructing the identity of the parents themselves, but a virtual identify for the family, which is visible, e.g. on the social networks

profiles; this often shows families spending time together, going on vacation, playing sports together, or carrying out other activities, which brings family members closer to each other and builds a sense of bonding.

3.4. Integrative function

The development of the Web 2.0² concept of the Internet and the activation of its users contributed to the creation of virtual communities. As Dobek-Ostrowska (2007) writes, the integrative function of communication relates primarily to the process of building interpersonal bonds and coordinating interactions between them. Research shows that such a role is played by social networking sites, internet applications or discussion forums dedicated to parents (see: Brady & Guerin, 2010; Dunham et al., 1998; Mustafa et al., 2015). For example, there are many groups for caregivers of children with specific health problems where, in addition to fulfilling the informational or educational function, mutual help and emotional support is available for users from natural digital communities (Ammari & Schoenebeck, 2015). Following a series of observations and interviews with young mothers, Gibson and Hanson (2013) propose that social media plays a significant role of in creating a sense of belonging to a virtual community. The participants pointed to aspects such as the possibility of maintaining contact with other women and spending time together, both online and in the non-virtual world. In addition, mutual sharing of concerns about caring for an infant, experiencing joyful moments together or indicating professional sources of knowledge was also a typical element of communication in paternal groups and allowed men to transform the difficult experiences related to parenthood into valuable and unique ones (Eriksson & Salzmann-Erikson, 2013). Interesting results were also obtained by McDaniel and colleagues (2012), who revealed that the frequency of maternal blogging activity was positively related to the quality of their relationships with extended family and friends. Hence, the integrative function of communication on the Internet may have a much wider scope than originally assumed, although this fact requires further verification.

Particular importance is attached to the social aspects of internet communication among women in the postpartum period. Young mothers seem to be especially vulnerable to the emergence of emotional disorders that hinder the daily care of a child (see Śliwerski et al., 2020). Additionally, the threat may worsen when they do not receive support from their relatives, or when this support is not sufficient or fully satisfactory for them (Bielawska-Batorowicz, 1995). Therefore, the possibility of participating in virtual groups seem to be the substitute for the existing social relations. Qualitative studies by Drentea and Moren-Cross (2005) indicated that one of the advantages of this form of communication is asynchrony,

² According to Austin and Doust (2008, p.30), Web 2.0 can be understood as "Internet services that allow users to collaborate and exchange information online through internet community sites."

which allows messages to be sent or received at any time, which may be important in the first months of a child's life.

An analysis of conversations in unmoderated online groups for women experiencing postpartum depression, found them to be a very good source of emotional, informational and instrumental support (Evans et al. 2012). At the same time, they were a place where mothers could openly express their negative emotions without feeling that their presentation was inadequate and would be subject to social evaluation. Additionally, it was valuable for the members to be aware that their condition could improve with appropriate help; this was a result of the normalizing influence of interactions with other mothers. Similar results were also obtained by Teaford, McNiesch and Goyal (2019), who at the same time paid attention to the issue of monitoring internet behaviour in support groups and introducing clear rules of participation, i.e. adapted netiquette³, especially when the group guarantees anonymity.

The above-mentioned issues may suggest that online communication not only enables the acquisition of important information on childcare but, in the context of the integrative function, is conducive to building a network that supports parents in coping with difficulties during motherhood and fatherhood.

3.5. Mobilizational function

In addition to acquiring information, gaining knowledge and providing support, parents can also undertake activities to achieve common goals. Joint mobilization to specific actions, sometimes using, as Dobek-Ostrowska (2007, p.69) recalls, "one-way propaganda and persuasion processes", is visible on parenting portals and in social media. Cobigo, Martin, and Mcheimech (2016), note that apart from geographical proximity, which is not crucial to the digital community, a sense of belonging, respect, similar values and ultimately, the need for mutual interaction also act to bind the group. Thus, joint activities are conducive to group integration and strengthening emotional ties. At the same time, the mobilization function is carried out on various levels, related to, among others, expressing opinions and encouraging others to take actions of a given type.

Mothers and fathers engage in all sorts of online activities. For example, there is a growing trend in online shopping. As Kantar TNS (2017) research shows, 70% of Polish internet users searched the Internet for products that they could buy last week, and 50% actually made such a purchase. When making decisions, mothers and fathers often use recommendations taken from parenting websites and groups. Experts and celebrities with many followers, who write articles and posts sponsored by specific brands, also play a significant role in the persuasive context (Czarnota, 2017). For example, if you want to learn more about reusable diapers, about their specificity or just get to know how to use

³ Netiquette is "at the same time the code of ethics of the Internet and its savoir-vivre created spontaneously by internet users for internet users" (Pręgowski, 2012, p. 45).

them, you can find a number of articles usually created by bloggers' mothers, describing these aspects with regard to a selected brand.

A slightly different trend related to pro-ecological and anti-consumer movements is the promotion of the zero-waste principle and minimalism in the educational context (Koh & Dornfest, 2016). New groups are emerging in social media, encouraging people to change their lifestyle, local society attitude, become more open to ecological principles and take actions to improve the climate. Referring these issues to specific parenting activities, it is worth noting that in recent years, the second-hand market for children's products has gained importance. One of the most numerous groups on Facebook that offers parents the possibility of selling, buying and exchanging toys, clothes and accessories for children, is believed to have 47.5 thousand users. In addition, a number of websites and mobile applications such as Vinted have been set up to resell second-hand goods; these typically have separate categories of products for boys and girls, as well as, for example, for pregnant women.

Parental internet activity is not limited to managing material goods. Virtual communities offer the possibility to initiate various social actions (Zalewska-Bochenko, 2016). For example, parents of children in need of costly treatment organize online donations, which can gain a wide audience on the Web in the form of virtual posts and quickly achieve the assumed goal (see Di Lauro et al., 2019). In addition, groups associating mothers and fathers living in a given area create petitions regarding, for example, opening a nursery in the estate or the installation of speed bumps on the road near the school. Social networks also allow the organization of events in a particular place and time, thanks to which parents gain the opportunity to participate in various events and virtual and non-virtual meetings. Moreover, to optimise communication efficiency, it is also important to be able to invite another member of the community to such an event.

3.6. Entertainment function

The final communication functions is connected with relaxation and entertainment, and is also realized through participation in social meetings. For digital parents, the Internet itself is often a source of positive emotional experiences: approximately 70% of them use the Internet for non-professional purposes, and 72% admit that they sometimes use the Internet at times that were initially intended for children (Chmiel, 2018). Almost 30% use it in the family for entertainment, e.g. to play on a smartphone with a child, surf the Internet or watch movies (Wartella et al., 2014).

The COVID-19 pandemic has significantly limited the possibility of traditional meetings. It has also seen a dramatic growth in the use of audio-video connections, which could eventually become part of everyday family life. Due to the restrictions existence on assemblies, virtual chats have become increasingly popular. For example, the WhatsApp

application, allowing text messaging and audio and video conversation, reported a 40% increase in the number of users during the pandemic (Kantar, 2020). Laptops and smartphones have temporarily become family members, representing real people in a situation where a face-to-face conversation is impossible. It is worth noting, however, that the Internet played an intermediary role before the pandemic. For example, regarding traditional social contacts, local groups often featured posts in social media, usually published by women, in which the authors may inform the community about moving to a given housing estate and looking for other mothers for joint walks or visits to the playground.

Parenting websites are often a source of inspiration for family games. In addition, parents obtain information on this subject from dedicated groups on social networks. The games are often grouped depending on the child's age, place or the means and accessories used (e.g. inspirations and examples of art, music, movement games). Parents in direct email communication or through a group send each other colouring books and worksheets; they also exchange information on attractive places for children, such as playrooms, amusement parks or toddlers' clubs.

Parental entertainment on the Internet is not limited to searching for information on possible activities with their children. Mothers and fathers also try to translate the hardships of parenting into humorous online activities. An example of such a form may be creating or browsing memes⁴ about problems faced by young parents or illustrating the expectations and reality of a mother's or father's life. Memes can take the form of drawings or photos of real people. In this context, they may be partially related to the aforementioned phenomenon of sharenting, and its extreme manifestation known as troll parenting, consisting in posting amusing photographs and recordings that compromise or ridicule their children (Chrostowska, 2018). In addition to the styled child, the photo is often accompanied by a commentary to enhance the intended effect. This phenomenon is gaining in popularity, however, it is ethically and legally questionable.

4. Is online communication conducive to the fulfilment of the parental role?

Internet communication performs various functions, ranging from simple content delivery and education, through building individual and group identity, to mobilizing users to action and providing entertainment and humorous interaction. At the same time, the methods and scope of use of this technology are related both to factors referring to a person, their features, needs or competencies, as well as their social environment.

⁴ Memes are defined as: "(a) a group of digital objects with common characteristics in terms of content, form, and / or attitude that (b) was created with the awareness of each other, and (c) were disseminated, imitated and / or transformed via the Internet by many users" (Shifman, 2013, p. 41).

A report on parenting in the age of digital technologies by Wartella and colleagues (2014) indicates that only 29% of the surveyed parents find new mobile devices useful in fulfilling their parenting responsibilities. Furthermore, the vast majority of respondents reported using the Internet and allowing their daughters and sons to do so, usually under controlled conditions, especially in the case of young children. Research from the Pew Research Center (2020) shows that 2/3 of parents feel that parenting is more difficult now than it was 20 years earlier. The main reasons for this are the development of technology and social media, changes in morale and faster exposure to ICT news. Nevertheless, they are aware that the technology and multifaceted use of the Web can be beneficial in an educational and developmental context (Begum, 2020). From the moment of becoming pregnant, the Internet and mobile applications support parents: they allow the user to monitor pregnancy and childbirth, they act as ubiquitous notebooks in which parents can systematize information about the child, such as individual meals, care activities or changes in weight or height. They also allow the family to share calendars of key events. With time, and the dynamically changing developmental challenges, parents use new forms of internet communication, form local and global thematic groups, exchange information on the educational process, participate in training and webinars, and participate in support groups in crises.

From a psychological perspective, being active online has a both negative and positive impact on well-being, mental health and interpersonal relationships. Tillman et al (2020) found that virtual communication and frequent online communication with friends were positively associated with severe depressive tendencies during the pandemic. In contrast, Bessiere et al. (2010) report a significant correlation between the use of the Internet for communication purposes, especially when it concerns family and friends, and a reduction in the severity of symptoms of depression. It has been also found that modern media, apart from simple forms limited only to the exchange of news, are associated with higher life satisfaction and satisfaction with interpersonal relations (Goodman-Deane et al., 2016). Additionally, involvement in communication using social media is associated with a lower level of anxiety and enables the development and maintenance of virtual social ties (Grieve et al., 2013).

Online indirect communication, both synchronous and asynchronous, is, in fact, not without its drawbacks. At the initial stage of its development, it was only possible to send text messages; however, these were latter supplemented with so-called emoticons, i.e. small faces and character-sized images showing different emotional states, in order to enable easier transmission of affective signals. However, despite the partial enrichment of the dialogue, it is still deprived of many paralinguistic, mimic or haptic aspects, resulting in understatements, misunderstandings and conflicts destructive to relationships.

One of the main obstacles to activity in this area is the low parental awareness of network security and legal and ethical use of the Internet. Sharing private, sometimes intimate photos of sons or daughters to an almost unlimited or limited group of friends or observers basically make it impossible to control how they are used; the lack of such control may lead to abuses. Photographs and films with the child are also often published with the consent of the parent on websites or profiles of educational institutions. Each time, such consent must be signed by the parent with full awareness of any consequences.

As in traditional communication, a number of negative social phenomena have been associated with internet communication, such as harassment, ridicule, rejection or isolation, which may become more intense due to greater anonymity. It is essential to monitor and report such phenomena and strive to introduce more transparent rules of communication (Archer & Kao, 2018).

The internet activity of mothers and fathers, and their communication in social media and on parenting portals, is not an unambiguous phenomenon for researchers and parents themselves. Moreover, the rapid technological progress of recent decades has forced all internet users to partially adapt to the conditions and requirements of a postmodern virtual reality. Nevertheless, when using the Internet parents should maintain an awareness of their actions and, consequently, favour the multifaceted development of their children.

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