Editorial
#instantmessaging and the Unbearable Distress of Being Online

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In recent years, instant messaging has become more and more popular. A broad range of instant messaging services has been integrated in the digital lives of most of us: Instagram, Facebook, WhatsApp and other social media messaging services grow rapidly and especially young people are using this form of communication extensively. Therefore, it is not surprising that digital media and instant messaging are becoming the paramount communication channel, where interpersonal interaction and interactions of the future generation take place. It is easy to join different groups of peers, built new friendships online and stay in contact easily around the world. This is the optimistic experience, which instant messaging services transport in their advertisements. This is partially correct according to current research, which shows that social media and digital social interactions can be protective and buffer distress or help to recover from acute stress (Johnshoy, et al., 2020; Kothgassner et al., 2019). As such, digital social interaction may offer many benefits and enable many possibilities for the future generation. However, we have to keep in mind that this is also changing the way people experience social distress and social threats. One of these threats is definitely cyberbullying as well as a problematic communication culture which all induce negative affective states and can lead to psychopathology (e.g. Tsai et al., 2019). Especially negative emotions are associated with maladaptive behaviors such as self-harm (Glenn et al., 2011). Lewis and colleagues (2011) warned about possible contagion effects when – especially young – individuals are exposed to material of self-harm or suicide stories on the Internet. This is socially reinforced in social media as Brown and colleagues (2018) found in their research. Many adolescents engage in self-harm or suffer from suicidality, around 18 % (Muehlenkamp et al., 2012) are deliberately self-harming at least once in their life. Therefore, it is important to understand how negative social media communication can trigger or maintain such behavior. The work of Latina et al. (2022) in this issue will tackle this question in a qualitative study on adolescents with and without a history of self-harm. Apart from a broad range of treatment options for psychopathologies (Kothgassner et al., 2020; Kothgassner et al., 2021) we need more awareness of this problem and a better understanding of mechanisms behind it to develop sufficient prevention strategies. Particularly, this will be needed during and after the current pandemic where many young individuals only communicated with their peers online (e.g. Humer et al., 2021; Pieh et al., 2021). Furthermore, the ongoing war in Ukraine following the COVID-19 pandemic has the potential for a worldwide economic crisis that will also affect many of the younger generation. Two more contributions in this issue tackle the transformation of social interaction – be it with regards to participation at school or with regards to the therapeutic relationship. We have a case report about the use of an avatar-based telepresence system for a pediatric patient for social participation and maintain school (Pletschko et al., 2022),

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as well as a full article about psychotherapy during the times of the COVID-19 crisis (Shklarski et al., 2022).

According to these developments, the team of Digital Psychology launches a call for papers for a special collection on "Digital interventions". Furthermore, we invite researchers to send proposals for special issues that will be reviewed by the editors and the editorial board. Also, we are looking for two more Associate Editors for Digital Psychology. We welcome all persons holding a PhD degree and a track record with a strong emphasis on digital media and psychology to apply for this position. Please contact the editors or the editorial office for further information.

We wish you a pleasant read!

Oswald D. Kothgassner & Anna Felnhofer
Editors-in-Chief

References

Glenn, C. R., Blumenthal, T. D., Klonsky, E. D., & Hajcak, G. (2011). Emotional reactivity in nonsuicidal self-injury: Divergence between self-report and startle measures. *International Journal of Psychophysiology, 80*(2), 166–170.

Johnshoy, Q., Moroze, E., Kaser, I., Tanabe, A., Adkisson, C., Hutzley, S., ... & Campisi, J. (2020). Social media use following exposure to an acute stressor facilitates recovery from the stress response. *Physiology & behavior, 223,* 113012.

Kothgassner, O. D., Goreis, A., Kafka, J. X., Kaufmann, M., Atteneder, K., Beutl, L., ... & Felnhofer, A. (2019). Virtual social support buffers stress response: an experimental comparison of real-life and virtual support prior to a social stressor. *Journal of behavior therapy and experimental psychiatry, 63,* 57–65.

Kothgassner, O. D., Goreis, A., Robinson, K., Huscsava, M. M., Schmahl, C., & Plener, P. L. (2021). Efficacy of dialectical behavior therapy for adolescent self-harm and suicidal ideation: a systematic review and meta-analysis. *Psychological medicine, 51*(7) 1057–1067.

Kothgassner, O. D., Robinson, K., Goreis, A., Ougrin, D., & Plener, P. L. (2020). Does treatment method matter? A meta-analysis of the past 20 years of research on therapeutic interventions for self-harm and suicidal ideation in adolescents. *Borderline personality disorder and emotion dysregulation*, 7, 1–16.

Latina, D., Claréus, B., Gayfer, B., Sajco, P., & Lewis, S. P. (2022). "You leave the chat with a different feeling than when you came in.": A Content Analysis about Negative Experiences Following Instant Messaging Among Adolescents with and without Non-Suicidal Self-Injury. *Digital Psychology, 3*(1), 3–10.

Lewis, S. P., Heath, N. L., St Denis, J. M., & Noble, R. (2011). The scope of nonsuicidal self-injury on YouTube. *Pediatrics, 127*(3), e552-e557.

Muehlenkamp, J. J., Claes, L., Havertape, L., & Plener, P. L. (2012). International prevalence of adolescent non-suicidal self-injury and deliberate self-harm. *Child and adolescent psychiatry and mental health*, *6*(1), 10.

Pieh, C., Dale, R., Plener, P.L., Humer, E., & Probst, T. (2021). Stress levels in high-school students after a semester of home-schooling. *European Child & Adolescent Psychiatry,* Published online: 16 June 2021: https:/doi.org/10.1007/s00787-021-01826-2

Pieh, C., Dale, R., Plener, P.L., Humer, E., Probst, T., & Pieh, C. (2021). Assessment of mental health of high school students 1 semester after COVID-19–associated remote schooling measures were lifted in Austria in 2021. *JAMA Network Open, 4*(11): e2135571

Pletschko, T. Pelzer, C., Röhsner, M., Rockenbauer, G., & Turner, A. (2022). The Use of the Telepresence System Avatar AV1as a Therapeutic Tool for Social Inclusion in a 10-year-old Girl Treated for a Brain Tumor. *Digital Psychology, 3*(1), 18–23.

Shklarski, L., Abrams, A., & Bakst, E. (2022). Psychotherapy in the Era of Covid-19: Therapists' Decisions to Return to In-Person, Continue Working Remotely, or Offer a Hybrid Method. *Digital Psychology,* 3(1), 11–17.

Tsai, H. Y. S., Hsu, P. J., Chang, C. L., Huang, C. C., Ho, H. F., & LaRose, R. (2019). High tension lines: Negative social exchange and psychological well-being in the context of IM. *Computers in Human Behavior, 93,* 326–332.

Conflict of interest

The Editors-in-Chief declare no conflict of interest.

"You leave the chat with a different feeling than when you came in."

A Content Analysis about Negative Experiences Following Instant Messaging among Adolescents with and without a History of Non-Suicidal Self-Injury

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Abstract

Background: Instant messaging platforms seem to positively contribute to adolescent emotional well-being. However, some scholars show a link between the use of these platforms and negative emotional experiences. These emotions could be perceived as even more overwhelming for certain subgroups of adolescents, such as those who engage in non-suicidal self-injury (NSSI), and lead to self-injury to deal with otherwise difficult to handle feelings.

Objective: The current study aimed at providing a deeper understanding of what kind of experiences during instant messaging communications are perceived as emotionally upsetting by adolescents with and without a history of NSSI, and which situations could trigger NSSI thoughts or attempts in adolescents with lived experiences.

Method: We used content analysis to analyze short interviews conducted with a total of 17 adolescents with and without lived experiences of NSSI.

Results: Our results showed that experience of *Involvement in conflicts*, and especially *Name-calling and insults*, triggered negative emotional experiences for most adolescents (76.5%). Interpersonal stressors like *Name-calling and insults*, *Disagreements or arguments*, *Unwanted contact*, *Friendship break-up* and "*Ghosting*" were identified as major triggers for NSSI.

Conclusion: These findings could be used for the purpose of facilitating future research into mapping negative experiences adolescents have on instant messaging platforms, as well as used as a clinical guide to identify situations related to NSSI thoughts or episodes.

Keywords: Instant Messaging Communication, Non-suicidal Self-injury, Negative Emotions, Adolescence

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1 Introduction

In recent years, most adolescents use instant messaging (IM) platforms to communicate and interact with each other. Although these platforms can contribute to adolescent emotional well-being (Dolev-Cohen & Barak, 2013), they may also be linked to negative emotional experiences (e.g., Blabst & Diefenbach, 2017). These adverse emotions could be perceived as particularly strong for certain subgroups of adolescents, such as those who injure themselves without an intent to die (e.g., Glenn et al., 2011). In the current study we assessed the experiences during IM communications which adolescents perceived as emotionally upsetting, as well as those that triggered self-injurious thoughts and behaviors in adolescents with lived experiences.

The term non-suicidal self-injury (NSSI) includes actions such as cutting and hitting oneself, and is performed in the absence of suicidal ideations (Nock & Favazza, 2009). The onset of this behavior is usually between the age of 12 and 14 (Cipriano, 2017), and on average 17% of adolescents have self-injured at least once in their lifetime (Swannell et al., 2014), with Germany

reaching almost 35% (Brunner et al., 2014). Adolescents who engage in this behavior regularly are likely to experience depressive symptoms, anxiety and emotional dysregulation as young adults (Daukantaitė et al., 2021). In addition, NSSI is a strong risk factor for suicidal ideations and attempts (Klonsky et al., 2013). Because of these high rates, as well as the associations between NSSI and poor mental well-being, NSSI engagement during adolescence has become a growing media and public health concern (Rabin, 2011).

Researchers reported that NSSI serves several functions that are not mutually exclusive (Nock & Prinstein, 2004). However, affect regulation seems to be the most common (Taylor et al., 2018), as NSSI helps adolescents to manage emotions experienced as overwhelming or otherwise difficult to handle (Cipriano et al., 2017). More specifically, self-injury thoughts and behaviors seem to occur particularly in the context of elevated negative emotions linked to interaction with peers. In this respect, a handful of studies indicated "feeling rejected" as one of the negative emotions that led to NSSI urges (e.g., Victor et al., 2019). However, the above-mentioned studies only examined face-to-face relationships, leaving out a big portion of social media interactions that nowadays occur among adolescents.

In recent years, platforms like WhatsApp, Instagram, or Facebook messenger have become a central communication channel and means to create and maintain relationships. These Apps are perceived as major platforms on which people conduct their social life (Aizenkot & Kashy-Rosenbaum, 2018). Although IM platforms often serve to promote positive relationships (Trepte et al., 2018), and contribute to adolescent emotional well-being (Dolev-Cohen & Barak, 2013), their use may also be linked to negative emotional experiences. A study among young adults reported how hostile (e.g., sending angry messages) or insensitive (e.g., reading messages without responding) IM were associated with loneliness and depressive symptoms (Tsai et al., 2019). Another recent study showed high levels of stress among adolescents who were concerned about whether a sent message had been read or not (Blabst & Diefenbach, 2017). If interactions via IM seem to be linked to negative emotions among adolescents in general, this could be even more so for adolescents who are particularly perceptive to negative emotions, which is the case for many adolescents who engage in NSSI (Glenn et al., 2011). For individuals who regulate negative emotions with NSSI, IM interactions could precede NSSI thoughts or episodes. With this in mind, a better understanding of the experiences that trigger negative emotions during IM communications among adolescents seems warranted for the purpose of facilitating future research into this topic.

2 The Present Study

The current study aims at describing emotionally upsetting online experiences of adolescents with and without a history of NSSI. Specifically, we wanted to investigate what kind of experiences during IM communications are perceived as emotionally upsetting, and identify which of them are described as triggering NSSI thoughts or episodes in adolescents with lived experiences.

3 Method

3.1 Participants and Procedure

Seventeen participants were recruited for this study (M_{age} = 14.84; SD = 2.03) and following the concept purposive sampling until code saturation (Hennik et al., 2017). Eight of these (M_{age} = 14.88; SD = 1.96) were female patients at the inpatient and outpatient unit of the clinic for children and adolescent psychiatry, psychotherapy, and psychosomatic therapy in Göppingen, Germany. These patients were currently in therapy for a variety of clinical diagnoses. The other nine adolescents (67% male; M_{age} = 14.82; SD = 2.27) did not report ongoing NSSI, and were recruited in the German districts of Bavaria and Baden-Württemberg. To participate in the study, the adolescents needed to be between 12 and 18 years of age and needed to speak fluent German. In addition, adolescents belonging to the NSSI group needed to report at least five NSSI episodes within the previous year (Ammerman et al., 2017). Exclusion criteria for participation included an autism diagnosis, as well as any clinical diagnosis for the adolescents belonging to the control group.

Prior to the data collection, the larger study from which the current paper utilizes data was approved by the Institutional Review Board of Ulm University, Ulm, Germany, as well as by the state medical association of Baden-Württemberg, Germany. Interested participants contacted the main author after reading the flyers promoting the study on social media (e.g., Facebook), or after receiving the flyers from school teachers or social assistants. Written informed consent was obtained from the participants as well as their legal guardians. The data collection took place between May and July 2021. Interviews with the participants with lived NSSI experience were conducted at the clinic they were recruited from. Due to the restrictions following the spread of the SARS-COv-2 virus, the other interviews took place over an encrypted video consultation service currently used in the German health care sector. All interviews were audiotaped and transcribed subsequently. Although the interviews were conducted during ongoing lockdowns associated with the SARS-COv-2 virus, there was no explicit mention of the associated changing conditions for everyday IM communication in the interview questions and no participant spontaneously reflected upon the role of the pandemic.

Fourteen participants (P1-P14) were interviewed in pairs and three participants (P15-P17), who were not currently engaging in NSSI, were interviewed individually due to technical difficulties. Group interviews were preferred to one-on-one interviews as the research question aimed at the breadth rather than texture of experiences. In addition, group interviews may foster spontaneity in the interview situation as participants would feel less exposed and have the possibility to build on each other's experi-

ences (Willig, 2013). The interviews were conducted by a certified psychologist and by the main author, who is also a certified psychologist and has extensive experience in the field of NSSI during adolescence. The interviews followed a semi-structured guide with questions asking participants to describe emotionally upsetting interactions over IM that they were either included in or had witnessed (see supplementary material for more information). In addition, adolescents who engaged in NSSI were asked if any of these experiences had preceded thoughts about NSSI or NSSI episodes. Although the majority of interviewees did not know each other, a few of them knew each other by sight. The interviews lasted between 20 to 35 minutes, and participation was reimbursed with a 15 € voucher.

3.2 Analytic Plan

The data was analyzed with conventional content analysis as described by Hsieh and Shannon (2005), aiming at inductively construing a hierarchical order of categories describing the experiences that adolescents perceived as emotionally upsetting. At the initial stage of analysis, authors D. L. and B. G. read each transcript multiple times and extracted relevant experiences. These experiences were grouped based on their commonalities with regard to *what* happened, and these categories were then considered in relation to each other to create a secondary structure. The transcripts were then reviewed again with this preliminary categorization in mind, expanding or compiling the categories to represent the related content in its entirety. Any disagreements were resolved with discussions involving the whole research group when needed. D. L., B. C., and B. G. finalized the analysis by developing definitions for the categories and identified exemplars of the categories in general, as well as those instances where a category was associated with thoughts about NSSI or NSSI episodes. Thus, experiences pertaining to NSSI thoughts or episodes were only considered at this final stage of analysis, as these were relatively few and the goal of the analysis was to develop a more comprehensive overview of any experiences related to feeling emotionally upset during IM by adolescents, regardless of their lived experience (Hsieh & Shannon, 2005).

4 Results and Interpretation

The analysis (summarized in Figure 1) suggested that experiences during IM, which made adolescents emotionally upset, could be divided into four main categories, namely *Being involved in conflict*, *Being ignored or rejected*, *Relationships ending*, and *Communication difficulties*. Half of the eight participants with lived experience of NSSI reported that IM had preceded NSSI ideations or episodes once, and one additional participant recounted two different experiences. These experiences fall under the main categories of *Being involved in conflict and Relationships ending*. See Table 1 for more details.

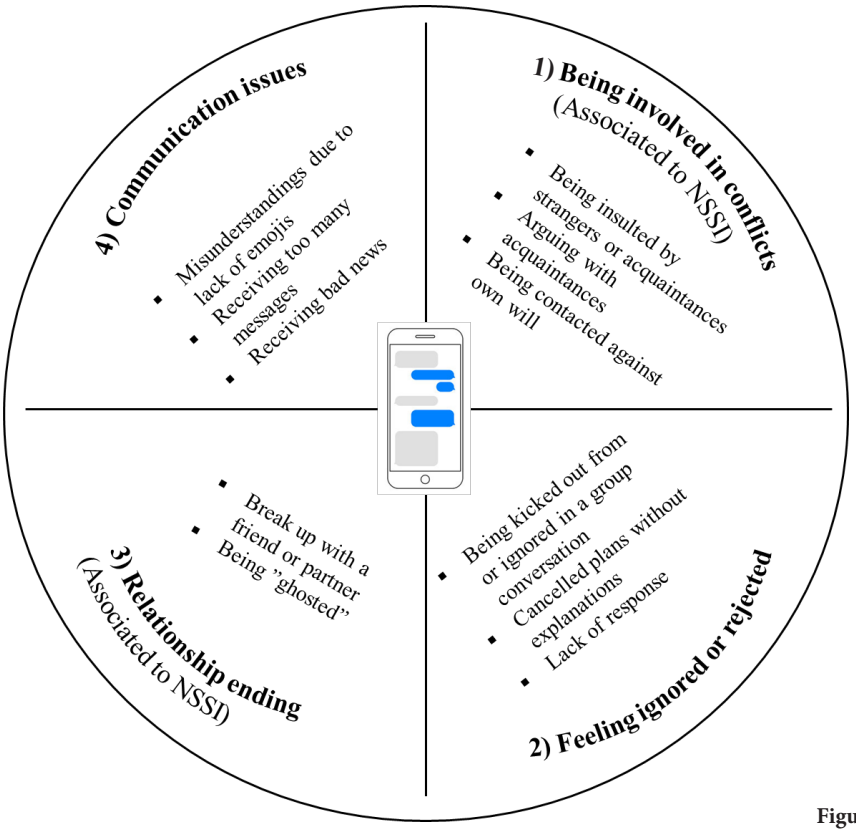

Figure 1. Graphical summary of the findings.

Table 1. Overview of Categories and Subcategories Including Their Prevalence (N = 17).

Main category – n (%)	Sub-category – n (%)	Associated with NSSI
Being Involved in conflict –13 (76.47%)	Name-calling and insults – 12 (70.59%)	Yes
	Disagreements or arguments – 4 (23.53%)	Yes
	Unwanted contact – 1 (6%)	Yes
Feeling ignored or rejected – 8 (47.06%)	Being excluded from a Group – 6 (35.3%)	No
	Cancelled or rejected plans – 3 (17.65%)	No
	Being "left on read" – 2 (11.8%)	No
Relationships ending – 8 (47.06%)	Romantic break-up – 5 (29.41%)	No
	Friendship break-up – 4 (23.53%)	Yes
	"Ghosting" – 2 (11.8%)	Yes
Communication issues – 7 (41.18%)	Misunderstandings – 6 (35.3%)	No
	Spam/too many messages – 5 (29.41%)	No
	Delivered bad news – 3 (17.65%)	No

Note. NSSI = Non-suicidal Self-Injury.

4.1 Emotionally Upsetting Experiences during IM Communication

Being involved in conflict

Within the most recurrent main category that included experiences of *Being involved in conflict*, participants most commonly described various instances of *Name-calling and insults* that were either directed towards themselves or witnessed being directed towards others. While this had been experienced both with strangers (e.g., witnessing harassment on social media) and with acquaintances (e.g., in a class group chat), *Disagreements or arguments* were usually with people our participants knew. The one participant who recounted *Unwanted contact* as a source of distress also suggested that the variety of platforms for IM enabled the person whom they did not want to talk with to contact them, despite their best efforts to keep this person away. Similar to how IM facilitated unwanted contact at inopportune times, the other varieties of conflicts within this category were suggested as more prevalent when talking by IM than when meeting face-to-face due to the potential of remaining anonymous: "Many people dare to insult and to talk badly about other people, because you can't track back who it is from" (P17). Therefore, some participants suggested that online conflicts affected them less than conflicts occurring face-to-face (e.g., P8: "When they cannot tell it to my face, then it also doesn't hit me"). However, for the majority it exacerbated distress, as it was perceived as unwarranted (e.g., P17: "it was totally unjustified"), or as augmenting ongoing conflicts and bullying outside of the online context (e.g., P3: "[the bullying] was digital as well with all those jokes that were made at his expense in the chats and so on").

Feeling ignored or rejected

In addition to being involved in conflict, participants would also become emotionally upset when *Feeling ignored or rejected* over IM. This could include *Being excluded from a group*, both in terms of being kicked out or ignored in group conversations, but also that IM could be a way of noticing that one had been left out of face-to-face interactions:

> P1: You ask like "Yo, what's up tonight?" and then [they answer] "Yes we are here or there", so that you basically don't get invited […] Then of course you leave the chat with a different feeling than when you came in.

While being ignored or rejected invoked feelings of sadness and loneliness, *Cancelled or rejected plans* were usually a source of frustration and annoyance due to lack of explanation (e.g., P15: "I wanted to meet with a buddy […] ten minutes before [the meeting] he wrote 'nah, wait a moment, I'm not sure if it works' [I: Hmm] And then he didn't contact me for two hours"). Finally, *Being "left on read"* included situations where someone had not responded to their attempts at contact, while participants were uncertain of whether this was because they did not want to talk or were too busy to respond. Similar to how cancelled plans were upsetting, it was the disregard for their emotions that contributed to annoyance when the other did not respond: "In my opinion it is disrespectful when you just don't reply and when you just can't, you should just write like 'Yeah ok, I can't [reply] right now'" (P7).

Relationships ending

About half of the participants had experience with *Relationships ending* through IM, which primarily consisted of *Romantic break-up*s and *Friendship break-up*s. Besides feeling distressed or hurt due to the dissolution of meaningful relationships, the fact that it happened over IM and not face-to-face could amplify such reactions (e.g., P1: "A classic comes to my mind, [which is] getting dumped via WhatsApp, [it] hurts the person a little more, because it wasn't done personally"). This amplification was attributed to the act of being seen as cowardly (e.g., P11: "friendships are being ended through the Internet because you don't have the guts to do it in person"), and as a signal that the other person had not valued the relationship (e.g., P16: "maybe just like that, because he has not really been my friend"). This was particularly the case in instances of *"Ghosting"*, which described the termination of a relationship when the other stopped responding (e.g., an end consequence of being left on read).

Communication issues

The final category, *Communication issues*, included instances where the nature of the media could contribute feeling emotionally upset after IM. For instance, communication restricted to text and emojis would contribute to *Misunderstandings,* such as whether something was meant to be taken seriously or not (e.g., P5: "When someone writes and they write like without emojis, like none at all, then you sometimes don't know how they mean it"). *Misunderstandings* were also difficult to clarify in writing, which could also contribute to feeling upset and confused when *Delivered bad news*. The immediacy also made it difficult to put misunderstandings or bad news in proportion to other events: "When you receive such bad news, because it's like a big topic at the moment, then you just write it immediately, instead of waiting that you see each other again" (P1). *Spam/Too many messages* was also a confounding factor in these instances, as trying to interpret what was salient and what was not became more difficult and annoying with a multitude of information.

4.2 IM Precedents of NSSI

Of the participants with reported lived NSSI (n = 8) experience, five suggested that they had self-injurious thoughts or episodes after IM interactions. These predominantly included different kinds of experiences associated with *Being involved in conflict*. One participant thought about NSSI after bad memories were revoked from *Unwanted contact*s (i.e., P11: "She brought up memories again like this, which I wanted to forget and that's why […] there was the thought [to self-injure]"). Another adolescent thought about NSSI when feeling guilt and shame after a *Disagreement or argument* (i.e., P12: "[He] said I treated him badly. Although actually I always did everything for him to feel good"), and another felt urges to self-injure when feeling angry and frustrated about unjustified *Name-calling and insults* (i.e., P13: "[the insults] also hurt me and made me angry because I also don't judge them, […] it was, like where I felt this urge for self-harm"). The other participant with an experience related to *Name-calling and insults* (i.e., P8: "When I was just contacted by random profiles on Instagram […], that it simply was real um bullying, then yes [I have self-injured]") also recounted another experience after a friend broke up their relationship by IM, leading to distress and confusion. The fifth participant recalled NSSI after experiencing *"Ghosting"* from an important person, questioning the reasons why the person stopped responding to them: "Before that we had been very good friends […] She said that we were going to call and write each other" (P14). Importantly, however, IM interactions were not described by participants as the sole instigating factor of NSSI ideations or episodes, but rather construed within those "different things [that] add up" (P12) or "[things] which also pushed me relatively far" (P13).

5 Discussion

In this study, we used conventional content analysis per Hsieh and Shannon (2005) to categorize experiences described as emotionally upsetting by German adolescents in short interviews, and identify which of these had triggered thoughts about NSSI or NSSI episodes in adolescents with lived NSSI experience. We found that *Being involved in conflict*, particularly when these included *Name-calling and insults*, was mentioned by the majority of adolescents and also described in connection with NSSI. Associated emotions described by participants in our sample such as anger, fear, sadness, and loneliness have also been identified as consequences of different kinds of online victimization among adolescents in previous studies (Wang et al., 2020). Accordingly, not all adolescents in the present study construed conflicts experienced online as negative interactions, although it exacerbated distress for the majority.

Feeling ignored or rejected over IM, and especially *Being excluded from a group*, was identified as the second most frequent situation that had emotionally upset our sample. This is unsurprising given that platforms like WhatsApp, Instagram, or Facebook messenger are important channels for seeking and maintaining social connections (Shapiro & Margolin, 2013), and might help adolescents fulfill primary social needs such as the need to belong (Baumeister & Leary, 1995) and the need to be popular (Santor et al., 2000). In this respect, scholars (e.g., Lee & Chiou, 2013) have argued that individuals are becoming increasingly dependent on social network sites (e.g., Facebook, Instagram) to gratify their social needs. Thus, being excluded from an online group without a clear explanation could undermine such needs and, as suggested by participants in our study, rejections over IM could be particularly hurtful. We believe that ending relationships (i.e., *Break-ups*) were upsetting due to similar reasons, with the addition of participants questioning whether the relationship had been one-sided if the break-up was online instead of face-to-face. While studies have shown that adolescents consider many benefits to breaking up online versus face-to-face (LaBode, 2011), our findings might indicate that ending a relationship via IM is still a cultural taboo interpreted as rude, insensitive, and hurtful.

Lastly, *Communication issues*, and especially *Misunderstandings,* were reported as upsetting for some adolescents. These types of situations also seem to appear in other studies (e.g., Berglund, 2009), as adolescents might, for example, engage in simultaneous activities while chatting, or interpret emojis differently (Tigwell & Flatla, 2016) or simply lack the nonverbal cues of face-to-face conversations (e.g., Riva, 2002).

We found support for associations between NSSI thoughts or episodes and experiences related to *Name-calling* and *insults, Disagreements or arguments, Unwanted contact, Friendship break-ups* and *"Ghosting"*, which corroborates that NSSI often occurs in the context of negative emotions linked to interpersonal problems (e.g., Plener et al., 2015), regardless of whether these occur in person or via IM. These experiences were de-

scribed by individuals with no lived NSSI experience as well, but risk factors such as heightened emotional reactivity (Mettler et al., 2021) and difficulties regulating these emotions otherwise (Cipriano et al., 2017), could be the reason for some participants considering NSSI in these instances. Given that similar experiences (e.g., break-ups, verbal insults) occurring face-to-face have been linked to NSSI (e.g., Mossige et al., 2016; Price et al., 2016), our study suggests that qualia of these experiences transfer to the IM context, and may also precede NSSI.

6 Limitations and Future Directions

The interviews in the present study were relatively short which made it difficult to study aspects of intentionality and the sequencing of emotions and events further. The group interview setting might have contributed to this as well, as participants might have been reluctant to mention very distressing events or their reactions in detail. Additionally, we could not conclude from our data whether a higher recurrence in specific experiences indicated that these were more frequent than others, or the cause of more significant distress and therefore more readily recalled. Considering that negative interactions over social media platforms are associated with several psychosocial problems (Bottino et al., 2015) including suicidal attempts and thoughts (Lanzillo et al., 2021), future studies should consider why and to what degree negative experiences via IM precede emotional distress and/or NSSI thoughts or episodes among adolescents.

Given the restrictions tied to the spread of the SARS-COv-2 virus, only the patients with a history of NSSI were interviewed face-to-face. This disparity in methods of data collection could count for some lack of information. Although there was no discernable difference in the quality of the communication between the face-to-face and online interviews as noted by the experienced interviewers, studies using the same methodology between groups should be conducted to replicate our findings.

Quantitative research on this topic could use the categories found in this study to guide the development of questionnaires mapping negative experiences adolescents have on IM platforms, and identify how this connects to aspects of emotional reactivity and coping style. The current categories could also be used in clinical practice to identify situations related to NSSI thoughts or episodes, given that many adolescents are uncomfortable disclosing these problems to others (e.g., Lustig et al., 2021) and might need appropriate prompts to discuss their experiences.

Future studies should also assess whether our results can be transferred to individuals of varying gender identities, as the group of adolescents with lived experiences, and who recalled NSSI thoughts or episodes following IM interactions, was constituted solely by participants identifying as girls. For instance, it had been suggested that girls are more sensitive to environmental stressors than boys (e.g., interpersonal problems; Oldehinkel & Bouma, 2011) and may therefore react differently to distressing online experiences. In addition, recent literature has reported valuable insights into the association between NSSI (e.g., Liu et al., 2019) and identifying outside the gender binary. Based on these findings, assessing the triggers of NSSI or NSSI thoughts during IM communication including adolescents who do not fit neatly into the restrictive categories of men and women could provide relevant and more general insights about this phenomenon.

7 References

Aizenkot, D., & Kashy-Rosenbaum, G. (2018). Cyberbullying in WhatsApp classmates' groups: Evaluation of an intervention program implemented in Israeli elementary and middle schools. *New Media & Society, 20* (12), 4709–4727.

Ammerman, B. A., Jacobucci, R., Kleiman, E. M., Muehlenkamp, J. J., & McCloskey, M. S. (2017). Development and validation of empirically derived frequency criteria for NSSI disorder using exploratory data mining. *Psychological Assessment*, *29*(2), 221–231.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529.

Berglund, T. Ö. (2009). Disrupted turn adjacency and coherence maintenance in instant messaging conversations. *Language@ Internet, 6*(2).

Blabst, N., & Diefenbach, S. (2017, July). WhatsApp and Wellbeing: A study on WhatsApp usage, communication quality and stress. In *Proceedings of the 31st International BCS Human Computer Interaction Conference (HCI 2017) 31* (pp. 1–6).

Bottino, S. M. B., Bottino, C., Regina, C. G., Correia, A. V. L., & Ribeiro, W. S. (2015). Cyberbullying and adolescent mental health: systematic review. *Cadernos de Saude Publica, 31,* 463–475.

Brunner, R., Kaess, M., Parzer, P., Fischer, G., Carli, V., Hoven, C. W., … & Balazs, J. (2014). Life-time prevalence and psychosocial correlates of adolescent direct self-injurious behavior: a comparative study of findings in 11 European countries. *Journal of Child Psychology and Psychiatry, 55* (4), 337–348.

Cipriano, A., Cella, S., & Cotrufo, P. (2017). Nonsuicidal self-injury: a systematic review. *Frontiers in Psychology, 8* (1946), 1–14.

Fisher, L., Klonsky, E. D., Muehlenkamp, J., Kuppens, P., & Vandereycken, W. (2010). The affect-regulation function of nonsuicidal self-injury in eating-disordered patients: which affect states are regulated? *Comprehensive Psychiatry, 51*(4), 386–392.

Daukantaitė, D., Lundh, L. G., Wångby-Lundh, M., Claréus, B., Bjärehed, J., Zhou, Y., & Liljedahl, S. I. (2021). What happens to young adults who have engaged in self-injurious behavior as adolescents? A 10-year follow-up. *European Child & Adolescent Psychiatry, 30*(3), 475–492.

Dolev-Cohen, M., & Barak, A. (2013). Adolescents' use of IM as a means of emotional relief. *Computers in Human Behavior, 29*(1), 58-63. https://doi.org/10.1016/j.chb.2012.07.016

Glenn, C. R., Blumenthal, T. D., Klonsky, E. D., & Hajcak, G. (2011). Emotional reactivity in nonsuicidal self-injury: Divergence between self-report and startle measures. *International Journal of Psychophysiology, 80*(2), 166–170.

Hennink, M. M., Kaiser, B. N., & Marconi, V. C. (2017). Code saturation versus meaning saturation: how many interviews are enough? *Qualitative Health Rresearch, 27*(4), 591–608.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277–1288.

Klonsky, E. D., May, A. M., & Glenn, C. R. (2013). The relationship between nonsuicidal self-injury and attempted suicide: converging evidence from four samples. *Journal of Abnormal Psychology, 122* (1), 231–237.

LaBode, V. (2011). Text messaging: one step forward for phone companies, one leap backward for adolescence. *International Journal of Adolescent Medicine and Health, 23* (1), 65–71.

Lanzillo, E. C., Zhang, I., Jobes, D. A., & Brausch, A. M. (2021). The influence of cyberbullying on nonsuicidal self-injury and suicidal thoughts and behavior in a psychiatric adolescent sample. *Archives of Suicide Research*, 1–8.

Lee, C. C., & Chiou, W. B. (2013). Keep logging in! Experimental evidence showing the relation of affiliation needs to the idea of online social networking. *Cyberpsychology, Behavior, and Social Networking, 16*(6), 419–422.

Liu, R. T., Sheehan, A. E., Walsh, R. F., Sanzari, C. M., Cheek, S. M., & Hernandez, E. M.

(2019). Prevalence and correlates of non-suicidal self-injury among lesbian, gay, bisexual, and transgender individuals: A systematic review and meta-analysis. *Clinical Psychology Review, 74*, 101783, 1–17.

Lustig, S., Koenig, J., Resch, F., & Kaess, M. (2021). Help-seeking duration in adolescents with suicidal behavior and non-suicidal self-injury. *Journal of Psychiatric Research, 140,* 60–67.

Mettler, J., Stern, M., Lewis, S. P., & Heath, N. L. (2021). Perceived vs. actual emotion reactivity and regulation in individuals with and without a history of NSSI. *Frontiers in Psychology, 12*, (612792), 1–11.

Mossige, S., Huang, L., Straiton, M., & Roen, K. (2016). Suicidal ideation and self-harm among youths in Norway: associations with verbal, physical and sexual abuse. *Child & Family Social Work*, 21(2), 166–175.

Nock, M. K., and Favazza, A. (2009). Nonsuicidal self-injury: Definition and classification. In M. K. Nock (Ed.), Understanding nonsuicidal self-injury: Origins, assessment, and treatment (pp. 9–18). Washington, DC: American Psychological Association

Nock, M. K., and Prinstein, M. J. (2004). A functional approach to the assessment of self mutilative behavior. *Journal of Consulting and Clinical Psychology*, *72* (5), 885–890.

Nock, M. K., Prinstein, M. J., & Sterba, S. K. (2009). Revealing the form and function of self-injurious thoughts and behaviors: A real-time ecological assessment study among adolescents and young adults. *Journal of Abnormal Psychology, 118*(4), 816–827.

Oldehinkel, A. J., & Bouma, E. M. (2011). Sensitivity to the depressogenic effect of stress and HPA-axis reactivity in adolescence: a review of gender differences. *Neuroscience & Biobehavioral Reviews, 35*(8), 1757–1770.

Plener, P. L., Schumacher, T. S., Munz, L. M., & Groschwitz, R. C. (2015). The longitudinal course of non-suicidal self-injury and deliberate self-harm: a systematic review of the literature. *Borderline Personality Disorder and Emotion Dysregulation, 2* (2), 1–11.

Price, M., Hides, L., Cockshaw, W., Staneva, A. A., & Stoyanov, S. R. (2016). Young love: Romantic concerns and associated mental health issues among adolescent help-seekers. *Behavioral Sciences, 6*(2), 9.

Rabin, R. C. (2011, February 21). Behavior: Videos of self-injury find an audience. The New York Times. Retrieved from http://www.nytimes.com/2011/02/22/health/research/22behavior.html

Riva, G. (2002). The sociocognitive psychology of computer-mediated communication: The present and future of technology-based interactions. *Cyberpsychology & Behavior, 5*(6), 581–598.

Santor, D. A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence, 29*(2), 163–182.

Shapiro, L. A. S., & Margolin, G. (2014). Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical Child and Family Psychology Review, 17*(1), 1–18.

Swannell, S. V., Martin, G. E., Page, A., Hasking, P., & St John, N. J. (2014). Prevalence of nonsuicidal self-injury in nonclinical samples: Systematic review, meta-analysis and meta-regression. *Suicide and Life-Threatening Behavior, 44* (3), 273–303.

Taylor, P. J., Jomar, K., Dhingra, K., Forrester, R., Shahmalak, U., & Dickson, J. M. (2018). A meta-analysis of the prevalence of different functions of non-suicidal self-injury. *Journal of Affective Disorders, 227*, 759–769.

Tigwell, G. W., & Flatla, D. R. (2016, September). Oh that's what you meant! reducing emoji misunderstanding. In *Proceedings of the 18th international conference on human-computer interaction with mobile devices and services adjunct* (pp. 859–866).

Trepte, S., Masur, P. K., & Scharkow, M. (2018). Mutual friends' social support and self-disclosure in face-to-face and instant messenger communication. *The Journal of Social Psychology, 158*(4), 430–445.

Tsai, H. Y. S., Hsu, P. J., Chang, C. L., Huang, C. C., Ho, H. F., & LaRose, R. (2019). High tension lines: Negative social exchange and psychological well-being in the context of IM. *Computers in Human Behavior, 93*, 326–332.

Victor, S. E., Scott, L. N., Stepp, S. D., & Goldstein, T. R. (2019). I want you to want me: Interpersonal stress and affective experiences as within-person predictors of nonsuicidal self-injury and suicide urges in daily life. *Suicide and Life-Threatening Behavior, 49*(4), 1157–1177.

Wang, Y., Chen, A., & Ni, H. (2020). The relationship between cybervictimization and non-suicidal self-injury in Chinese adolescents: a moderated-mediation model. *Frontiers in Psychology, 11* (572100).

Willing, C. (2013). Introducing qualitative research in psychology. *Berkshire: McGraw–Hill Education.*

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Supplementary Table

Summary of Interview Questions

I	All participants were asked the following: • Do you know of any app, other than "WhatsApp" that allows you to chat with your friends? • Which App do you use the most? • If you think about one of your friends or yourself, which are some of the situations that make you feel negative emotions when you talk on Whatsapp or on any other App that you mentioned?
II	The participants who engaged in self-injury were asked the following: • Has any of the situation that you mentioned before made you want to injure yourself?

Note. The above-mentioned questions represent the protocol for a semi-structured interview guide. The phrasing of the questions or potential follow-up questions were adapted to the conditions of each interview.

Psychotherapy in the Era of Covid-19: Therapists' Decisions to Return to In-Person, Continue Working Remotely, or Offer a Hybrid Method

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Abstract

The threat of the Covid-19 virus is ongoing and has significantly affected the provision of mental health services, particularly psychotherapy. Using a survey of 212 psychotherapists in practice across the United States in June 2021, this quantitative study offers their views on whether to return to meeting clients in person by considering (a) therapists' personal and professional attitudes, (b) safety (specifically related to vaccines and wearing masks), and (c) insurance reimbursement for telemental health (TMH) services. Results from this study show that participants have found TMH to be as effective and as meaningful as in-person therapy and suggest that on a practice level, TMH is not only as effective as in-person psychotherapy but is even more effective than masked in-person therapy. The results also show that the participants preferred not to provide in-person therapy while wearing masks and instead would be more inclined to return to seeing clients in the office if both the client and the therapist were fully vaccinated and vaccination proved effective against all virus variants. Moving forward, the participants anticipated providing a combination of remote and in-person therapy, especially as new variants emerge and current vaccines fail to fully protect therapists and their clients. More concrete guidelines are needed to ensure the safety of clients and therapists when meeting in person, and policies that reduce ambiguity surrounding insurance companies' reimbursement of remote services must be developed.

Keywords: Covid-19, In-person psychotherapy, Telemental Health, remote psychotherapy, mental health

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1 Introduction

The Covid-19 pandemic has created an uncertain reality in which there is ambiguity surrounding the safety of meeting with people in person. In spite of the widespread availability and uptake of vaccinations to protect against Covid-19, the threat of the virus continues to loom large due to the unique challenges posed by different variants and the limited delivery of booster shots. Like many healthcare professionals, psychotherapists are affected by these challenges. Therapists' decisions regarding whether to return to meeting with clients in person are also influenced by the risk of infection and facing the unknown. In addition, as therapists and their clients become more comfortable with the option of remote therapy, there is increasingly less incentive to return to in-person encounters.

This new reality and the rapid changes that have occurred since the beginning of the pandemic in March 2020 require an ongoing assessment of the provision of psychotherapy. On the one hand, people are eager for life to return to normal, but on the other hand, after nearly two years of working from home, some therapists are hesitant to return to the office. In October 2020, the authors conducted an initial study that was designed to uncover therapists' attitudes toward providing in-person and remote therapy (Shklarski et al., 2021a). The study was conducted relatively early on in the pandemic and prior to the dissemination of vaccines. Its results showed that the majority of participants held positive attitudes toward remote psychotherapy. In addition, the need to wear masks in sessions and the lack of a readily available and effective vaccine at that time were important factors that determined whether or not they would return to providing in-person services.

2 Objectives of the Current Study

While positive developments – such as the rollout of vaccines – eventually came into existence, so too did negative ones. The evolution of new and different variants, in particular, have made therapists question the safety of returning to holding in-person meetings with clients. Given the rapid changes that were still taking place, the significant and lingering questions that remained, and taking into account how much time had passed since October 2020 that had allowed therapists to become increasingly accustomed to providing remote therapy (and had also given

them more time to better gauge its effectiveness), the research presented here was initiated in June 2021 as a follow-up study.

We hypothesize that therapists perceive remote therapy to be as effective as in-person therapy; with the passage of time, and as the availability of vaccines increases, so too does the number of therapists desiring a return to in-person interactions with clients. Therefore, the current study focused on the factors that influence therapists' decisions to return to seeing clients in person in light of Covid-19 by asking the following research questions: (1) Do participants perceive remote therapy to be as effective as in-person therapy? (2) What factors contribute to therapists' decisions whether to return to meeting clients in person again?

3 Literature Review

As part of a widescale mixed-methods study with a repeated cross-sectional design, Doran and Lawson (2021) surveyed 1,448 mental health providers during June 2020 to learn about their experiences with and perceptions of TMH, both positive and negative, and to examine how these perceptions may have shifted as a result of the pandemic. Prior to the outbreak of Covid-19, only 10.3% of their participants reported using TMH in their clinical work; 31.1% strongly agreed that they held an interest in learning about and incorporating it, 16.3% strongly agreed that it was as effective as in-person sessions, and 31.4% stated that they both liked it and saw it as a viable option for delivering services. Although the majority felt the transition to remote work to be at least "somewhat stressful," most participants also concluded that TMH was as effective as face-to-face sessions: 83.8% shared that their working alliance with clients using a remote platform felt at least somewhat similar to in-person work, with a significantly more positive response from those who relied predominantly on video (versus phone) for client interactions, finding it to be "significantly more useful, satisfying, and equivalent to face-to-face care." Interestingly, they found that females held a significantly more positive view of TMH and its effectiveness in comparison to males, but overall, their research indicated there was a significant positive shift in both attitudes toward and the use of TMH five months into the pandemic, with providers feeling more strongly that it was important, necessary, and effective.

Watts et al. (2020) conducted a randomized controlled study involving 115 participants between the ages of 18 and 75 in Canada with a diagnosis of generalized anxiety disorder, of whom 50 received cognitive behavioral psychotherapy over video and 65 received it in person. Every other session (of a total of 15 one-hour weekly sessions), the 23 cognitive behavioral psychotherapists and their respective clients were asked to complete the Working Alliance Inventory. Data indicated that using a remote platform for clinical services did not interfere with the process of building a working alliance over the duration of treatment; in fact, the opposite transpired, at least for clients, who indicated feeling a stronger working alliance in telepsychotherapy using videoconferencing than in conventional face-to-face psychotherapy. It is meaningful to note that the findings showed that clients appeared to be more comfortable with this platform than psychotherapists, although psychotherapists did not indicate feeling there was any difference in the quality of the therapeutic relationship they developed with their clients over the course of treatment, regardless of the platform used.

Guinart et al. (2021) also sought to gauge mental health providers' experiences of and attitudes toward working with clients via remote platforms by surveying 819 providers across 18 centers throughout the United States regarding their use of and satisfaction with TMH. Similar to Doran and Lawson's (2021) findings, they found that 73% of providers using videoconferencing and 66% using the telephone rated their experiences as excellent or good, with only 4% (3%) describing their videoconferencing (telephone) experiences as poor or very poor. Looking to the future, 64% of participants expressed a desire to continue using telepsychiatry with at least 25% of their clients.

Gentry et al. (2021) conducted a study to assess mental health clinicians' satisfaction four months into the Covid-19 pandemic in light of the rapid shift to delivering services using remote platforms. One hundred and twelve clinicians completed cross-sectional descriptive surveys consisting of 27 Likert questions, and data indicated not only high levels of satisfaction and comfort with video TMH sessions (with both established and new patients) but also high levels of acceptability, feasibility, and appropriateness. More specifically, 79.5% of clinicians found their patients to be highly satisfied with such visits, and 95.5% reported that they wished to continue using video TMH for at least 25% of their work moving forward. Interestingly, the results did indicate a negative association between age and the following two statements: "I welcome telehealth," and "Telehealth seems easy to use."

Guinart et al. (2020), working in collaboration with the Vanguard Research Group, focused their research on the experiences of patients receiving TMH services between the months of April and June 2020, across 11 different states. Of the 3,070 participants surveyed, 82.2% (81.5%) reported their overall experience using remote video (telephone) platforms as either excellent or good. Furthermore, 63.6% either agreed or strongly agreed that such sessions had been "just as helpful as in-person treatment," with 64.2% stating that they would consider continuing using remote platforms in the future. Some positive factors attributed to TMH included not having to commute, being less likely to miss an appointment, having scheduling flexibility, and feeling more confident and comfortable than in in-person sessions.

4 Method

4.1 Procedure

Upon receiving ethical approval from the Human Research and Ethics Committee of Ramapo College of New Jersey (IRB Pro-

tocol #585), we recruited 212 psychotherapists practicing across the United States through social media and dedicated professional listservs (unaffiliated with organizations) designed for social workers, psychologists, and art therapists. For a detailed overview of the participants who responded to the survey, see Table 1. During the month of June 2021, we sent out a recruitment email over the listservs that included a link to the survey and also asked colleagues to send the survey to those qualified to participate. All participants signed an electronic informed consent form that included a statement of the ethics approval for the study as well as the goals of the research. The participants took an online survey that included demographic questions as well as questions related to their decision to continue with TMH sessions or return to in-person sessions. Some of the questions related to the participants' perceptions of their work since a vaccine for Covid-19 had become available. It is important to note that many of the participants (n = 98, 46.2%) hold a clinical social work degree which, in the United States, allows them to practice privately.

4.2 Instrument

The anonymous online survey included 50 questions to answer the research questions at hand. The survey was based on the most recent empirical literature (Feijt et al., 2020; Geller, 2020; Guinart et al., 2021). The survey included questions relating to how participants intended to provide therapy (in person, TMH/remote, or a combination thereof) and questions relating to the Covid-19 vaccine and whether its availability affected their perception of how they were providing and would continue to provide services. The survey asked participants: "Now that you have already worked remotely for the past year, do you believe that remote therapy can be as effective as in-person therapy?" It also asked participants to respond to the following statements: "I prefer remote over in-person therapy," "I am seeing clients in person (conducting face-to-face sessions)," and "Before I return to see clients in person (face-to-face sessions), I will make sure to have an air purifier." In the survey, we used a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree) to allow participants to express their level of agreement with the statements, and questions for which "yes," "no," and "not sure" were acceptable responses. Higher scores on each scale indicated greater agreement with the statements present in each scale.

4.3 Data Analysis

Statistical Package for the Social Sciences (v. 27) was used to analyze the quantitative data. Reverse coding ensured that all the numerical scoring scales were in the same direction. We used bivariate Pearson correlations to assess the associations among continuous variables. A p-value of less than .05 was considered statistically significant. One-way analysis of variance were conducted to assess group differences (for examples for participants who responded, 'yes', 'not suure, or 'no') on continuous variables. Chi-square associations were used to assess the relationships of categorical variables.

Table 1. Descriptive Characteristics of 212 Therapists Surveyed

	N	%
Gender		
Female	188	88.7
Male	21	9.9
Non-binary	3	1.4
Race		
White	191	90.1
Black	7	3.3
Mixed race	9	4.3
Hispanic	5	2.3
Age		
40 and younger	53	25
41–59	84	39.6
60 and older	75	35.4
State you practice in		
New York	121	57.1
California	13	6.2
New Jersey	9	4.2
Other states	69	32.5
Degree		
Clinical Social Work	98	46.2
Psychology	63	29.7
Mental health counseling	33	15.6
Psychoanalysts	3	1.4
Other degrees	15	7.1
Served Population		
Adults	184	86.8
Children and families	28	13.2
Modality of treatment		
Psychodynamic therapy	102	48.2
Cognitive Behavioral Therapy	62	29.2
Eclectic approaches	48	22.6

5 Results

5.1 Remote Therapy Is as Effective as In-Person Therapy

Only 23.6% of the participants (n = 50) agreed with the statement: "I prefer remote over in-person therapy." Nonetheless, 68.4% responded, "Yes, I like it more" when asked "Has your

opinion/attitude about remote work changed since the pandemic?" (n = 145). In addition, when we asked participants about the influence of remote therapy on the therapeutic relationship, 45.8% reported that remote therapy did not compromise the therapeutic relationship (n = 97). A similar question was asked about the effectiveness of the work, with 35.4% of the participants (n = 75) reporting that the effectiveness of the work with clients had been compromised due to the change of setting in itself (remote vs. face-to-face). There was a positive correlation between participants' comfort with working from home and their agreement with the statement: "Remote therapy can be as effective as in-person therapy" (r = .411, p < .001).

There was a significant difference between participants who did not believe that the therapeutic relationship had been compromised due to the change of setting to those who agreed or were not sure (remote vs. face-to-face) and their higher agreement with the statement: "I prefer remote over in person" (F = 24.19, df = 2, p < .001). Similar results were found for the statement regarding the effectiveness of their work with clients being compromised due to the change of setting in itself (remote vs. face-to-face). Those who responded "no" to this statement had higher agreement with the statement: "I prefer remote over in person" (F = 27.26, df = 2, p < .001) as opposed to those who responded that they were not sure or "yes". Almost half of the participants reported that they had experienced some stress or anxiety when they thought about seeing clients in person (n = 100, 47.1%). This statement was positively correlated with the statement: "I am comfortable working from home" (r = .300, p < .001). Similarly, there was a positive correlation between participants' experiences of stress or anxiety when thinking about seeing clients in person and their agreement with the statement: "Remote therapy can be as effective as in-person therapy" (r = .337, p < .001).

The participants surveyed reported feeling that remote therapy is more physically/cognitively/emotionally tiring than in-person therapy. More than half (58.5%) reported that remote work is more tiring (n = 124), 17.5% reported that in-person work is more tiring (n = 37), and 24.1% reported that there is no difference (n = 51).

At the time of the survey in June 2021, 33% of the sample (n = 70) answered "yes" to the statement: "I am seeing clients in person (conducting face-to-face sessions)." There was a positive association between those who were already seeing clients in person and their plans for future in-person sessions in the office (^{2} = 68.97, df = 2, p < .001). About 46.2% of the sample (n = 98) reported that they had created a work environment at home so they did not need to return to the office. This data aligned with the participants who reported giving up their office completely (n = 59, 27.8%) and those who had retained an office but reduced the number of days they used it (n = 19, 9%). A majority of the participants reported that they were comfortable working from home (n = 175, 82.5%).

Moving Forward

Only 16.5% of the participants reported planning to continue working 100% remotely once the pandemic is over or the Covid-19 virus is no longer a threat (n = 35). In addition, 63.2% of the participants agreed that when the pandemic is over or Covid-19 is no longer a threat, they will return to seeing clients primarily in person (n = 134). The majority of the participants reported that in the future, when Covid-19 is no longer a risk, they would most likely use a mixture of both remote and in-person work (n = 153, 72.2%). More specifically, 72.7% of the participants planned to work 1–4 days a week remotely (n = 154), and only 21.2% reported that they would work in the office full-time (n = 45), with the rest planning to work fully remotely.

In terms of participants planning to return to the office to see clients in person in the foreseeable future, 45.3% reported that they were planning to return (n = 96). The rest of the sample was either undecided (n = 56, 26.4%) or not planning to return (n = 60, 28.3%).

Participants who were not planning to return to the office or were undecided if they would or not had agreed more strongly with the statement, "I experience some stress or anxiety when I think about seeing clients in person," compared to those who were planning to return to the office (i.e., those who answered "no" to the statement: "I am not planning to return to the office in the foreseeable future" (F = 19.90, df = 2, p < .001). Those who were planning to return reported experiencing less anxiety. Participants who were not planning to return to the office rated a stronger agreement with the statement: "I believe that remote therapy can be as effective as in-person therapy" (F = 8.233, df = 2, p < .001). Participants who reported that the effectiveness of their work with clients had been compromised due to the change of setting in itself (remote vs. face-to-face) were more likely to be planning their return to the office (^{2} = 14.39, df = 4, p = .006).

Related to the decision to go back to the office, participants who were not planning to return to the office rated a stronger agreement with the statement: "I created a work environment at home so I do not need to go back to my office" (F = 24.1, df = 2, p < .001). Similarly, participants who were not planning on returning to the office rated a stronger agreement with the statement: "I am comfortable working from home" (F = 8.185, df = 2, p < .001).

When asked, "In the future, when Covid-19 is no longer a risk, how are you most likely to work going forward?" 72.5% of the participants (n = 153) reported that they would provide a mix of in-person and remote therapy. In the narrative part of this question, the participants shared that they would need to see: (a) "significant evidence that unmasked small office contact is safe"; (b) "lower numbers of infected people in my state and county; more people vaccinated, especially children"; and (c) "a long-term study that vaccinated people can't get/pass on the Covid-19 virus."

5.2 Factors Affecting Therapists' Decisions

Health Insurance

About half of the sample (n = 108, 50.9%) reported accepting health insurance payments. However, payment by insurance companies was not statistically significant in terms of the participants' plans to return to seeing clients in person in the foreseeable future (^{2} = 0.37, df = 2, p = .833). In addition, 57.1% (n = 121) disagreed with the statement: "My decision about the setting in which I will conduct my practice going forward (remote vs. in person) will be influenced by insurance companies and reimbursement policies." More than half of the participants responded in the affirmative to the statement: "My clients have already asked me when will I be able to offer face-to-face sessions" (n = 135, 63.7%).

Vaccination

The majority of the participants reported that they had been vaccinated or planned to be vaccinated when eligible (n = 198, 93.4%). Less than half of the sample stated that they would only see clients in person if the clients had been vaccinated (n = 92, 43.4%); the rest were either undecided (n = 51, 24.1%) or replied "no" to this question (n = 68, 32.1%). Half of the sample agreed with the statement: "Now that there is a vaccine, I feel some pressure (internal and external) to return to the office" (n = 118, 55.6%).

About 52.4% of the participants (n = 111) reported that they would ask to see proof of vaccination before seeing clients in person again. There was a significant difference between participants who were planning to return to the office and their requirement of proof of vaccination. A lower proportion of those who were returning to the office would require proof of vaccination than those who were not planning to return to the office (^{2} = 13.63, df = 4, p = .009).

There was a significant difference in the level of agreement with the statement, "I experience some stress or anxiety when I think about seeing clients in person," and participants' decisions to see clients who have been vaccinated in person. In other words, participants who were ready to see clients who were vaccinated or were not sure yet experienced more stress than those who reported that they would not see vaccinated clients in person (F = 16.29, df = 2, p < .001). Finally, in the open-ended section of the survey, some participants (n = 30) expressed a desire for specific professional guidelines surrounding their ability to ask questions about their clients' vaccination status (i.e., they wanted to know whether they were allowed to ask for proof of vaccination before seeing clients in person).

Masks

The majority of the participants (n = 135, 63.7%) disagreed with the statement: "I am comfortable wearing a mask and having clients wear masks during in-person sessions." Only 40.1% of the participants stated that when they return to the office, they will require their clients to wear a mask (n = 85). Similarly, in an open question about participants' plans to return to the office, about half of the participants expressed concerns regarding wearing masks in sessions. Similar to their desire for information about the effectiveness of vaccination, the participants expressed a desire for some kind of general guidance on whether masks indoors were still necessary.

6 Discussion

This follow-up study to Shklarski et al. (2021b) explored the factors associated with therapists' decisions on whether to return to meet with their clients in person during the Covid-19 pandemic. In comparison to past research related to therapists' preferences for providing in-person therapy (Doran & Lawson, 2021; Guinart et al., 2021; Shklarski et al., 2021a,b), the findings show that since people had already begun to be vaccinated in June 2021, therapists were becoming more open to the idea of returning to seeing clients in person. Nonetheless, we predict that our participants will be more prone to return to meeting clients in-person, although Covid-related uncertainty has shown that they are more open to the idea of providing a hybrid model of psychotherapy. There was a clear preference for not returning to the office to meet with clients if there was a requirement to wear masks in sessions, if it meant seeing unvaccinated clients in person, or if different Covid variants continued to spread. These findings are specifically relevant now that new variants have emerged and can be spread by and infect vaccinated people.

The participants also raised a professional ethics question regarding whether they could ask their clients about their vaccination status – in other words, in order to stay safe, could they ensure that they only meet face-to-face with clients who have been vaccinated? The participants agreed that they need a professional policy in place that protects their health (for example from their professional organization or insurance companies).

Many of the participants adapted to TMH and found it to be as effective as – and in some cases even a bit more effective than – in-person treatment. This finding was supported by previous research relating to therapists' and clients' comfort with TMH (Cataldo et al., 2021; Messina & Löffler-Stastka, 2021; Poletti et al., 2020; Ruden, 2021; Shklarski et al., 2021b; Vostanis & Bell, 2020; Wright & Caudill, 2020).

It seems that there are number of advantages of working remotely, including the convenience of working from home and not having to commute, greater flexibility in scheduling, fewer cancellations, and saving money on office space. Related to their clinical work in TMH, the participants found seeing snippets of their clients' home lives and living situations advantageous. For some of the participants, this opportunity deepened the clinical work. In certain cases, they reported that their clients felt more comfortable meeting from their homes.

The current study shows that although TMH is no longer the only available option (as it was at the beginning of the pandemic, when there were lockdowns in place), therapists still need their

professional organizations to issue clear guidelines for when they gradually return to seeing clients in person that detail which safety precautions to take, such as cleaning the psychotherapy office between clients, providing ventilation, using an air purifier, handling requests for proof of vaccination as part of the clinical work, and deciding whether to wear masks during sessions.

Some of the participants raised an important point about wanting reassurance of the long-lasting effectiveness of vaccination before they would feel comfortable returning to the office. Policymakers and therapists should advocate for insurance companies to continue to reimburse for TMH and to give sufficient notice if their regulations change. Rules and guidelines for in-person sessions are also needed with regard to Health Insurance Portability and Accountability Act concerns related to therapists asking their clients for proof of vaccination.

While payment by insurance companies was not statistically significant in terms of therapists' plans to return to seeing clients in person, the fact that insurance companies – including Medicaid and Medicare, which usually lead the way for other private insurance companies – are reimbursing for TMH treatment makes this method of treatment even more viable going forward. Nonetheless, it is important to assess whether a change in this policy or a failure to extend TMH reimbursement for psychotherapy will eventually affect therapists' decisions on whether to return to seeing clients in person.

The situation created by the Covid-19 pandemic has also challenged regulations regarding interstate licensing. The ways in which therapy is being delivered have changed, and continuing to provide these services during the pandemic required overcoming hurdles relating to therapists' inability to see clients in the office. Thus, there is a need to reform the regulations regarding interstate licensing restrictions since remote work is apparently as effective as in-person treatment. At the beginning of the pandemic, many states issued waivers to allow clients to continue to receive ongoing support from their out-of-state therapists, which was certainly needed. Thus, there is a need to either extend these waivers or reinstate more flexible interstate licensing in order to support the remote therapeutic relationship. In fact, interrupting or terminating with a client solely due to geographical changes can be more detrimental to their well-being than anything else. Instead of enforcing state line regulations, client choice should be prioritized based on a discussion of the advantages and disadvantages of remote treatment with their therapist.

6.1 Limitations

One of the major limitations of this study relates to the demographics of the participants. The data were collected through convenience sampling, and the majority of the participants were clinical social workers in New York State. As a result, the sample lacked the randomization and accuracy that is so important when conducting research. In addition, the sample size of the study was relatively small and did not account for cultural, ethnic, and demographic differences. It is recommended to learn more about therapists' preferences from a broader perspective, such as through a cross-country comparison.

6.2 Implications for Future Research and Practice

Much of the research conducted thus far on the provision of psychotherapy during Covid-19 has focused on the perspective of the clinician (Bell et al., 2021; Poletti et al., 2020; Tohme et al., 2021). Further research is recommended to examine preferred methods of treatment (remote vs. in person) from the perspective of the client. It would be interesting to gain insight into the contributing factors and to compare them to those reported by clinicians. Would clients' attitudes about the perceived effectiveness of the therapeutic work, as well as the therapeutic relationship, be similar to therapists' attitudes or would they differ significantly? Would issues such as insurance reimbursement, vaccinations, masks, and concrete safety guidelines play a part in clients' decisions to return to in-person therapy, and if so, to what degree? And what about the question of proof of vaccination? The current study's findings have shown that some of the participants would only meet clients in person with proof of vaccination. More research on the legal and ethical implications of this and the effects it will have on the therapeutic relationship is needed.

7 Conclusions

The current study strengthens the notion that TMH is here to stay, even if the numbers of Covid-19 cases continue to drop and the pandemic is eventually considered behind us. As was the case pre-pandemic, TMH will likely remain a viable alternative to in-person treatment under certain circumstances (e.g., for disabled, non-ambulatory clients or therapists, interstate therapy, rural areas, etc.). Furthermore, as a result of the Covid-19 experience, TMH and methods combining in-person therapy and TMH will be the preferred methods of treatment for many clinicians and clients moving forward. We assume that our participants will be more prone to returning to meet clients in person, but the uncertainly relating to the different variants and vaccine effectiveness is slowing this process down. Finally, it is important to remember that every client is unique in myriad ways. Based on the results of this study and others conducted since the outbreak of the pandemic, all signs point to the hybrid model combining both TMH and in-person sessions likely being the dominant method of providing psychotherapeutic services going forward, particularly in private practice, as vaccine availability increases and society adapts to a new reality shaped by Covid-19.

8 References

Bell, C. A., Crabtree, S. A., Hall, E. L., & Sandage, S. J. (2021). Research in counseling and psychotherapy post-COVID-19. *Counseling and Psychotherapy Research*, *21*(1), 3–7.

Cataldo, F., Chang, S., Mendoza, A., & Buchanan, G. (2021). A perspective on client-psychologist relationships in videoconferencing psychotherapy: Literature review. *JMIR Mental Health*, *8*(2), e19004.

Doran, J. M., & Lawson, J. L. (2021). The impact of COVID-19 on provider perceptions of telemental health. *Psychiatric Quarterly.* https://doi.org/10.1007/s11126-021-09899-7

Feijt, M., de Kort, Y., Bongers, I., Bierbooms, J., Westerink, J., & Ijsselsteijn, W. (2020). Mental health care goes online: Practitioners' experiences of providing mental health care during the COVID-19 pandemic. *Cyberpsychology, Behavior, and Social Networking*, *16*, 25–31.

Geller, S. (2020). Cultivating online therapeutic presence: Strengthening therapeutic relationships in teletherapy sessions. *Counselling Psychology Quarterly*, *2*, 1–17.

Gentry, M. T., Puspitasari, A. J., McKean, A. J., Williams, M. D., Breitinger, S., Geske, J. R., Clark, M. M., Moore, K. M., Frye, M. A., & Hitty, D. M. (2021). Clinician satisfaction with rapid adoption and implementation of telehealth services during the COVID-19 pandemic. *Telemedicine and e-Health*. https://doi.org/10.1089/tmj.2020.0575

Guinart, D., Marcy, P., Hauser, M., Dwyer, M., & Kane, J. M. (2020). Patient attitudes toward telepsychiatry during the COVID-19 pandemic: A nationwide, multisite survey. *JMIR Mental Health*, *7*(12), 1–7.

Guinart, D., Marcy, P., Hauser, M., Dwyer, M., & Kane, J. M. (2021). Mental health care providers' attitudes toward telepsychiatry: A systemwide, multisite survey during the COVID-19 pandemic. *Psychiatric Services*. https://doi.org/10.1176/appi.ps.202000441

Messina, I., & Löffler-Stastka, H. (2021). Psychotherapists' perception of their clinical skills and in-session feelings in live therapy versus online therapy during the COVID-19 pandemic: A pilot study. *Research in Psychotherapy: Psychopathology, Process and Outcome*, *24*(1), 53–59.

Poletti, B., Tagini, S., Brugnera, A., Parolin, L., Pievani, L., Ferrucci, R., Compare, A., & Silani, V. (2020). Telepsychotherapy: A leaflet for psychotherapists in the age of COVID-19. A review of the evidence. *Counselling Psychology Quarterly*, *2*, 1–16. https://doi.org/10.1080/09515070.2020.1769557

Ruden, M. H. (2021). Reflections on the impact of remote counseling: Friendship in a new therapeutic space. In C. Tosone (Ed.), *Shared trauma, shared resilience during a pandemic. Essential clinical social work series.* Springer. https://doi.org/10.1007/978-3-030-61442-3_20

Shklarski, L., Abrams, A., & Bakst, E. (2021a). Navigating changes in the physical and psychological spaces of psychotherapists during Covid-19: When home becomes the office. *Practice Innovations.* Advance online publication. https://doi.org/10.1037/pri0000138

Shklarski, L., Abrams, A., & Bakst, E. (2021b). Will we ever again conduct in-person psychotherapy sessions? Factors associated with the decision to provide in-person therapy in the age of COVID-19. *Journal of Contemporary Psychotherapy*, 51, 265–272.

Tohme, P., De Witte, N. A., Van Daele, T., & Abi-Habib, R. (2021). Telepsychotherapy During the COVID-19 Pandemic: The Experience of Lebanese Mental Health Professionals. *Journal of Contemporary Psychotherapy*, *51*(4), 349–355.

Vostanis, P., & Bell, C. A. (2020). Counselling and psychotherapy post-COVID-19. *Counselling and Psychotherapy Research*, *20*(3), 389–393.

Watts, S., Marchand, A., Gosselin, P., Belleville, G., Bouchard, S., Langlois, F., & Dugas, M. J. (2020). Telepsychotherapy for generalized anxiety disorder: Impact on the working alliance. *Journal of Psychotherapy Integration*, *30*(2), 208–225.

Wright, J. H., & Caudill, R. (2020). Remote treatment delivery in response to the COVID-19 pandemic. *Psychotherapy and Psychosomatics*, *89*(3), 130–132.

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The Use of the Telepresence System Avatar AV1 as a Therapeutic Tool for Social Inclusion in a 10-year-old Girl Treated for a Brain Tumor

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Abstract

Background: Children with brain tumors are at increased risk for experiencing loneliness, a lack of close friendships, lower academic achievement, and diminished school motivation. To counteract these negative effects, telepresence systems and their ability to maintain school and social participation as well as a sense of belonging are recently being discussed as promising approach. Despite the use of these systems throughout many countries, studies examining their effects are scarce.

Objectives: The aim of this article is to illustrate effects of one telepresence system, called avatar, in a pediatric patient, to analyze possible benefits and challenges and to open up further research topics.

Patients and Methods: In this report, the case of a 10-year-old girl named Sarah, suffering from a brain tumor (medulloblastoma), is described. The girl received the avatar because of her reduced ability to attend school due to her medical condition. The avatar had been in use for seven months, acting as a therapeutic tool to promote social inclusion and to keep up with school. Qualitative interviews were conducted with Sarah, her mother and her teacher, illustrating the relationship between social and learning aspects of telepresence systems.

Originality and Clinical Relevance: The case report indicates that the avatar has the potential to act as an essential supportive means for pediatric patients, maintaining social participation, sense of belonging and academic motivation. The novelty of this telepresence system, the lack of studies in this research area, and the probable positive influence emphasize the originality and clinical relevance of this case report.

***Keywords*:** telepresence system, chronic illness, brain tumor, social inclusion, avatar, pediatrics

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1 Introduction

As a result of the COVID-19 Pandemic, distance learning and e-learning have become an integral part of the daily lives of many young people (Alqahtani & Rajkhan, 2020; Goldschmidt, 2020; Petretto et al., 2021). For example, approximately 80 to 90% of the pupils in Austria (primary and secondary school) were reached through distance learning in the years 2019/2020 during school closures (UNESCO, 2017). While the absence from school is a new challenge for many healthy children, for children with chronic illnesses it was often already part of their everyday life. Chronic conditions do not only lead to learning and school difficulties (Upton & Eiser, 2006), but in many cases long absences from school due to inpatient medical treatments or a weakened immune system result in social isolation, loneliness, fewer close friendships or a lacking sense of belonging in school (Maes et al., 2017; Hocking, Noll & Kazak, 2020; Pinquart & Teubert, 2012; Pletschko, 2014). Chronic illnesses in children are also associated with an increased risk of bullying and rejection by peers (Holland et al., 2019), peer-victimization (Sentenac et al., 2012), internalizing and externalizing behavior problems (Pinquart & Teubert, 2012), limited career and future prospects (Etschenberg, 2001), higher class-repetition rates (Pletschko, 2014), difficulties in equaling their classmates in school performance (Pletschko, 2014), lower self-esteem (Pinquart, 2012) and a lower health-related quality of life (HRQOL) (Varni, Limbers & Burwinkle, 2007).

One of the protective factors that may counteract some of these negative consequences of chronic illnesses is the sense of belonging (to school), which occurs when students see themselves as a part of their school and feel attached to their peers and the staff (Lohmeier & Lee, 2011). It has been shown to be

positively correlated with important school outcomes including higher academic achievement, academic engagement, peer acceptance, well-being (Anderman, 2002), self-efficacy, and engagement in school (Furrer & Skinner, 2003) as well as higher motivation (Kirkpatrick, 2020). Children with chronic conditions often report lower levels of sense of belonging to their school and lower positive feelings about their school (Kirkpatrick, 2020; Svavarsdottir, 2008), which in turn may affect their academic performance.

To improve the sense of belonging, social participation, and subsequently academic performance for children with chronic illnesses, telepresence systems like robots or avatars are currently being discussed as a promising approach (Weibel et al., 2020). Although telepresence systems are already in use in some European countries, their effects have not been sufficiently investigated. One of these telepresence systems specifically designed for chronically ill children is called the avatar and shown in figure 1. It is connected to the tablet of the child by an app and can transmit sound in both directions. Video transmission only works in one direction, so that the user can see their class or classmates but not vice versa. The avatar is handy, can easily be carried and taken along on school trips. The few existing studies indicate that telepresence systems in general and the avatar as a form of these telepresence systems create opportunities for school and social participation that are significant for the development of children and adolescents with chronic illnesses (Weibel, et al., 2020). Therefore, the use and possible effects of avatar in a 10-year-old girl in a chronic health condition are illustrated in the following case report.

Figure 1: Avatar of the Norwegian company "No isolation".

2 Patient Information and Clinical Findings

Early childhood development and school performance prior to the disease-onset of the 10-year-old patient, we call her Sarah, were inconspicuous. After a deterioration of her general condition including high intra-cranial pressure and moderate ataxia, Sarah was diagnosed with a brain tumor of the fossa posterior (medulloblastoma, WHO grade IV (Louis, Ohgaki, Wiestler & Cavenee, 2007)) in November 2020. A tumor resection was performed shortly after diagnosis followed by chemotherapy according to the HIT-Med-Guidance-protocol (Juhnke et al., 2017), and proton radiation therapy in spring 2021. During avatar implementation, the patient was in the second cycle of maintenance chemotherapy regularly attending the outpatient clinic. Despite good toleration of the chemotherapy, the girl could rarely visit school due to side effects or hospital appointments. In December 2020 the avatar was assigned, after Sarah had not visited school for 2 months and had no home tuition.

3 Diagnostic Assessment

A post-operative neuropsychological diagnostic assessment was performed as a standard of care and questionnaires regarding school and social participation and sense of belonging were administered before Sarah received the avatar. Sarah's visuomotor skills (Beery VMI; Beery, Buketnica & Beery, 2010), her memory (VLMT; Helmstaedter, Lendt & Lux, 2001) and executive functions (BRIEF; Drechsler & Steinhaußen, 2013), as well as her behavior (SDQ; Goodman, Meltzer & Bailey, 1998) were in the average range at the time of diagnostic assessment. In the School Participation Scales 24/7 (Pletschko, 2014) Sarah's mother rated her daughter's school and social participation capabilities as average, while Sarah herself stated that, compared to her peers, she felt restricted in the areas of communication, energy and drive functions as well as information processing speed and logical thinking. Overall HRQOL as assessed by the KINDL (Ravens-Sieberer & Bullinger, 2000) was in the average range, although Sarah reported low HRQOL in the areas of friends and physical well-being. At the time of the assessment, Sarah reported an above average self-esteem (ALS; Schauder, 2011). Lastly, Sarah reported a strong feeling of belonging to her school in the School Connectedness Scale (Lohmeier & Lee, 2011) and in the Austrian nationwide "PISA survey" of sense of belonging (Mang et al., 2019). See table 1 for exact results of the diagnostic assessment.

4 Therapeutic Intervention and Patient Perspective

The avatar was provided by the company "die Berater", which together with the Medical University of Vienna, the Vienna Hospital School and the University of Klagenfurt are partners in the project "Life happens wherever you are – Use of avatar AV1 to enhance school participation in children and adolescents with chronic illnesses". Before the avatar was assigned, Sarah's classmates and teachers were educated about her illness by the Vienna Hospital School and the avatar was presented in class. Informed consent to the study was given by Sarah, her mother, her teachers, and the parents of her classmates. Before the avatar was brought to the school, Sarah had the opportunity to per-

sonalize and decorate it. Sarah was one of the pilots who used the avatar and described her experience with it. The following quotes and content are retrieved from interviews with Sarah, her mother, and one of her teachers, illustrating one of the first avatar deployments in Austria and raising issues for further research on telepresence systems.

As described by all parties, Sarah remained an integral part of class and could continue to participate in academic and social life. Switching on the avatar for the first time in a music lesson worked without any problems. Both she and her mother were particularly enthusiastic about the fact that the avatar transmitted Sarah's voice rather than a robot voice. Furthermore, personalization of the avatar was crucial for Sarah to identify with it as she stated, "my first idea was to glue eyelashes on him, because that is so typically me". The teacher reported that getting used to the avatar took only a short time and it was easy to use from the beginning. According to all participants, the assumption of responsibility for the avatar by a classmate was particularly important to draw the teachers' attention to visual signals and to ensure that the teacher notices Sarah wanting to say something.

In terms of social participation, Sarah reported that she "was actually there just like the other students" and "didn't feel different from the others". She felt as if "she still belonged to the class" and stated that through the avatar she did not miss anything and could even whisper or chat with her seat neighbors without the teachers noticing. When asked if it is different to be at school with the avatar, Sarah stated that "of course it's different", but "it's both cool and I'm happy on both sides", meaning she is happy to be at school with the avatar as well as in real life. Moreover, her mother and teacher describe that Sarah is addressed like a regular pupil, also during breaks or when the pupils are standing outside the classroom waiting for the teacher. Sarah's mother describes situations during breaks when Sarah's avatar stood in the middle of the students, and they asked her "if she will also be present in the next lesson" or "if she has to go somewhere else now". Furthermore, Sarah and her mother described taking part in various events at school as particularly enjoyable experiences. For example, Sarah was able to take part in the school Christmas party which Sarah found "very nice". Her mother also described "that was kind of nice because she was kind of there, in the middle of it."

Sarah also benefited from the implementation of the avatar in school and learning aspects. After pausing the use of the avatar during the lockdown due to the COVID-19 Pandemic, Sarah said that she "participated normally [with the avatar in class]" and took part in group work as well as in tests. It is particularly noteworthy that both the teacher and the mother stated that Sarah's academic motivation was very high and that she wanted to participate in all subjects as much as possible, even if this was not required. Furthermore, Sarah's mother reported that she "was awarded best in class at the school graduation ceremony" and that this was only "possible with such a tool [like the avatar]". The teacher also perceived the avatar and its functions as enriching and superior to regular communication software when she says "what I also experienced as positive with the avatar is that she can give signals" if Sarah does not want to be addressed, for example. According to the teacher, a possible challenge arose from the additional preparation for the lessons and the matching of the material to the avatar, as she had to consider "whether this is feasible for Sarah". Another challenge were technical difficulties, for example when the picture was distorted or the connection broke. However, according to Sarah's mother, these difficulties could always be solved quickly by the technical support of the company "die Berater".

5 Discussion

In summary, all parties (Sarah, her mother and teacher) described predominantly positive experiences with the avatar. Identification with the avatar was strongly present and the avatar was mainly used to stay in contact with classmates, to participate in class activities and also school lessons, which becomes an extraordinary experience in the context of chronic illnesses. In Sarah's case, at the time of diagnosis, no cognitive deficits were apparent while her self-reported HRQOL was already diminished in the areas of friends and physical well-being. In contrast, no limitations were reported in Sarah's sense of belonging indicating that the reduction in personal contacts occurred faster than that of the sense of belonging. Although a decrease in close friendships is typical for brain tumor patients (Hocking et al., 2020), Sarah's experiences with the avatar show that at least for a period of seven months she could stay in contact with her classmates and maintaining her sense of belonging to school, despite not being able to attend classes physically.

Legally, chronically ill children are not obligated and sometimes even not permitted to attend school, and only in the case of a prolonged illness, the children and adolescents are entitled to hospital or home tuition, which is crucial for academic success but does not foster social inclusion. The avatar as a tool enabled Sarah to participate in group work, supporting social participation, sense of belonging as well as academic motivation. However, it must be emphasized that the avatar is intended to improve social inclusion, but it is not meant to replace home schooling, nor does it imply an obligation to perform schoolwork, since this may place an unnecessary burden on the patient and the family.

While the use of the avatar is associated with many advantages, we recommend certain requirements, gained from our experiences. To maintain social participation, it is necessary that the users have already met their classmates and teachers and gained insight into everyday school life before using an avatar. Furthermore, it is necessary to define people who are in charge of the avatar (e.g. classmates) whose task is to recharge it and take it to different classrooms. Moreover, additional preparation time for the teachers besides their willingness to implement the avatar into daily routine may be necessary to optimize the use of telepresence systems.

One limitation of this case study is the lack of a follow-up survey, as Sarah continues to use the avatar. Changes in the sense of belonging or HRQOL could therefore only be described qualitatively. Also, comparative data regarding sense of belonging are currently only available for children over the age of 14, limiting the interpretability of the results. A standardization of the questionnaires regarding sense of belonging in a german-speaking population of pupils at or over the age of 10 is planned as part of the further studies, in order to allow for more valid comparisons.

Sarah was chosen for this case report because children with medulloblastoma are known to suffer from long-term-effects including cognitive impairments as well as changes or restrictions in communication and social participation (Maes et al., 2017; Noll & Wefel, 2015; Pinquart & Teubert, 2012), which may not be apparent at the beginning of the illness. This case report indicates that early interventions, regarding the maintenance of the sense of belonging, may help pupils to stay connected. However, the relationship between the avatar, the sense of belonging and academic performance has not yet been sufficiently clarified. Future studies should further investigate the relevance of the personalization of avatars as a prerequisite for the identification with telepresence systems and their use as therapeutic tools to ensure social inclusion. Focus could also be placed on whether, for example, the children's self-esteem or sense of belonging remain stable or possibly even improve during the avatar use. The diagnostic recording of the sense of belonging may provide additional information about how connected pupils feel and in which areas work could be done to improve the sense of belonging. Additionally, including the perspective of classmates may also shed light on the social situation of a patient in class before a longer absence, which may be particularly important when using avatars not only for patients in a chronic physical condition but also for young patients with psychiatric disorders.

As a pilot, this case report can be groundbreaking for the use of technical, therapeutic tools in children with chronic illnesses by illustrating the use of the avatar in everyday life and opening up future relevant research topics and questions, which, to the knowledge of the authors, have not yet been sufficiently investigated.

6 References

Alqahtani, A., & Rajkhan, A. (2020). E-Learning Critical Success Factors during the COVID-19 Pandemic: A Comprehensive Analysis of E-Learning Managerial Perspectives. *Education Science*, 10 (216), 1-16. https://doi:10.3390/educsci10090216

Anderman, E. M. (2002). School effects on psychological outcomes during adolescence. *Journal of Educational Psychology*, *94*(4), 795–809. https://doi.org/10.1037/0022-0663.94.4.795

Beery, K., Buktenica, N., & Beery, N. (2010). *Beery-Buktenica Developmental Test of Visual-Motor Integration, 6th edition*. Minneapolis, MN: Pearson.

Drechsler, R., & Steinhausen, H.C. (2013). *Verhaltensinventar zur Beurteilung exekutiver Funktionen*. Göttingen: Hogrefe.

Etschenberg, K. (2001). *Chronische Erkrankungen als Problem und Thema in Schule und Unterricht – Handreichung für LehrerInnen und Lehrer der Klassen 1 bis 10.* Abgerufen von https://www.schulsport-nrw.de/fileadmin/user_upload/schulsportpraxis_und_fortbildung/pdf/handreichung_chronische_erkrankungen.pdf

Furrer, C., & Skinner, E. (2003). Sense of relatedness as a factor in children's academic engagement and performance. *Journal of Educational Psychology*, *95*(1), 148–162. https://doi.org/10.1037/0022-0663.95.1.148

Goldschmidt, K. (2020). The COVID-19 Pandemic: Technology use to Support the Wellbeing of Children. *Journal of Pediatric Nursing*, 53, 88–90. https://doi.org/10.1016/j.pedn.2020.04.013

Goodman, R., Meltzer, H., & Bailey, V. (2003). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *International Review of Psychiatry*, *15*(1–2), 173–177. https://doi.org/10.1080/0954026021000046137

Greene, B. A., Miller, R. B., Crowson, H. M., Duke, B. L., & Akey, K. L. (2004). Predicting high school students' cognitive engagement and achievement: Contributions of classroom perceptions and motivation. *Contemporary Educational Psychology*, *29*(4), 462–482. https://doi.org/10.1016/j.cedpsych.2004.01.006

Helmstaedter, C., Lendt, M., & Lux, S. (2010). *Verbaler Lern- und Merkfähigkeitstest.* Göttingen: Hogrefe.

Hocking, M. C., Noll, R. B., Kazak, A. E., Brodsky, C., Phillips, P., & Barakat, L. P. (2020). Friendships in Pediatric Brain Tumor Survivors and Non-Central Nervous System Tumor Survivors. *Journal of Pediatric Psychology*, *45*(2), 194–202. https://doi.org/10.1093/jpepsy/jsz101

Holland, A. A., Stavinoha, P. L., Swearer, S. M., Solesbee, C., Patel, S., & Klesse, L. J. (2019). Rate and frequency of bullying victimization in school-age children with neurofibromatosis type 1 (NF1). *School Psychology*, *34*(6), 687–694. https://doi.org/10.1037/spq0000333

Juhnke, B. O.; Mynarek, M., von Hoff, K., Klagges, S., Kortmann, R., & Rutkowski, S. (2017). *HIT-MED Guidance for Patients with newly diagnosed medulloblastoma, ependymoma, CNS embryonal tumour and pineoblastoma*.

Kirkpatrick, K. M. (2020). Adolescents With Chronic Medical Conditions and High School Completion: The Importance of Perceived School Belonging. *Continuity in Education*, *1*(1), 50–63. https://doi.org/10.5334/cie.5

Lohmeier, J. H., & Lee, S. W. (2011). A school connectedness scale for use with adolescents. *Educational Research and Evaluation*, *17*(2), 85–95. https://doi.org/10.1080/13803611.2011.597108

Maes, M., Van Den Noortgate, W., Fustolo-Gunnink, S. F., Rassart, J., Luyckx, K., & Goossens, L. (2017). Loneliness in Children and Adolescents with Chronic Physical Conditions: A Meta-Analysis. *Journal of Pediatric Psychology*, *42*(6), 622–635. https://doi.org/10.1093/jpepsy/jsx046

Mang, J., Ustjanzew, N., Leßke, I., & Reiss, K. (2019). *PISA 2015 Skalenhandbuch. Dokumentation der Erhebungsinstrumente.* Münster, New York: Waxmann.

Noll, K. R., & Wefel, J. S. (2015). Quality of Life and Neurocognitive Function. In M. Bernstein, Mark; Berger (Ed.), *Neuro-Oncology: The Essentials* (pp. 537–546). New York, Stuttgart: Thieme.

Petretto, D. R., Carta, S. M., Cataudella, S., Masala, I., Mascia, M. L., Penna, M. P., Piras, P., Pistis, I., & Masala, C. (2021). The Use

of Distance Learning and E-learning in Students with Learning Disabilities: A Review on the Effects and some Hint of Analysis on the Use during COVID-19 Outbreak. *Clinical Practice & Epidemiology in Mental Health*, 17(1), 92–102. https://doi.org/10.2174/1745017902117010092

Pinquart, M., & Teubert, D. (2012). Academic, physical, and social functioning of children and adolescents with chronic physical illness: A meta-analysis. *Journal of Pediatric Psychology*, *37*(4), 376–389. https://doi.org/10.1093/jpepsy/jsr106

Pletschko, T. (2014). *The School Participation Scales 24 / 7. Advantages of an ICF-based neuropsychological assessment strategy to facilitate school participation of pediatric brain tumor patients.* Vienna: Medical University of Vienna.

Ravens-Sieberer, U., & Bullinger, M. (2000). *KINDL-R – Fragebogen zur Erfassung der gesundheitsbezogenen Lebensqualität bei Kindern und Jugendlichen – Revidierte Form*. Abgerufen von: https://www.kindl.org/deutsch/manual/

Remschmidt, H., Schmidt, M., & Poustka, F. (2017). *Multiaxiales Klassifikationsschema für psychische Störungen des Kindes- und Jugendalters nach ICD-10. Mit einem synoptischen Vergleich von ICD-10 und DSM-5.* Bern: Hogrefe Verlag.

Schauder, T. (2011). *Die Aussagenliste zum Selbstwertgefühl für Kinder und Jugendliche.* Göttingen: Hogrefe.

Sentenac, M., Arnaud, C., Gavin, A., Molcho, M., Gabhainn, S. N., & Godeau, E. (2012). Peer victimization among school-aged children with chronic conditions. *Epidemiologic Reviews*, *34*(1), 120–128. https://doi.org/10.1093/epirev/mxr024

Svavarsdottir, E. K. (2008). Connectedness, belonging and feelings about school among healthy and chronically ill Icelandic schoolchildren. *Scandinavian Journal of Caring Sciences*, *22*(3), 463–471. https://doi.org/10.1111/j.1471-6712.2007.00553.x

UNESCO Institute of Statistics (2017). Global monitoring of school closure due to COVID-19. Available online: http://covid19.uis.unesco.org/gpe-map/ (accessed on 20th December 2021)

Upton, P., & Eiser, C. (2006). School experiences after treatment for a brain tumour. *Child: Care, Health and Development*, *32*(1), 9–17. https://doi.org/10.1111/j.1365-2214.2006.00569.x

Varni, J. W., Limbers, C. A., & Burwinkle, T. M. (2007). Impaired health-related quality of life in children and adolescents with chronic conditions: A comparative analysis of 10 disease clusters and 33 disease categories/severities utilizing the PedsQL™ 4.0 Generic Core Scales. *Health and Quality of Life Outcomes*, *5*, 1–15. https://doi.org/10.1186/1477-7525-5-43

Weibel, M., Nielsen, M. K. F., Topperzer, M. K., Hammer, N. M., Møller, S. W., Schmiegelow, K., & Bækgaard Larsen, H. (2020). Back to school with telepresence robot technology: A qualitative pilot study about how telepresence robots help school-aged children and adolescents with cancer to remain socially and academically connected with their school classes during treatment. *Nursing Open*, *7*(4), 988–997. https://doi.org/10.1002/nop2.471

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Declaration of interest

As a private educational institution, die Berater as co-authors have been active in the areas of distance learning, virtual learning and robotics for many years. Thereby they focus more and more on telepresence systems which they are distributing in Austria.

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Table 1: Results of the diagnostic assessment of Sarah

Assessment (name; author, year of publication)	Subscales	*PR*		*M*		*Rating*
		Sarah's mother	Sarah	Sarah's mother	Sarah	
WHO Multiaxial classification scheme for mental disorders of children and adolescents – (Remschmidt, Schmidt & Poustka, 2017)	Axis 3 – Intelligence level					average (expert rating[a])
Beery VMI (Beery-Buktenica Developmental Test of Visual-Motor Integration, 6th edition; Beery, Buktenica & Beery, 2010)	–		54			average
VLMT (Verbaler Lern- und Merkfähigkeitstest; Helmstaedter, Lendt & Lux, 2001)	Overall performance		25			average
BRIEF (Verhaltensinventar zur Beurteilung exekutiver Funktionen, Drechsler & Steinhaußen, 2013)	Global Executive Composite	18				average
SDQ (Strengths & Difficulties Questionnaire; Goodman, 1999)	Total difficulties					average (rating of Sarah's mother)
The School Participation Scales 24/7 (Pletschko, Schwarzinger, Weiler & Leiss, 2015)	Attention functions	30	22			average
	Memory functions	38	18			average
	Thought functions	62	6			below average
	Higher-level cognitive functions	74	30			average
	Energy and drive functions	73	13			below average
	Learning and applying knowledge	59	27			average
	Communication	53	<1			below average
	Interpersonal interactions and relationships	76	44			average
	Fine hand use	>99	40			average
	Moving around	>99	40			average
	Temperament and personality functions	68	76			average
KINDL (Fragebogen zur Erfassung der gesundheitsbezogenen Lebensqualität bei Kindern und Jugendlichen, Ravens-Sieberer & Bullinger, 2000)[b]	Physical well-being			50.00	50.00	below average
	Psychological well-being			81.25	81.25	average
	Self-esteem			75.00	62.50	average
	Family			87.50	75.00	average
	Friends			25.00	62.50	below average
	School			87.50	87.50	average
	Illness			54.17	66.67	average
	Overall HRQOL			67.71	69.79	below average
ALS (Die Aussagen-Liste zum Selbstwertgefühl für Kinder und Jugendliche; Schauder, 2011)	Self-esteem regarding school		85–90			above average
	Self-esteem regarding family		90–95			above average
	Self-esteem regarding leisure		85–90			above average
	Overall self-esteem		90–95			above average
SCS (School Connectedness Scale; Lohmeier & Lee, 2011)	-				4.25[c]	above average
PISA Survey (Mang et al., 2019)	Sense of Belonging			3.60[e]	3.66[d]	average

Note. Results are indicated in Percentile Ranks (*PR*) and Mean Values (*M*). The average range (in which the values are considered statistically normal) for percentile ranks (PR) is from PR=16 to PR=84. Mean values (*M*) are given separately for each assessment including mean and +/- 1 standard deviation. [a] Sarah's intelligence level was rated by two psychologists from the clinic according to the WHO classification scheme. [b] Sarah's results are compared to a sample of 7- to 10-year-old girls (Physical well-being $M = 74.43$, $SD = 14.19$; Psychological well-being $M = 83.11$, $SD = 11.33$; Self-esteem $M = 66.68$, $SD = 17.83$; Family $M = 84.40$, $SD = 12.85$; Friends $M = 78.10$, $SD = 13.78$; School $M = 74.10$, $SD = 12.29$; Illness $M = 60.56$, $SD = 15.25$, Overall HRQOL $M = 76.83$, $SD = 8.63$). [c] Sarah's results are compared to a sample of suburban 9th to 12th grade students ($M = 2.955$, $SD = 0.17$, scale ranges from one to five) and [b] to 15-year-old German-speaking pupils ($M = 3.19$, $SD = .64$, scale ranges from one to four). [e] Currently, there is no comparison sample for the parents' assessment of sense of belonging available.

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