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ABSTRACT

The aim of this study was to explore how professionals working with clients who suffer from eating disorders reflect the impact of digital technologies on their clients. Interviews with 30 professionals were conducted. A qualitative analysis revealed the following areas: (a) the attributes of technologies that influence people with eating disorders, (b) the characteristics of people with eating disorders that influence their interaction with digital technologies, (c) the risks of technology usage, and (d) the benefits of technology usage. The results are discussed with respect to the Rodgers's theoretical model explaining technology–eating disorder relations and the implications for practice.

Introduction

Digital technologies are a part of most people's lives in developed countries. Young people are a strongly represented group of users of digital technologies. Since 2006, 95% of teenagers (12–17 years old) and young adults (18–29 years old) have had access to the Internet in the United States (Madden, Lenhart, Duggan, Cortesi, & Gasser, 2013) The growth of smartphone use in the last 10 years has made the access ubiquitous. Digital technologies are a part of adolescent development, including identity-related issues, relationships with peers, and health-related behavior (Smahel, Wright, & Cernikova, 2014).

The impact of digital technologies is especially relevant in populations sensitive to some aspects of the available content. This is the case for eating disorders (EDs), which most often appear during adolescence and early adulthood (Keel & Forney 2013). Recent meta-analyses show that people who are susceptible to the development of EDs are also sensitive to idealized imagery of the human body (Hausenblas et al., 2013) and that websites and groups that promote EDs as a lifestyle exacerbate ED symptomatology (Rodgers, Lowy, Halperin, & Franko, 2016). However, there are also positive impacts of digital technologies: They can be successfully used to treat EDs (Aardoom, Dingemans, & Van Furth, 2016; Melioli et al., 2016), and self-help programs and applications are being developed (Tregarthen, Lock, & Darcy, 2015).

Professionals who work with clients suffering from EDs may have unique insights into the positive and negative impacts of digital technologies on their clients. Furthermore, the meanings that healthcare professionals attribute to technologies may influence the way they address their impacts in the treatment. Yet, there is a lack of research in this area. Therefore, the goal of the present article is to explore the knowledge, beliefs, and experience professionals have with the impact of digital technologies on their clients with EDs.

Theoretical model of the interaction of digital technologies and EDs

Rodgers (2016) analyzed five theories (sociocultural theory, social identity theory, gratification theory, impression management theory, and self-objectification theory) and proposed a theoretical model to explain relationships among the Internet and social media use, body image, and eating pathologies. The model describes three levels of interaction on the Internet and with social media.

The first level conceptualizes the Internet and social media as "nonparticipatory"; in other words, there is no interaction with others. In this view, the thin-ideal internalization that may result from social comparison with the self-presentations of other people leads to body dissatisfaction and ED symptoms (Rodgers, McLean, & Paxton, 2015).

The second level views the internet as a space for interaction with others, especially peers (Rodgers, 2016). Self-presentation is considered an aspect of interaction that is shaped by others' comments.

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Comments from other people increase body-surveillance and thin-ideal internalization, which lead to body dissatisfaction and ED symptoms. Peer comments may pressure participants to display an ideal self, which differs from the real self and which is impossible to attain in the offline world. The tension between the ideal self and the real self leads to the perception of the real self as deficient. Attempts to improve the real self are managed by excessive dieting or exercise, which result in ED symptoms.

The third level conceptualizes the Internet as a tool for participation in specialized peer groups and communities that focus on weight and body shape. The groups may include pro-ED communities. In such communities, people for whom body shape and weight are important interact, and this interaction may validate and strengthen attitudes and behaviors related to EDs. The sharing of similar attitudes in these communities may create an illusion of consensus and acceptance from the outside world, which could lead to EDs becoming an important part of identity.

Research on the interaction of digital technologies and EDs

Laboratory studies reveal that viewing the idealized imagery of human bodies increases anger and lowers self-esteem in the general population (Hausenblas et al., 2013). Furthermore, moderator analyses suggest that viewing idealized images has further harmful effects on vulnerable populations, which are defined as overweight or obese, those who believe in the thinness ideal, those with low self-esteem, those scoring high on self-objectification scales, and those who have some level of disordered eating. In these populations, viewing idealized images of the human body moderately increases depression and body dissatisfaction. These findings are supported by meta-analyses which show that viewing pro-ED websites increases eating and body image concerns and evokes such concerns in vulnerable people (Rodgers et al., 2016). Rodgers and Melioli (2016) confirmed that the Internet may serve to increase social comparison, which is related to eating and body image concerns.

It is important to note that technologies may also play a positive role in the treatment. Skårderud (2003) pointed out that technologies could help mitigate the shame that is usually present in people with EDs, increase the accessibility to help, and allow for the identification and recruitment of people who need help. Shingleton, Richards, and Thompson-Brenner (2013) identified the beneficial uses of technologies as self-help, as an adjunct to treatment, and as a part of the aftercare.

Interventions using digital technologies have promising results: Meta-analyses of treatments that use the Internet show effect sizes similar to face-to-face treatments (Aardoom et al., 2016; Melioli et al., 2016), and guided online support groups show moderate effects in the promotion of ED prevention and recovery (Schlegl, Bürger, Schmidt, Herbst, & Voderholzer, 2015). It has been reported that even pro-ED groups may provide a sense of support, a way to cope with a stigmatized illness, and a means of self-expression for members (Gale, Channon, Larner, & James, 2016; Yeshua-Katz & Martins, 2013). However, it has been argued that these benefits are in fact a superficial guise which serves to reinforce EDs and prevent help-seeking and recovery (Rouleau & von Ranson, 2011). This negative view of user-perceived benefits may further be reflected in the experience and attitudes of clinicians.

Most studies on the experience and attitudes of professionals in the treatment of EDs report negative feelings toward patients with EDs, like frustration and aggression (Seah, Tham, Kamaruzaman, & Yobas, 2017). However, some professionals feel satisfied, even though they reveal that managing patients' ambivalence toward treatment is not easy (Davey, Arcelus, & Munir, 2014). Participation in online communities that promote EDs creates a sense of belonging, supports disordered identity, and reinforces the resistance to treatment (Abbate Daga, Gramaglia, Pierò, & Fassino, 2006). In return, it has been suggested that the professionals who work with ED patients should ask them about their use of digital technologies to understand their treatment ambivalence (Tierney, 2006).

Research objectives

The use of digital technologies by people who have EDs (i.e., anorexia nervosa, bulimia nervosa, and binge eating disorder) may influence the disorder course and the treatment progress (Rodgers et al., 2016; Rodgers & Melioli, 2016). The knowledge, beliefs, and experience of professionals who work with these groups needs to be explored because it may provide important insights into the interaction of EDs and digital technologies that cannot be obtained in interviews with patients and analyses of ED-related content. The advancement of research on the impact of digital technologies on EDs and their treatment is the first goal of the present article. The enrichment of theoretical models that explain this interaction according to the views of the professionals is another goal. To address these goals, we propose the following research question: What is the impact of digital technology usage on the development and the course of

EDs according to professionals working with people who have EDs?

Method

Participants

The sample consisted of 30 professionals who practice in the Czech Republic and who had experience working with clients who suffer from EDs. Among the professionals were psychologists ($n = 8$), psychotherapists ($n = 8$), social workers ($n = 7$), psychiatrists ($n = 6$), nutrition specialists ($n = 4$), and doctors of medicine ($n = 1$). There were seven men and 23 women in the sample, ages 25 to 67 ($M = 39.8$, $SD = 13.4$) with 1–40 years of professional experience ($M = 12.0$, $SD = 10.3$). Professional experience with the treatment of EDs ranged from 1 to 35 years ($M = 11.0$, $SD = 10.9$). Gestalt therapy ($n = 7$), psychodynamic therapy ($n = 6$), and systemic and family therapy ($n = 5$) were the most frequent theoretical orientations of the professionals who had psychotherapeutic training.

Procedure

Recruitment

In the first step, all professional institutions that specialize in the treatment of EDs in the Czech Republic were contacted and asked to participate. Several professionals with a clinical background in the treatment of EDs were included in the research from its beginning to inform the research design. These informants contacted professionals whom they knew personally, asked for their participation in the research, and asked for additional contacts for professionals who might be interested in participation. These contacts were used to recruit more professionals via a snowball method (Gilbert, 1993). The participants included in the study were required to (a) work professionally with the target group and (b) have sufficient experience with the target group (i.e., they were required to have had EDs as a primary clinical focus for at least 1 year).

The participants were informed of their right to withdraw from the research at any point. Informed consent was obtained from all the participants in writing. The research was approved by the *anonymized* university ethical board.

Data collection

The professionals who agreed to participate completed semistructured interviews from October 2015 to June 2016. The interviews lasted 19–94 min ($M = 48.3$, $SD = 13.8$) and adhered to an interview plan. The plan contained four main areas of questions: (a) How is the theme of technologies reflected in professionals' work with clients? (b) What are the professionals' personal attitudes toward technologies? (c) What do the professionals know about their clients' interactions with technologies? (d) How do the professionals use technologies in their work?

Analysis

Analyses

Considering the exploratory focus of the research, a thematic analysis (Braun & Clarke, 2006) was used as the analytic method. NVivo software v.10 was used as the analytic tool. The first phase of the analysis consisted of coding the gradually collected interviews by three researchers and grouping the codes into categories. This step of the analysis continued until 20 interviews were coded. During the group analysis and discussions, an initial structure for the categories was developed. Because the range of questions in the interviews was wide, this step served to identify the main themes in the data for further analysis. Informed by the results of the group analysis, the first author of the present article chose a specific topic and research question that complemented the gaps in the current research and again analyzed the specific theme through the whole data set. During the analysis, it was concluded that data saturation had been reached, because the last four analyzed interviews did not result in new meanings.

Knowledge, experience, and beliefs are difficult to distinguish in qualitative research interviews, and this also affected our analysis. Some of the participants' notions could be based on their beliefs, some could ensue directly from experience with clients, and some could be knowledge that comes from diverse sources. For instance, when the participants used examples of how technology influenced specific clients, we referred to these notions as "professionals' experience." When we could not strictly distinguish among knowledge, beliefs, and experience, we used the words "professionals' views" to indicate that the sources of professionals' notions overlapped.

Credibility checks

Three steps helped to ensure the dependability and credibility of the results (Morrow, 2005). First, the group analytic procedure just presented was implemented to facilitate the intercoder triangulation of the categories identified in the data. Second, to further ensure the credibility of the results, an audit was conducted by the second author of the present study.

Table 1. The areas the helping professionals identified in eating disorders and technology interaction.

Category name	n	Category name	n
Technology attributes	20	Client attributes	25
Access attributes	15	Type and severity of pathology	16
Attributes affecting behavior	13	Comorbidity	14
		Age and maturity	18
Risks of technology usage	30	Benefits of technology usage	29
Harmful information	28	Useful and reliable information	24
Information selectivity	23	Seeking professional help	22
Social draw of the disorder	24	Social support in treatment	21
Group dynamics	29	Seeking relationships	14
Diversion from real relationships and life	25		
Technology as a maintaining factor	8		

After the first author reanalyzed the specific topic in the data set, he sent the results and the full-coded data set to the second author. The second author checked whether all of the themes were reflected accurately in the results when compared with the raw data and whether any important themes in the data had been omitted. Afterward, the two authors met and discussed inconsistencies until a full consensus on the credibility of the results was reached. During this process, if some information was deemed as not clearly identifiable in the data, it was removed from the results. The saturation of results presented in the Table 1 reflects the outcome of this process. Third, the third author acted as an advisor for the final presentation of the results with the goal of making them approachable to people who did not participate in any part of the analysis. In addition to these three steps, the purposive sampling procedure and sufficient description of the research process aimed to ensure the transferability of the results. The use of specialized software for the analysis of the data aimed to support the results' confirmability, and excerpts from interviews were used in the results to demonstrate the support of the data for presented claims.

Results

Professionals who work with people who have EDs mentioned both the risks and benefits of digital technology use. All 30 of the professionals reflected potential risks, whereas 29 professionals reflected benefits. There are two sets of attributes that mediate the beneficial or harmful effects of digital technologies on their clients. The first set includes the attributes of technologies, and the second set includes the attributes related to clients. In sum, the professionals' notions could be divided into four main groups: (a) technology attributes, (b) client attributes, (c) the risks of technology usage, and (d) the benefits of technology usage.

Technology attributes

Access to technology (15 professionals)

Professionals noted that technologies were available, accessible, and easy enough to use for their clients. Because of these attributes, clients could use technologies for their own benefit or harm. The clients could easily access technologies because they were not limited by resources (e.g., not having money) or social environment (e.g., being denied access by parents or significant others). Furthermore, clients were not limited by their skills; the professionals perceived the use of technologies as simple for their clients.

Technology attributes that affect behavior (13 professionals)

Variables that affect clients' specific behaviors with respect to technology include anonymity, the freedom of choice, and permanent presence. In the professionals' view, online anonymity allows clients who have EDs to be more open (i.e., to share more about themselves and their behavior). On one hand, anonymity may allow clients to share the true nature of their disorder and seek help; on the other hand, the disordered behavior may spread more easily because the clients feel safe to share even the things they would not speak freely about in the offline world. The freedom of choice allows the clients to seek information and online communities that support either healthy or disordered behavior. Therefore, it is easier for clients to continue their disordered habits in an online environment, whereas offline interactions would mostly direct them toward treatment. The permanent presence of technologies allows intensive interactions, which contribute to the influence of technologies.

Client attributes

Most professionals (29) reflected that technology brings both benefits and risks to their clients. The outcome depends on client motivation, which is connected to several variables on the part of the clients that may direct them toward reinforcing the disorder or seeking help.

Type and severity of pathology

The first variable the professionals mentioned was the type and severity of the pathology. There are multiple syndromes that belong to the diagnostic group of EDs; the most frequent are anorexia nervosa, bulimia nervosa, and binge eating disorder. The professionals noted that anorexia nervosa, being an ego-syntonic syndrome, is more difficult to treat because it is

perceived by its sufferers as beneficial in many aspects. These clients may use technologies to reinforce their disorders more than sufferers of bulimia nervosa or binge eating disorder, who more often perceive their behavior as detrimental.

Comorbidity

Comorbidity was named as another important variable. The professionals mainly assessed personality disorders as the factors that reduce client motivation for treatment; these are associated with behavior that is disruptive to treatment, and they may direct clients to the detrimental use of technologies. Examples of clients who were the most active in interaction with technologies often included a diagnosis of a personality disorder.

Age and maturity

Finally, the professionals considered the age and maturity of the clients to be associated with the different effects of technologies. They deemed younger clients to be less capable of sorting through the wealth of available information and more gullible, and, consequently, more susceptible to detrimental group effects. The professionals also perceived older clients to be more often motivated for treatment.

Risks of technology usage

The professionals assessed digital technologies as potentially harmful in multiple interconnected ways. The content, dynamics, and results of harmful effects were sorted into six categories, which are presented in the forthcoming paragraphs and Table 1.

Harmful information (28 professionals)

The professionals found that their clients sought information on eating and losing weight. They noted both the available content and the available mechanisms that make the content potentially harmful to their clients.

The clients search for information on the food they eat to control their caloric input. Along with that, people find a flood of information online about diverse eating habits and lifestyles. They may find guides on how to support the disordered eating behaviors they manifest, either strengthening their present "skills" or finding new methods. One of the participants noted, "The greatest risk is that this is a non-controlled space; therefore, someone who wants to search for ways to lose weight, vomiting, or laxatives abuse will find this information" (P06, male, 43 years old, 19 years of experience).

The inability or impossibility to grasp the veracity, relevance, and complexity of the information was the main mechanism that made the available information harmful. The professionals noted that many clients were too young or lacked the cognitive capacity needed to sort through the flood of information and foresee the impacts of the actions they might adopt from online sources. However, professionals concluded that even a healthy individual might find it difficult to navigate through the often misleading or false information.

> The fact that anyone is allowed to do nutrition counseling may help spread the nonsensical information. Many people have only the argument 'It was on the internet' or 'It was written in the magazine', but that does not mean anything at all by itself. (P10, female, 40 years old, 5 years of experience)

An interesting comment that the professionals made was that the clients tended to distort information about themselves, creating an illusion about their actual life. In effect, the online spaces they cocreated lacked the reality of EDs, including depression, anxiety, lack of energy, problems with memory and attention, physical deterioration, social isolation, and problems in everyday life. These distortions of the true image of EDs might strengthen the desire to perceive them as a lifestyle rather than an illness.

> They tell me who writes what in there themselves and I see in what manner they manipulate the reality. For instance, they have edited photos, they state that they are okay and manage everything well, while we know that they are in the psychiatric hospital at that very moment. (P20, female, 54 years old, 11 years of experience)

Information selectivity (23 professionals)

Most of the professionals talked about the information selectivity their clients use to maintain their view of their eating behaviors as beneficial. In the professionals' view, the clients tend to exhibit their eating behavior "successes" online. However, when presenting their views, images, and struggles, they would not find affirmation in a general online or offline environment. Usually, the opposite is true—they are met with criticism of their unhealthy appearance. In effect, they may start to perceive other people who do not accept their lifestyle to be the problem and seek affirmation online.

> They choose who to believe. With the help of the internet, they can validate what they think is true about themselves. Sometimes, it is an easier way for them than to listen to the professional and work towards change. For them, it is easier to find the confirmation they want. (P7, female, 34 years old, 4 years of experience)

The clients tend to seek virtual spaces inhabited by people who share their views and who will not confront

them. Another aspect of online affirmation seeking would manifest as being overly sensitive to information that touches on the topic of food, dieting, exercise, weight, and appearance. The clients are immersed in these topics to the extent of an obsession. One of the professionals expressed, "It is flagrant how the girls are immersed in that. How rigid the thinking is and how difficult it is to get out of that" (P18, female, 35 years old, 6 years of experience).

The opportunity to select only the information and groups that affirm the clients' views would, according to the professionals, delay confrontation with reality and prolong the duration of the disorders along with a failure to seek professional help.

Social draw of the disorder (24 professionals)

The social possibilities that the online world offers may serve to maintain the clients' disordered behaviors, working along with the cognitive distortions that clients use to maintain their narrow worldview. Some clients use extreme online communities to legitimize and defend their views, pointing to the fact that they are not alone in their conduct.

> The clients want to belong with other people who have a similar interest in losing weight. And the real world is unfriendly towards them: it wants them to eat differently, and confronts them with their real appearance, which is unpleasant for them. So, they run away into the fictitious world. (P8, female, 44 years old, 10 years of experience)

Furthermore, the professionals noted that clients support one another in disordered behaviors. Knowing that what they do is difficult, they share their struggles to reach their goals. Gradually, the clients become lonely and isolated, and lose friends, partners, and contact with families. Their singular focus of food, appearance, and the evidence of bad health draws other people to criticize them, prompting the clients to isolate themselves, or for significant others to give up on them and leave. The online communities may fill in the gap in the clients' need for belonging and affection. This social draw may make it more difficult for the clients to leave and seek actual help.

> They support them to stay in that position just because of the connection to the group. Most of the time, they want to belong somewhere, to have a circle of people who understand them, that knows what is difficult for them. (P20, female, 54 years old, 11 years of experience)

Group dynamics (29 professionals)

Most professionals assessed the online environments their clients frequent as harmful because clients have a strong motivation to learn new methods of support for their disordered eating behaviors. The clients were perceived as competitive, which pairs with their constant comparison to other people. In effect, the clients compete with other disordered people both online and offline, which may lead to their behavior becoming even more extreme. The professionals considered diverse guidelines, the social spread of the behavior, and persuasion to be the dangerous aspects. One professional said, "The girls learn very quickly by mimicking what they see in others. The illness is competitive, so the girls can kickstart each other. Someone is thinner and does something, so I must do it even better" (P01, female, 33 years old, 7 years of experience).

People with EDs, compared to the general population, were perceived by the professionals to be extreme in their striving for perfection, success, and self-control. These tendencies may make the clients compete with other people online and adopt extreme ways to maintain and improve their harmful behaviors. Exhibitionism, narcissism, and a need for uniqueness were additional traits that the professionals named. In their attempts to idolize and maintain their eating behaviors as a lifestyle choice rather than an illness, the clients tend to present their ability to have control over their body.

Diversion from real relationships and life (25 professionals)

The online presence of clients may stem from their becoming socially isolated because of their monothematic immersion in dieting, criticism avoidance, and the need to seek company. However, online communities may also reinforce clients' isolation. Clients often perceive online interaction to be safer and easier than real interaction. In effect, because it functions as a substitute for real interaction and makes the clients feel like their social needs are being satisfied, online interaction may keep clients from attempts to forge an offline life.

> Paradoxically, it is an isolation. There were times, some 10 years ago, when I could rely on the sentence: "Yeah, I have friends." That was a message that they have friends and they go outside. Today, when they say that they have friends, I must ask how they mean it. In many cases, they do not see anyone physically and write to each other. (P17, male, 37 years old, 12 years of experience)

Seven of the professionals also found that clients become detached from their own needs and emotions and diverge from the real world and relationships. Rather than listening to their own needs, they may start to believe the confusing information they receive online.

Technology as a maintaining factor (eight professionals)

The professionals who mentioned digital technologies as a factor in the development of EDs did not consider their usage to be the main trigger. They noted that online activities may influence the progress of disorders in their clients by helping them to defend or reinforce attitudes that they hold and to legitimize their behavior in a social context. However, they would not state that online activities could have a potential strong enough to trigger EDs without some underlying personal, social, or other weaknesses in the clients which had existed before they started to use digital technologies.

> I think that the internet cannot influence whether the illness develops or not. I think it can speed up its development, because when someone supports me in my behavior, I can sustain it for longer. They must go through a phase when the body resists and they are hungry. When you have the support of many people, it is easier to endure. (P18, female, 35 years old, 6 years of experience)

Benefits of technology usage

Similar to the case of perceived risks, information and social aspects were the main dimensions described by the professionals as the beneficial effects of digital technology use on their clients. Four categories could be placed on these dimensions, as shown in Table 1 and further elaborated here.

Useful and reliable information (24 professionals)

Useful information provided by digital technologies (mainly the Internet) includes explanations of problems with eating, professional and laic guidelines treatment suggestions formulated by non-professionals for the treatment of EDs, contacts for professional help, and information about healthy eating. In the professionals' views, this information may allow clients to broaden their scope of understanding and treatment options.

The opportunity to get acquainted with a lot of information quickly was considered a tool that may benefit clients; therefore, some professionals provided their clients with links to information and other resources they could use to their benefit. Indeed, obstacles needed to be overcome for the clients to be able and willing to use the information for their benefit.

> The greatest benefit is the quick orientation in a problem. I can estimate the severity of the problem in my close people, point them in a specific direction, get feedback from the people who are familiar with this field, or how it seems from a specific point of view. (P25, male, 65 years old, 33 years of experience)

A significant number of professionals (13) considered digital technologies to be a useful support for treatment. Most often, the technology served as a tool for simple diagnostics (e.g., administration of inventories, calculating body mass index [BMI], using caloric tables). However, psychotherapy over the telephone or establishing contact with the parents of clients were mentioned as well.

> Sometimes, I refer the clients to texts about the right diet or a brochure about EDs for fathers and partners, which was the result of cooperation with many fathers and partners. I use that as information support. And sometimes a BMI calculator with statistical norms. (P06, male, 43 years old, 19 years of experience)

Seeking professional help (22 professionals)

The previous category included the option for the clients to find contact information for professional help via technologies. Many professionals also noted that technology may be used to establish and maintain contact; however, initial contact was cited more often (12 professionals) than the option to use technologies to further facilitate contact with clients (five professionals).

A minority of professionals (six) used digital technologies to acquire new clients. Some of them actively directed people present in online communities toward help. This was the case of a "netstreetworker" position held by one of the participants. As a social worker, she befriended people who manifested EDs online, and from the position of a friend she managed to slowly lead them toward professional help.

> That also happened to me several times, that they do not accept that they are ill yet, but they just want to write to each other. Now, I also have had a client for a year in the position of the netstreetworker on a friendly basis. We write to each other, and she goes to a professional now after all this time. (P09, female, 44 years old, 4½ years of experience)

Social support in treatment (21 professionals)

The mutual support that the clients may obtain online may go both ways: In the professionals' view, some of their clients found communities that they could use to support healthy goals in themselves and others. One of the participants recalled, "Even in these discussions, there may be some contributors with the goal to support others, let's say to altruistically help patients who have a problem, or who need support. So, we talk about some mutual support in treatment" (P05, male, 42 years old, 19 years of experience).

One interesting mechanism of the support that the professionals identified was the interaction with people who recovered from EDs. These people themselves, and

sometimes just the stories told by someone else, could provide the clients with strategies and hope.

> One of them told me that she has a friend online and we came to the fact that the friend is 35 years old and tells her that she is chronic; however, she supports this person and tells her "You must eat. Look how I ended up." (P17, male, 37 years old, 12 years of experience)

The clients who struggle with an ED may share their problems and receive honest feedback from others online, which counteracts the isolation and their tendency for cognitive distortions.

Seeking relationships (14 professionals)

Relationships facilitated by digital technologies may be sought by people with EDs for the sake of the relationships themselves, not specifically to support treatment. The reduction of isolation and the sharing of activities were the most often cited impacts of seeking relationships online. Because establishing relationships with other people may be difficult for people with EDs, online activity may help to build bridges toward real interactions.

Discussion

The findings are discussed from the theoretical perspective of Rodgers (2016), who identified three main levels of the usage of technologies in the context of eating pathologies. We enrich her model by using the perspectives of professionals working with people who have EDs. The interactions of digital technologies and EDs are explained for each of the three levels of technology use. The findings also enrich the current research on the impact of digital technology use in the context of treatment. Specifically, we discuss the variables that moderate the ways that clients use digital technology and the treatment implications.

The levels of digital technology use and professionals' insights

The first level conceptualized by Rodgers (2016) presents digital technologies as a nonparticipatory tool (i.e., a source of information). In our investigation, the professionals reflected that people with EDs access harmful information and it may accentuate their eating habits, such as the obsessive calculation of caloric input. They may learn new ways to strengthen their eating habits and new "skills", which make their problems worse. However, the possible benefits of technology usage were not studied in relation to the model by Rodgers (2016). In our investigation, the professionals

identified the following benefits: clients can access information about EDs, they can obtain contacts for professional help, and they can find information on healthy eating, as suggested by Shingleton et al. (2013).

The second level describes digital media as a social platform used for interaction with others. This platform offers a space to give and receive positive and negative feedback, which shapes the self-presentation and the self-perception of the real self and the ideal self (Rodgers, 2016). In our investigation, the professionals reflected that their clients "strive for perfection" and present an ideal image of their self via digital technologies. People with EDs compete with others online and adopt extreme ways to "improve" their real self, which falls short of the ideal self. The professionals also noted that the clients tend to exhibit their eating- and weight-related "successes." However, such presentations of extreme eating behaviors are usually not accepted within other groups; therefore, some clients might move to specific online communities that promote EDs. These communities constitute the third level of technology use by Rodgers (2016). The professionals also mentioned the benefits that stem from the second type of technology use: People with EDs are often isolated, and technology may provide them access to social interaction and support in treatment.

The third level of technology usage is related to participation within specialized peer groups and communities that focus on weight, such as pro-ED communities (Rodgers, 2016). In our research, the professionals described many ways to participate in such communities: People with EDs can get support for their extreme eating behaviors, they may legitimize their behavior because they see that other people share their views, and they can compete with other people with EDs, which may exacerbate their behavior. On this level, the online environment can maintain and reinforce the EDs. From the perspective of benefits, the professionals mentioned that people in treatment can get positive feedback for their treatment progress. The specialized online communities may support people in both kinds of behaviors: disordered eating habits and the treatment.

The Rodgers (2016) model focused more on the negative aspects of the impacts of digital technology on ED; we enriched her model by adding possible positive impacts, which were described by professionals.

The relationship between digital technology usage and EDs

Some professionals specifically addressed the strength of the relationship between digital technology usage and

EDs. They considered technologies to function as a maintaining factor, yet they noted that technologies do not have a strong enough impact to cause EDs without some preexisting vulnerability in clients. These notions are in line with the results of meta-analyses that show modest effect sizes and moderation by pre-existing vulnerability in the relationships among the exposure to digital media content and the variables related to eating pathology (Hausenblas et al., 2013; Rodgers et al., 2016).

The professionals also suggested several client factors that may modify the strength of digital technology usage impacts: type and severity of pathology, comorbidity, and age and maturity. The professionals' notion that clients with anorexia nervosa are more susceptible to the impacts of technology received some support in the findings of Rodgers et al. (2016), who identified a positive relationship between the exposure to pro-ED content and dieting, but the relationship between the exposure to pro-ED content and bulimia nervosa symptoms was not statistically significant. This suggests that people who primarily have bulimia nervosa symptoms are less susceptible to the influence of such content. However, the severity of pathology in people who have EDs, comorbidity, and age or maturity were not consistently identified as moderators of the impact of digital technology.

Treatment implications

Healthcare professionals could use reflection of potential risks and benefits of technology usage by clients with EDs in the treatment process. To do so they could benefit from the enrichment of the Rodgers et al. (2015) theoretical model and reflect the risks-related and the benefits-related activities for clients with ED, and their role in the treatment process.

For instance, professionals could talk about technology-related topics with clients and keep in mind the three levels of interaction. They could map their clients' active (e.g., interaction with others) or passive (e.g., nonparticipatory usage) participation and reflect with clients on the role of online participation in their ED. Distinction between online interaction with others (e.g., with healthy others on social networking sites) and interaction on specialized platforms (e.g., with similar users on pro-ED websites) could bring different information as well as different risk- and benefit-related activities. Healthcare professionals could identify them and actively support online activities that help the recovery process and discuss activities that may reinforce disordered behavior. Identified online resources could be engaged in the recovery process,

especially in the case of clients who are independent technology users. On the other hand, professionals may identify problematic behaviors, which act as barriers to recovery while discussing technology usage with clients (such as participation on pro-ED websites).

In addition, healthcare professionals could reflect the potential of technologies to allow the identification and recruitment of people who need help, the potential for self-help, and the role in aftercare (Shingleton et al., 2013; Skårderud, 2003).

Future directions

The insights of the professionals that we presented in this study may be influenced by the characteristics of individual professionals. Although the sample in the present study was selected to include different specializations, psychotherapeutic orientations, and experience, we did not specifically track the influence of these and similar variables. The disentanglement of the professionals' attitudes and their characteristics is a viable direction for future research. The present results show that clients with specific disorders and who are in different age groups may use the technologies differently. An exploration of the interaction among the clients' variables and the ways that they use technologies should be the focus of additional studies. In addition, the results should be supplemented by additional research on the ways that the digital technologies influence the development and maintenance of EDs from the perspective of the clients themselves. The professionals provided valuable clinical insights to which the clients have no access; however, the clients may provide additional insights into the mechanics that the professionals are not familiar with because they do not themselves use the technologies as their clients do. Because all the professionals acknowledged the influence of digital technologies, future research should also focus on the ways they specifically work with the topic of digital technology use in their practices.

Study limitations

The number of professionals who focus on the treatment of EDs is rather limited in the Czech Republic; those who have specific personal experience with both ED treatment and the treatment use of digital technology are scarce. Therefore, the results could benefit from interviews with professionals who focus on the digital technologies specifically in their practice. Finally, the sample consisted of professionals from different fields, each of them focusing on different facets of EDs. On one hand, this brought different perspectives

into the results; on the other hand, the current design could not sufficiently capture the possible differences among the diverse professions.

The results could be also influenced by the attitudes and characteristics of the participants. They worked primarily with people who have EDs, which is important, because we may be sure that they were familiar with this population of clients. Yet their focus on the impacts of digital technologies on their clients and their personal attitudes to the technologies varied. Some participants paid less attention to the technology impacts and did not discuss them with their clients, whereas some of them identified technology impacts as a specific focus of their work. Yet we did not identify any distinctive patterns with respect to sex, age, profession, or length of experience. There were both extensively experienced older and less experienced young professionals who were quite familiar with digital technology trends and its impacts on their clients, and there were both young and older professionals who did not put emphasis on clients' digital technology usage in their practice.

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