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Throughout most of human history people with personal problems would need to seek out another person to obtain help or emotional support. The alternative was to deal with the problem oneself, pray for divine intervention or have some solace from religious beliefs. In more recent times, for those few with the ability and culture to do so, one could also seek information, guidance or support from printed books. The second half of the 20th century was a period when the use of face-to-face professional help expanded throughout the world. During this same period, books became a source of a "do-it-yourself" psychological treatment, with an exponential growth in self-help books for almost any human affliction. In the mid-20th century, a new technology, the telephone, expanded the options for help seeking. Telephone support for suicidal people expanded rapidly since the start of the Samaritan movement in the United Kingdom, founded by Reverend Chad Varah in 1953 (Mishara, 2012). Today, telephone helplines provide crisis intervention, emotional support and suicide prevention services throughout the world. For examples, Befrienders Worldwide has affiliate helplines in more than 40 countries that provide telephone help based upon the Samaritan approach.

Toward the end of the 20th century we witnessed a radical change in help-seeking behaviours, more prominently in developed countries, but rapidly expanding almost everywhere. Today the primary source of information and help for young people considering suicide is the Internet, and the Internet is becoming the principal source of information for all age groups. Furthermore, a large proportion of help seekers on the Internet are looking for information for someone else
Brian L. Mishara and Louis-Philippe Côté

(54 per cent according to a US survey of Internet users (PIP, 2000)). The Internet has also become a major means of communications among friends and is increasingly used by people in distress to try to obtain help. The first large-scale Internet-based suicide prevention service was probably begun in July 1994, when the Samaritans of the UK and Republic of Ireland started to respond to e-mails from all over the world from people seeking emotional support (Armson, 1997). Within a few years they were receiving over 500 messages a day, and over 50 per cent of the e-mails expressed feelings of despair and suicide. These messages are automatically sent to over 150 branches and are answered by volunteers who work on the telephone and have received special training on how to reply to e-mail messages.

There is a substantial gap between the exponential growth in use of the Internet to seek help and the slow, sometimes reluctant involvement of professionals and volunteer help givers in providing help over the Internet. This chapter presents an overview of our current understanding of the various current uses of new technologies in suicide prevention, with an emphasis on Internet services. Theories and research on new technologies are still in an embryonic stage, where most of the important issues are just beginning to be explored. Nevertheless, we now have some theoretical perspectives and empirical data to help orient practices.

We live in an age when the emphasis is on what to do, with little concern for the theoretical underpinnings of our behaviours. Mishara and colleagues (2007a) reported that when they asked telephone helpline directors to explain what helpers were taught to do over the phones, they could provide detailed descriptions. However, when asked why they used those particular intervention methods, they often had little to say, other than to explain that that is what they were taught to do. There was rarely any theoretical or empirical explanation for their current practices. Now, as empirical studies of telephone help are being conducted, we know better what works and what is less effective, and we have better support for some theories than others (e.g. Mishara et al., 2007a; 2007b). In examining practices using new technologies, we often find that methods of intervention are simply transposed from telephone help or face-to-face psychotherapy, with little or no empirical validation of the effectiveness of using these approaches with new technologies. However, there are now some theories and empirical data about new technologies that can offer guidance. This chapter discusses some general theories and their application.

New technologies also pose new ethical challenges. The specific issue of ethical issues in the control of websites that encourage suicide is the subject
of the chapter in this book by Mishara and Weisstub (Chapter 5). However, there are ethical choices involved in the use of all new technologies. Again, these choices are rarely explicitly discussed, despite their important implications. The ethical challenges all tend to centre around the rights and obligations of helpers to engage in various suicide prevention activities, with or without overt requests for help from potential suicide victims. Resolving these ethical issues involves the clarification of moral assumptions about the right for people to choose to kill themselves and the obligations in a just society to protect life and help vulnerable populations (See Mishara & Weisstub, 2005; 2007; 2010, for a detailed discussion of these ethical perspectives and their application in suicide prevention).

Some examples to set the stage

This book presents suicide prevention initiatives using new technologies and their application. However, new technologies are not just used to seek help, and help seekers often do not obtain the help they are looking for. Below are a few examples of the range of situations one often encounters:

1. In September 2012, Tyler Clemente, an undergraduate student at Rutgers University, in New Jersey, jumped from the George Washington Bridge after his roommate filmed him having sexual relations with another man. He posted his suicide plans on Facebook. Just before jumping his last post read “Jumping from GW Bridge. Sorry.”

2. On Christmas in 2010, a woman in England who had 1082 friends on Facebook posted this message: “I took my pills, I will be dead soon, so good-bye everyone.” Many friends did not believe her; some called her a liar, and no one reported her suicide attempt. She died.

3. The Samaritans of the United Kingdom is one of several suicide prevention helplines that responds to SMS text messages. A not uncommon message these helplines receive reads: “I have had enough. I can’t continue living.”

4. Every day, discussion groups are visited by numerous people discussing their suicidal intentions. One forum in 2012 included the following exchange:
   – Jacques (16 years old): “Everyone would be better off if I were dead”
   – Sylvie (says she is an attractive 16 year old but is actually a known “predator”, a man aged 54 who enters discussions on suicide assuming a false identity to encourage people to kill themselves): “Life sucks – I found a good way to end it. So should you. Follow this link to see how to kill yourself easily, painlessly and you won’t mess up. I am going to kill myself too. I know how you feel; there is no way out. I’ll do it with you.”

The number and variety of examples one could cite are immense. One can only conclude that the extensive use of the Internet by suicidal individuals, the extent of help seeking and content that encourages suicide make it imperative that caregivers embrace new technologies and the Internet and as an important means of suicide prevention.
The variety of Internet users: what they are seeking on the Internet

Mixed Expectations: When a person walks into a therapist’s office, almost invariably something is troubling the person, and there is a clear expectation that the therapist will help with the client’s problems. Callers to telephone helplines, including those dedicated to suicide prevention, are occasionally prank callers who are just amusing themselves; there is even a small proportion who seek sexual stimulation from talking to a stranger, but the vast majority have some sort of problem for which they seek help. These problems range from feeling lonely to being in an acute suicidal crisis with a suicide attempt in progress. Again, the expectations are usually fairly clear: the caller is seeking help, and the helper, who could be a trained lay volunteer or a paid professional, is there to provide that help. However, contacts over the Internet do not require the identification of clearly defined roles. Internet contacts to organizations offering help constitute a very small portion of the Internet activity by suicidal individuals. Suicidal people most often discuss their problems over the Internet with friends and strangers. They can enter a forum; post photographs, videos and messages about their suicidal thoughts or intentions; chat with strangers and seek information about methods to commit suicide; assess their own suicide risk; or even find a partner with whom to commit suicide. There is no intrinsic screening process to identify who is seeking help, which users of which sites are at significant risk of attempting suicide, and which may be considered at low risk or are using the Internet for frivolous purposes. Still, there are a number of clearly identified “danger” signs and indications of an impending or ongoing suicide attempt. People announce their intentions to kill themselves over the Internet on social media sites, there are even examples of real-time videos showing suicide attempts in progress, some attempters send or post farewell letters before their suicide, and some people actively search for the “best” means of ending their lives. Besides people at risk of suicide, there is Internet contact by people who are concerned about the possible suicide of friends or family members and who seek information about what to do to help the suicidal individual.

One may assume that everyone who uses the Internet to make contact or seek information concerning suicide is a potential client or target for suicide prevention activities, regardless of what they purport to be looking for. Some people use the Internet to glorify, publicize, announce or justify their suicide, some try to communicate to others that it is not their fault that they are committing suicide or even to make others
feel guilty. People who are not actively seeking referrals or resources for help may still profit from obtaining information about where help may be obtained. Also, people who are not looking for other solutions may still benefit from unsolicited exposure to other ways of dealing with their problems and offers of help, and potential suicide attempts may be avoided.

**Variety of Internet Activities:** The range of Internet-based activities is constantly expanding and includes video sharing to ask for help and self-help computer programs online to deal with suicidal ideation (see Chapter 6). Online therapy is expanding, as are commemorative sites for people who died by suicide and suicide “games” where an avatar can commit suicide by a choice of methods, and all those activities are subject to controversy and debate about their benefits and dangers. For example, commemorative sites after a suicide may provide helpful support to people bereaved. However, the same sites may be seen as glorifying the suicide, and this could incite others to end their lives in order to posthumously “benefit” from all the attention they will receive and the contrition by people the potential suicide victim feels have been unkind. A study by Eichenberg (2008) of German Internet message boards found that “suicide forums” vary in the help or harm they may provide, with the majority of users seeking constructive help, and only a small minority seeking information on how to commit suicide or partners with whom to commit suicide.

Research has shown (Mesch, 2008) that the choice of different channels or means of Internet communication varies according to different motivations. Mesch (2006) concluded that participation in chat rooms and forums is often motivated by the need for specific, round-the-clock social support. People who need to expand their social network more often use forums and chat rooms, whereas people who want to increase their sense of belonging with their peer group are more likely to use instant messaging, SMS and social networking sites. The research on Internet friendship formation in adolescence and Internet use has focused on two hypotheses: 1) The Rich-Get-Richer Hypothesis proposes that adolescents who already have strong social skills will benefit from the Internet. Research shows that socially anxious and lonely adolescents turn to the Internet for online communication less often than non-socially anxious and non-lonely adolescents. 2) The Social Compensation Hypothesis postulates that lonely and socially anxious adolescents would prefer online communication to face-to-face communication because it is easier to control. However, research has shown that this often does not lead to them establishing new friendships (Valkenburg & Peter, 2011).
There is also some evidence that youth who engage in self-harm have different online behaviours (Mitchell & Ybarra, 2007). Youths who reported deliberate self-harm in the past six months were more likely than other youths to have a sexual screen name or to talk with someone known only online about sex (35 per cent v. 5 per cent) and to use chat rooms (57 per cent v. 29 per cent). Those who engaged in deliberate self-harm were also more likely to have a close relationship with someone they met online (38 per cent v. 10 per cent), and 76 per cent used instant messaging (Mitchell & Ybarra, 2007). Harris, McLean & Sheffield (2009) found that people at high risk of suicide who used the Internet reported less perceived social support from family and friends compared with other online users. They also found that suicide-related online users were less likely to seek help from friends and were more likely to seek help in Internet forums. Suicidal online users found forums to be generally supportive and useful (Eichenberg, 2008; Kral, 2006). They felt that communications with family, health care professionals and help sites were less satisfactory. It appears that suicide-related online users are willing to interact with others, but they have a strong preference for peer-to-peer communications, anonymity and un-moderated formats. These findings tend to support the Social Compensation Hypothesis to explain Internet use by suicidal individuals. According to this theory, people whose social relations are not satisfactory will compensate by seeking social support on the Internet.

Increasing numbers of people use Internet screening sites to determine if they suffer from depression or are at risk of suicide. Leykin, Munoz and Contreras (2012) assessed the depressive and suicidal status of 24,965 users of a depression screening site and concluded that a large proportion of users (67 per cent) screened positive for current major depression and current suicidality (44 per cent), including 7.7 per cent reporting a suicide attempt in the past two weeks. However, of those who participated in monthly follow-ups who had reported a recent suicide attempt, only 37.2 per cent were in treatment for their problems. This highlights a potential disadvantage to online screening. Internet screening usually leaves it to the user of the site to find help. The encouragement to get help the site provides is usually in the form of a written message to the user of the site. Unlike screening performed face to face, where the person conducting the screening can try to motivate suicidal individuals to seek help, make referrals to local resources and even hospitalize a person who is in danger of committing suicide, Internet sites are rarely able to provide local referrals, and their written encouragement to seek help may not be as effective as the insistence of a mental
health professional in their community. In this study, the participants who used the screening site came from 86 different countries, making it difficult to include useful local information about resources.

There has been recent concern about the immense popularity of “Massive Multi-player Online Role Playing Games” (MMORPG). These games, where players use avatars to confront challengers in a virtual world, are often described as being addictive. Research has shown that players with problematic game use have low sociability, feel that they lack social support, and are more likely to have aggressive tendencies (Festl, Scharkow & Quandt, 2013; Sublette & Mullan, 2010). Wenzel and colleagues (2009) found, in a Norwegian study of adults, that more time spent playing these games was associated with greater likelihood that the players would report depression, suicidal thoughts and alcohol or drug abuse. A study by Messias and colleagues (2011) found that teens who said they played five hours or more of video games each day were more likely to be sad, have suicidal ideation and suicidal planning, according to a survey they conducted in 2007. This may be due to the tendency of adolescents with depression to isolate themselves, but perhaps get bored of their isolation and seek a surrogate activity that mimics social behaviour but does not provide the same social supports. One of the implications of these findings is that if one were to look for people at higher risk of suicide among Internet users, one place where you would probably find a larger proportion of suicidal individuals would be on platforms with MMORPGs.

The current situation: dangers and benefits

Potential Dangers: The Internet, besides being a source of help in preventing suicides, is also a source of encouragement to proceed with a suicide attempt and a way of learning how to commit suicide. A study by Gunnell and colleagues (2012) investigated the possible use of Internet by people who died by suicide in England. Their assessment of 759 inquest reports in 2005–2007 found that there was evidence of a direct Internet contribution in nine (1.5 per cent) cases. This is most probably an underestimate since inquests into the cause of death do not systematically investigate the Internet use of suicide victims. Of the nine cases Gunnell and colleagues identified, seven people used the Internet to research the method of suicide they used, and five of them had used “unusual” high lethality methods.

One can argue about whether or not there are more pro-suicide or anti-suicide sites on the Internet and whether or not people frequent more
often sites which encourage suicide or sites which offer help and support for suicidal individuals. Perhaps it is more important to pay attention to the fact that, according to the study by Marhan and colleagues (2012), people who are looking for information about suicide have a high likelihood of coming across and visiting a site that contains information describing individual suicides without providing any resources for help. This type of suicide content is considered to potentially increase suicide risk and is counter-indicated by the World Health Organization in their guidelines for media reporting (WHO, 2013).

One of the main concerns for people working in suicide prevention has been the fact that there is no control of what suicidal individuals will come across when they search for information or help over the Internet. For example, when Auxéméry and Fidelle (2010) examined which sites a Google search of “suicide pact” would identify, they found that the top 10 sites were journalistic reports about completed suicide pacts that resulted in deaths. However only two of those sites provided any information about how to get help or whom to contact if the visitor was feeling suicidal. Two-thirds gave specific information about the suicide, half had photographs of the event; both are practices which in other media are associated with increased suicide risk (World Health Organization, 2013). Mandrusiak and colleagues (2006) compared the nature of the warning signs for suicide on a random sample of 50 sites from the first 500 hits in a Google search. There were many differences between the warning signs listed on each site, with almost 50 per cent of the “signs” being unique to each site, although most of the major warning signs listed on suicide prevention organization sites were present. Without any control, each site listed what they felt were warning signs for suicide, with more or less agreement with the research data and the opinion of experts in the field.

The total lack of control of the authenticity and usefulness of information and help available online can lead to concerns that vulnerable individuals, who may be more susceptible to imitation or contagion effects, are likely to come across content which increases rather than decreases their suicide risk. In addition, the anonymity of the Internet allows for so-called “predators” to pretend to offer help, but then encourage people to end their lives. There are also issues concerning the security of information people disclose on the Internet, with increasing numbers of people who publicize their suicidal intentions in public over the Internet being identified and having the potential of being mocked or stigmatized for being or having been suicidal.
Although there are examples of group suicides reported for people who met over the Internet in several countries, including Guam and Norway and Korea, the country which appears to have the most Internet group suicides is Japan (Ozawa-De Silva, 2010). Since Internet suicides were recognized by the Japanese police in 2003, the number of group suicides or “suicide pacts” has increased each year. Until 2008, they almost always used the same method of burning charcoal in a small Japanese stove inside a car or apartment with the windows sealed up with tape. Whenever specific information about how to commit suicide using a specific method is promoted over the Internet as a “desirable” way of killing oneself and detailed information is provided about how to use the method, there is a risk that the method will become increasingly popular. In the beginning of 2008, after information of how to commit suicide using hydrogen sulfide poisoning was circulating on the Internet in Japan, that method became extremely popular, and in 2008 there were 1056 suicides using hydrogen sulfide. This new method has now replaced charcoal burning as the preferred method for Internet group suicides and individual suicides in Japan. This points to the power of the Internet to influence the methods used in suicide attempts, with the potential for more lethal consequences.

A typical scenario for an Internet suicide pact in Japan involves people meeting in an online chat and agreeing to commit suicide together at a specific place and time. The mass media in Japan have been reporting on Internet suicide cases with detailed descriptions and have even pointed out where on the Internet individuals can gather to discuss suicide and plan group suicides. For example, after the first Internet suicide occurred in February 2003, there were 599 articles on Internet group suicides in the five major newspapers in Japan and 156 television programmes about Internet group suicides (Ozawa-De-Silva, 2010). The more the news media reported on suicide pacts where people met over the Internet, the more frequently suicide pacts occurred.

Potential Benefits: The potential benefits of using the Internet to help people who are suicidal are many. First, the simple fact that the Internet is a primary source of information implies that suicide prevention organizations need to have a presence and offer services over the Internet that are compatible with the help-seeking patterns of the population. Even without the involvement of suicide prevention organizations, the social support, information and help that many people obtain over the Internet may be a powerful protective factor for suicidal individuals. Internet users may learn about and subsequently imitate positive role models, persons who have had similar problems.
but found solutions and reasons to go on living. In this realm of possible anonymity, people who are concerned about the stigma that may be associated with feeling suicidal or talking about suicide may feel more at ease. Furthermore, the Internet provides the potential for identifying high-risk individuals who are seriously considering suicide and then targeting interventions to this population. There is also the potential benefit of cost reduction, since automated programmes providing self-diagnosis and self-help can facilitate maximum use of costly human resources to provide treatment and crisis intervention services to those who are truly in need and those who do not benefit from self-help programmes.

When we examine the current situation, we find a great number of specific initiatives with little integration and coordination. Both Google and Yahoo will show links to telephone helplines in the United-States when someone searches for “suicide methods” in English (see Chapter 9 by Murphy). In some other countries, for example in Belgium, they have established agreements with organizations who are able to provide help. Facebook has a rather complicated mechanism to “report story or spam” through which, after going through several pages (“if story is found abusive, file a report,” then “violence or harmful behaviour,” then a menu which includes “self-harm” and then “suicidal content”), one will eventually be able to click on “report suicidal content page”. Then, in the United States, the phone number and contact information for the National Suicide Prevention Lifeline (NSPL) will be sent to the person, and the NSPL will be informed and, depending upon their assessment of the suicide risk in the situation, may initiate contact with the suicidal individual.

In terms of controlling “dangerous” sites, Australia currently has a national law which forbids Internet Services Providers (ISPs) to provide access to sites that encourage suicide or provide information on means for killing oneself. Chapter 5, by Mishara and Weisstub, discusses the ethical, legal and practical concerns on banning Internet sites or blocking access, as well as the potential advantages and disadvantages of such actions.

There is a full range of services offered in different countries using the Internet and portable telephone technologies, including cognitive behavioural therapy provided online, chats with trained helpers, monitored forums for suicidal individuals, help offered in reply to e-mails, automated self-help programmes for suicidal preoccupations and automated programmes for smartphones that can check on the well-being of
suicidal individuals, including people who have attempted suicide who may be at risk of a repeated attempt, with automated calls for help to social supports and professionals in a crisis situation.

**Need for evaluation**

Despite the proliferation of Internet activities, few existing practices are based on empirical data proving their efficacy. Most involve transforming practices in face-to-face and telephone help to the media of the Internet. Still, several training modules explaining how to apply methods used in other practices to the Internet appear to have some erroneous assumptions. Our perusal of various training manuals indicates that they often have a discussion of the fact that since information such as tone of voice and visual expressions are not available over the Internet, it is more difficult to communicate empathy and understanding. However, the issue of the extent of self-disclosure over the Internet in comparison with face-to-face communication is complex. The meta-analysis by Nguyen, Bin and Campbell (2012) examined 15 empirical studies that made 24 comparisons between online and offline self-disclosure. They found that equal numbers of studies found greater online self-disclosure, greater face-to-face disclosure and no difference between online and offline disclosure. It appears that empathy may in fact be more difficult to communicate online. However, there is a general tendency to idealize the person one is communicating with online, and this tendency may lead to greater self-disclosure even if the helper is not as effective in communicating empathetic understanding. Also, it may be that disclosure over the Internet occurs as a process that is independent of what the helper communicates, as the result of an inherent need to share one’s life that is facilitated by the medium of the Internet. For example, there has been a recent growth of “confession” sites where people can anonymously post descriptions of things they did that were not nice and possibly illegal.

**Issues and challenges**

**Peers versus trained helpers and professionals**

One of the issues in Internet suicide prevention concerns the relative advantages and disadvantages of online lay mutual help or self-help groups when compared to help from suicide prevention agencies and professional organizations. There is some evidence that online peer
communities are perceived as being helpful and have the advantage that adolescents, in particular, feel more comfortable seeking help online for personal issues, including thoughts about suicide (Greidanus & Everall, 2010).

There is a difference between how peers interact with people who are suicidal and in distress in Internet forums and how volunteers in suicide prevention interact, at least according to studies conducted in Israel (Gilat, Tobin & Shahar, 2011). Volunteers tend to use more cognitive change techniques, interpretation and empowerment, which are interpreted as being “cognitive focused therapeutic like” and give more moral support than peers. Generally, peers are perceived as quite helpful to young people in distress. For example, Fukkink (2011) found that on scales of 1 to 9 peer volunteers had an overall average score of 7.1 in terms of emotional support strategies provided. However, peers less often tended to offer solutions or encouraged the person to think about solutions for solving the problem.

In Israel, helpers tended to respond differently to messages in an online forum from suicidal individuals, depending upon the nature of the situation. For example, when a suicide attempt appeared to be imminent, 71 per cent tried to discourage them from proceeding with the suicide attempt by arguing why they should not do so. However, when suicidal people talked about loneliness, they were often offered group support.

Not all results are positive. For example, Barak and Dolev-Cohen (2006) found that participation in a forum did not significantly reduce distress in suicidal adolescents. Still, those who posted more messages and received more replies had lower levels of distress in the following months. It is important to conduct studies of Internet help provided by both peers and trained helpers in different cultural contexts before generalizing results from one society to another. To date, we know very little about the relative effectiveness of different forms of online support in actually presenting suicide.

**Computer programs replacing and complementing human therapists and helpers**

There has been much discussion of whether or not one day a computer can replace a psychotherapist, and there are many psychotherapy programs which have been tested, with varying degrees of success. The Holy Grail of using a computer to replace a human is the Turing test proposed by Turing (1950) to determine whether or not machines can think. The idea is not to answer that philosophical question specifically,
but rather to ascertain if digital computers can do well in imitating humans by having someone question another person and a machine in order to determine which is the machine and which is the human being. Although it does not appear that we now have a computer that is capable of passing the Turing test to the satisfaction of the most diligent researchers, psychotherapy programs are being used increasingly with suicidal individuals, and their potential in preventing suicides needs to be evaluated.

Recent research has focused on the potential of using machine-learning algorithms (MLA) to determine if someone is at risk of committing suicide or not. Computer applications have been used to compare simulated and actual notes left by people who completed suicide. For example, Pestian and colleagues (2008) used an algorithm that was accurate 71 per cent of the time, compared to mental health professionals who were accurate 78 per cent of the time, but this difference was not statistically significant. Another study (Pestian et al., 2010) found that mental health professionals in training were accurate 49 per cent of the time in identifying the actual suicide notes, compared to mental health professionals 63 per cent, but the computer algorithm was accurate 78 per cent of the time. It is one thing to retrospectively compare a suicide note to a “mock” note created for the purpose of conducting an experiment. However, the comparison may not be realistic since people who do not attempt suicide generally do not leave fake suicide notes.

There is a growing number of studies that attempt to analyze levels of distress and other affective states in written texts (Lehrman et al., 2012). For example, Haerian and colleagues (2012) used natural language processing (NLP) to analyze electronic health records in order to see if they could identify patients with suicidal thoughts or behaviours, and they compared this to diagnoses using the ECD-9 E-code algorithm. Although these efforts are at an embryonic stage, it is possible that in the future computers will be able to scan Internet communications in various formats and identify people’s levels of distress and risk of attempting suicide, or analyze records, tests or interview recordings to identify suicide risk.

Some researchers suggest that people who attempt suicide are more comfortable participating in a computer interview to assess suicide risk than a face-to-face evaluation by a physician. Petrie & Abell (1994) asked 150 hospitalized patients who had attempted suicide if they would prefer a computer interview or an interview with a doctor. 52 per cent preferred the computer compared to 17.4 per cent the doctor, and 30 per cent had no preference. Patients with higher levels of suicidal ideation
and hopelessness, and lower levels of self-esteem were more likely to prefer the computer.

There is evidence that automated Internet treatment for depression using a cognitive behavioural therapy approach may be associated with decreases in suicidal ideation and depression (Watts et al., 2012). Chapter 6 of this book by Ghoncheh and colleagues presents an automated programme to decrease suicidal thinking.

Research and theories of how communication over the Internet is different

The psychology of writing as therapy

Most current Internet communications use writing rather than verbal communications. Research by psychologists who have studied the differences between written and verbal communication methods may be relevant to understanding how written communications over the Internet may be best used in suicide prevention. When people write, they tend to express things that might not be expressed at all in other modes of communication (Barak, 2007; Pennebaker et al., 2003; Barak and Miron, 2005). These differences have been attributed to the experience of aloneness in writing, a sense of complete privacy (Ben-Ze’ev, 2003; Viseu et al., 2004) that produces a “feeling of self-talk” that cannot occur when another person is present. Furthermore, writing over the Internet allows for messages to be easily saved, retrieved, copied, forwarded, encrypted and backed-up, and then sent only when the writer is ready to send the message. This flexibility in when to send a message or reply to a written message, called “elasticity of synchronicity” (Newhagen and Rafaeli, 1996) or “temporal fluidity” (Suler, 2004), allows for better control by the person who is writing. Writers can take the time they want to reflect upon what they are writing before sending each written communication. When communicating in-person face to face, reactions tend to be immediate, and the time to reflect before responding is limited by the social pressure to reply immediately.

There have been a number of studies of the use of writing as a psychotherapy tool. Smyth (1998) conducted a meta-analysis of 13 studies of writing therapies and found a general significant positive effect on psychological well-being and general functioning. Positive results were more likely to occur with men, people with medical problems, difficulties identifying feelings and people who tend to see things as either black or white, and people with more severe clinical symptoms (Baikie & Wilhem, 2005). There are indications that writing about
problems may result in some short-term distress, but the longer-term
effects tend to be beneficial. According to Pennebaker (2004), the poten-
tial benefits of writing about one’s problems in a therapeutic context are
associated with a complex combination of immediate cognitive and/or
emotional changes, longer-term cognitive and/or emotional changes,
social processes and biological effects. The most helpful writings about
one’s problems are when the writer includes both thoughts and feel-
ings (“cognitions and emotions”) (Pennebaker & Beall, 1986; Smyth &
Pennebaker, 1999).

Self-disclosure: Nguyen, Bin and Campbell (2012) conducted a system-
atic review of self-disclosure online and off-line. There are several
dimensions to self-disclosure that have been studied. The frequency
of self-disclosure refers to the amount of information revealed. There
is also the range or diversity of self-disclosure, which is referred to as
“disclosure breadth”. Also, one can assess the intimacy of personal
information divulged, called the “depth” of self-disclosure. This review
found that, although several studies found greater online disclosure
using these different dimensions, it was not always the case. Disclosure
is content specific. When there are few individuating cues, exaggerated
intimacy is more likely. Also, when social norms are not present, indi-
viduals are more likely to be disinhibited and will disclose more freely.
Overall, remaining invisible to others on the Internet and not being
able to see others tends to make one more susceptible to group norms
and more likely to share (disclose) intimate details of one’s life (Walther,
2011). Researchers have found that disclosure and personal questions
constitute greater proportions of utterances in online discussions among
strangers than they do in comparable face-to-face discussions (Joinson,
2001; Tidwell & Walther, 2002).

This increased self-disclosure can be a double-edged sword in terms
of suicide prevention. It makes it easier for helpers to learn about the
person and the risk of suicide. On the other hand, too much self-dis-
closure to strangers over the Internet can lead to people learning things
one may not want to be shared for everyone to see. Also, self-disclosure
on the Internet by vulnerable people may sometimes make people more
susceptible to persons who try to encourage others to commit suicide.

There is also research on self-presentation online and how people
modify how they present themselves as a function of their expectations
of what the other people would think or are looking for, as well as what
they themselves might want to be or how they would like to see them-
"
influence how others see them, but they also can transform the individuals’ self-perception. They call this phenomenon “identity shift”. This would suggest that if people involved in suicide prevention are able to entice suicidal individuals to present themselves as non-suicidal, at least in theory (but perhaps in practice as well), they may begin to see themselves as non-suicidal.

Response delays, the possibility to edit before sending and the ability to easily end an Internet contact: In computer-mediated communication, there are usually response delays that are much greater than in verbal communications. We know little about the implications of these delays on how to be most helpful over the Internet. There are many research questions which need to be answered. In face-to-face therapy one cannot suddenly “turn-off” and terminate the session at will. There is great social pressure to stay in the room and continue the conversation. However, over the Internet one can simply stop the conversation at any time without consequence. This provides a great level of control for the person seeking help and can be a great source of stress for helpers. We know little about the best practices to keep Internet conversations going and very little about the impact of Internet users having greater control on the effectiveness of different forms and methods of providing help over the Internet.

Another characteristic of Internet communications is the ability to edit messages (deletions, backspaces and insertions) before sending them. The amount of editing people use varies according to different characteristics of the users and their perceptions of the person(s) with whom they are interacting. For example, there is more editing when the person with whom one is communicating is perceived as more desirable (Walther, 2007). Also, people who self-reported higher levels of mindfulness during message production spent more time editing their messages, and persons who were lower in mindfulness spent more time choosing what to write before typing.

How to be helpful over the Internet and differences with telephone help

Studies in Israel found that suicide threats were rare in online chats (only 1 in the 373 chats studied) and uncommon in telephone interventions (1.5 per cent, 64 calls out of 4426), but much more common in forums (15.3 per cent, 146 suicidal messages out of 954 messages). However, one can question those results. Many suicide helplines in North America have suicidal ideation in 50 per cent of calls (Mishara et al., 2007b) and most helplines have a much higher percentage of suicidal calls than the 15 per cent they found in online forums in Israel. This may reflect
differences in their approaches to intervention: most North-American helplines have a policy of always asking direct questions about suicidal ideation. If questions about suicide are always asked, it is likely that more suicide intentions will be revealed.

Recent research on which methods of intervention are most effective in telephone help with people in a suicidal crisis (Mishara et al., 2007a; 2007b) have found that a more directive problem-solving approach is associated with positive changes and a non-directive Rogerian approach was not necessarily helpful in a suicidal crisis. One of the findings in their study, which is often ignored, was that the benefits of the more directive, collaborative problem-solving approach were found to only hold in situations where a good contact with the client was made by an empathetic and respectful helper in the first three minutes of the call. Generally, this good contact involving empathy and respect is established using classical non-directive Rogerian techniques. One can ask if these results can be transposed to online help, particularly one-to-one help provided in Internet chat services.

There is increasing recognition that suicide prevention services may need to be adapted according to the sex of the client. Telephone help services tend to have more female callers than males (sometimes as many as two women for each man), but online chats have an even higher proportion of female participants, between 72 per cent and 89 per cent (Drexler, 2012; Meunier, 2011; Mokkenstorm, 2012; Kids Helpline, 2012; Tanaka, 2011). Users of Internet services to obtain help tend to have more distress than telephone callers, have more severe problems and are often already involved with some form of mental health services.

There have been several evaluations of chat services. However, these evaluations rarely focus specifically on suicidal callers nor have used outcome variables measuring suicidal ideation or attempts. A study of the Australian Kids Helpline (Chardon, Bagraith & King, 2011) found that their chats spent most of the time exploring the problem but rarely did much in the way of trying to find solutions. Furthermore, in only 53 per cent of the cases they followed the model they were supposed to use according to their training. It may simply be that it takes so much time exploring the problems that they never get to begin exploring solutions, as suggested by Bambling and colleagues (2008).

Timm (2011) suggested that when online helpers adopt the communication style of the client (using their type of informal language) and explain why they are asking potentially delicate questions before asking them, the impact is more positive. However, asking a series of questions, for example as part of an inventory to assess suicide risk, tends to have
a negative impact. Some specific techniques may be helpful. The technique of “normalization” (Shea, 1999), in which the helper explains that people in that person’s particular situation sometimes think of suicide before asking if that person is considering suicide, may elicit more disclosure of suicidal ideation. Another technique is to sandwich a more delicate directive question between two empathetic statements. (“You really have had a horrible shock being dumped like that. Put your pills away and let’s talk about what can be done. You seem so frustrated and alone.” or “You are very upset about how he reacted. Have you thought of apologizing to him? The situation seems so difficult for you.”)

In conclusion

Many years ago the prestigious psychology professor Heinz Werner was conducting a seminar for doctoral students at Clark University, and he said to his students, “In the future, everything that you have learnt in this course will be obsolete.” A graduate student asked, “So, why am I spending countless hours learning about all this?” Werner replied, “I hope that what I am teaching becomes obsolete, because that will indicate that people have paid attention to what I have to say and will have learnt from it and have progressed.” In the area of suicide prevention and new technologies, most of the potential is yet to be discovered, and we would hope that our current presentation of evidence-based practices will be replaced by more sophisticated and extensive research findings and theories. In the coming years, our relationship to the Internet and computerized devices will change and expand in ways we have not yet conceived. We look forward to these new developments, but hope that the evidence base to identify best practices increases in parallel to the increased development and use of these new services.

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Table A.10. Assessment of Suicide-Prevention Activities Across Services. 3 Key Informant Interviewees in the U.S. Department of Defense. 4 Key Informant Interviewees Outside the U.S. Department of Defense. 4 Suicide Count and Rate per 100,000 in the Department of Defense and for Each Service, 2001–2008. The figure also indicates that the suicide rate across DoD has been climbing, rising from 10.3 in 2001 to 15.8 in 2008, which represents about a 50-percent increase. The increase in the DoD suicide rate is largely attributable to a doubling of the rate in the Army. FIGURE. Percent change in annual suicide rate, by state United States, from 1999–2001 to 2014–2016. DC. TABLE 1. (Continued) Selected demographic and descriptive characteristics of suicides among persons aged ≥10 years with and without known mental health conditions National Violent Death Reporting System, 27 states, 2015. Comprehensive statewide suicide prevention activities are needed to address the full range of factors contributing to suicide. List of Tables. Chapter 1. EU as a Global Player. Scenarios for the Future (Moscow, State University Higher School of Economics Publishing House, 2007), Global Governance: G8 and the International Institutions (Moscow, Publishing House Logos, 2007), Cooperation in Education in Europe: Normative Framework, Methods and Tools of Cooperation (Moscow, Publishing House Logos, 2006). List of Contributors. Peter Ivan Hajnal is Research Fellow at the Munk Centre for International Studies of the University of Toronto, member of the G8 Research Group of the University of Toronto and retired adjunct professor at the Faculty of Information Studies of the University of Toronto in Canada.