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Author/s:

Krysinska, K;Westerlund, M;Niederkrotenthaler, T;Andriessen, K;Carli, V;Hadlaczky, G;Till, B;Wasserman, D

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A Mapping Study on the Internet and Suicide

Karolina Kryszyska¹, Michael Westerlund², Thomas Niederkrotenthaler³, Karl Andriessen¹, Vladimir Carli⁴, Gergö Hadlaczky⁴, Benedikt Till³, and Danuta Wasserman⁴

¹School of Psychiatry, University of New South Wales, Sydney, Australia

²Department of Media Studies (IMS), Stockholm University, Sweden

³Medical University of Vienna, Center for Public Health, Institute of Social Medicine, Suicide Research Unit, Vienna, Austria

⁴National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP), Karolinska Institutet, Stockholm, Sweden

Abstract: *Background:* Since the mid-1990s concerns have been raised regarding the possible links between suicide and the Internet, especially among adolescents and young adults. *Aims:* To identify the nature and extent of the scientific publications, especially original research studies, on suicide and the Internet, and to investigate how the field has developed over time. In particular, this mapping study looks at types of publications, topic areas, focus of original research papers, and suicide-related variables of interest in publications. *Method:* A search of three major databases (PubMed, PsycINFO, and Sociological Abstracts) was conducted to identify papers published until the end of January 2015. *Results:* The study identified 237 publications on suicide and the Internet published from 1997 to the end of January 2015. These included 122 original research papers. The three most frequent topic areas covered in publications were searching for information on suicide, online interventions, and online suicide-related behaviors. The online mediums most frequently studied were online forums/message boards, search engines, intervention and information websites, and social media. *Limitations:* The mapping study did not include an analysis of results of research studies and did not assess their quality. *Conclusion:* The field is rapidly evolving, as seen in the recent increase in the number of publications. However, there are gaps in terms of the countries where research is conducted and the coverage of topics.

Keywords: suicide, the Internet, mapping study, Internet mediums, methodology

Each year over 800,000 people die by suicide worldwide and for each self-inflicted death there are more than 20 suicide attempts (World Health Organization, 2014). Suicide is a complex behavior related to a broad range of risk factors, and since the mid-1990s concerns have been raised regarding the possible links between suicide and the Internet, especially among adolescents and young adults (Mehlum, 2000). Between 2000 and 2015, access to the Internet has increased by 800% globally, and in some world regions, such as Europe, North America, and Australia/Oceania, Internet penetration is as high as 73–88% (<http://www.internetworldstats.com/stats.htm>). This increasing access has been accompanied by rising research interest regarding the various ways the Internet may facilitate, encourage, or prevent suicidal behavior.

Potentially harmful aspects of the Internet include easy access to online information on suicide methods, including prosuicide websites (Cantrell & Minns, 2011; Madantzoglou, Kastanaki, Nathana, Kranioti, & Michalodimitrakakis, 2013), and availability of suicide means (Goselink, Siegel, Suk, & Giltay, 2012). Online forums, chats, and other social media platforms have become venues for disclosing and sharing suicidal thoughts and plans (Westerlund, 2012), and in some reported cases, arranging a

suicide pact (Ozawa-De Silva, 2010) or broadcasting the suicidal act in real time (Fu, Cheng, Wong, & Yip, 2013; Westerlund, Hadlaczky, & Wasserman, 2015). Participation in informal online suicide communities can contribute to sustained hopelessness and suicidality, normalization of self-harming behaviors, and discouragement of the use of professional help (Niezen, 2013). Studies link pathological Internet use and cyberbullying to psychopathology and suicidal ideation and behavior (Carli et al., 2013; Kaess et al., 2014; Kowalski, Giumetti, Schroeder, & Lattanner, 2014). Online exposure to violent or graphic suicide-related imagery may contribute to the progression of the suicidal process (Daine et al., 2014).

By contrast, interactive or information-based online services and resources can support and help individuals at risk of suicide, mental health professionals, community gatekeepers, and those bereaved by suicide. There are web-based suicide prevention and crisis intervention services (Barak, 2007), suicide risk screening tools (King et al., 2015), psychosocial interventions (van Spijker, Van Straten, & Kerkhof, 2014), e-learning sites (Ghoncheh, Koot, & Kerkhof, 2015), educative websites on suicide prevention (Till, Tran, & Niederkrotenthaler, 2015), and online suicide bereavement support (Kryszyska & Andries-

sen, 2010, 2013). Preliminary evidence shows that on-line interventions can be cost-effective (van Spijker, Majo, Smit, van Straten, & Kerkhof, 2012), safe and acceptable to participants (Robinson, Hetrick et al., 2015), and may facilitate accessing or be a useful adjunct to face-to-face treatments (Lai, Maniam, Chan, & Ravindran, 2014). Although not free from the risk of contagion and normalizing self-harm, online forums and social media platforms can help reach socially isolated and vulnerable individuals as well as provide an anonymous and nonjudgmental environment for sharing personal experiences, support, and information, especially in young people (Robinson, Cox et al., 2015). In some cases, revealing suicidal feelings and plans via social media platforms may allow other users to intervene in real time (Fu et al., 2013).

In addition, social media, such as Twitter, can be used as a population-level surveillance tool via tracking of suicide risk in real time (Jashinsky et al., 2014) and identifying potentially suicidal individuals (Sueki, 2015). These novel venues for suicide prevention may raise significant privacy issues related to collecting and sharing of personal web-based information (Lee, 2014), but may also facilitate anonymity and confidentiality during help-seeking, treatment, or the evaluation of suicide preventive interventions (Carli et al., 2012). Recent systematic or descriptive reviews have summed up the best available evidence regarding particular aspects of the complex link between suicide and the Internet. These include the scope and effectiveness of online suicide prevention interventions (Christensen, Batterham, O'Dea, 2014; Jacob, Scourfield, & Evans, 2014; Lai et al., 2014; Robinson, Cox et al., 2015), e-learning (Ghoncheh et al., 2015), the pathways between suicide and Internet use (Daine et al., 2013; Durkee, Hadlaczky, Westerlund, & Carli, 2011; Mok, Jorm, & Pirkis, 2015), and associations between cyberbullying and suicidal ideation (Kowalski et al., 2014).

The aim of the current mapping study is to describe the existing body of literature, that is, peer-reviewed publications, including original research papers and other publications, based on a structured, selective search strategy within the field of suicide and the Internet, and to investigate the way the field has developed over time (Cooper, 2015). In particular, we were interested in the types of publications, specific topic areas, focus of original research papers, and suicide-related variables of interest in the publications.

Method

A search of three major databases (PubMed, PsycINFO, and Sociological Abstracts) was conducted in January 2014 and updated in January 2015 to identify papers published until the end of January 2015. The search terms used were *suicid** AND (*Internet* or *online* or *web* or *net* or “*new media*” or *digital** or *cyber** or *Twitter* or *virtual* or *computer* or *Facebook* or “*world wide web*” or *chat* or “*social forum*” or *blog* or *YouTube* or *Instagram*). The study included publications, which met the following criteria: (a) the main focus of the publication was the Internet and suicide, (b) published in a peer-reviewed journal, and (c) the publication was in English. There were no restrictions on the type of publication, that is, original research paper, a review, a case study, or a theoretical paper. In the case of original research studies, there were no restrictions on the study design. The mapping study excluded: (a) publications in languages other than English; (b) non-peer-reviewed publications, such as books and conference presentations; and (c) publications on the use of computers or computer software not requiring the use of Internet and publications on mobile technologies, such as apps. The database searches identified

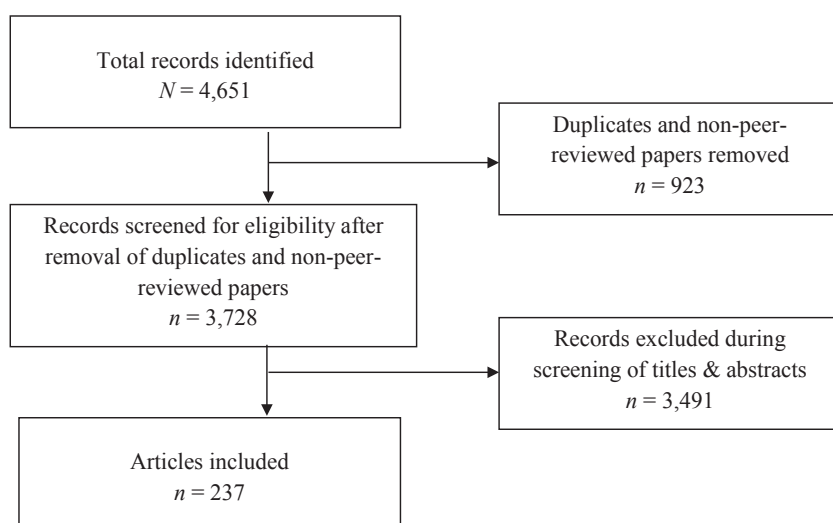


Figure 1. Flow diagram in a mapping study on the Internet and suicide.

4,651 references and 237 papers were included in the review (Figure 1).

Seven independent researchers with experience in suicidology, and specifically with experience related to suicide and the Internet (KK, MW, TN, KA, VC, GH, BT), reviewed and coded the 237 papers using the following variables and categories related to the study research question:

- a. Year of publication.
- b. Country of author(s)' affiliation (in the case of authors from more than one country, the country of affiliation of each author was coded).
- c. Publication type (only one option possible), that is, research paper, theoretical paper, letter to the editor/case study, essay/report, editorial, systematic literature review, descriptive/narrative literature review, meta-analysis, other literature review, and "other."
- d. Major topic area (only one option possible), that is, searching for information on suicide methods, prevention etc. online, intervention, e-learning/education/preventive resources, online behaviors, conversations about suicide and/or suicide methods on Internet forums, suicide cluster/pact online, suicide bereavement, case report, ethical aspects/regulations, and "other." These categories were developed based on independent screening and summarizing of a random sample of papers included in the review by the first three authors (KK, MW, TN). These summaries were discussed and the overarching themes were identified. At the next step, we developed definitions for each category and proceeded in coding all remaining studies in accordance with the coding system.
- e. Internet medium (only one option possible), that is, search engine, information website, online psychosocial intervention, online education program, e-mail, chat, blog, social media, forum/message board, multiple mediums, not specified, and "other" as specified in the individual study.
- f. Suicide-related variable of interest (i.e., a focus of discussion in a publication or a measured study outcome in the case of an original research paper; more than one option possible), that is, suicide, suicide attempt, suicidal ideation, suicide risk, and "other" as specified in the individual study.

In the case of research papers, the following additional categories were used:

- g. Study design (only one option possible), that is, qualitative, quantitative (including randomized controlled trials [RCTs], case-control, cross-sectional, longitudinal, cohort, retrospective cohort, prevalence, ecological study, individual data, content analysis, such as computerized language processing), mixed method, and case study.

- h. Number of participants.
- i. Age group (i.e., up to 18, 19–24, 25–65, 65+, and "other", i.e., age group specified in the particular study).
- j. Gender of participants.

An interrater reliability analysis using the kappa statistic was performed on a random sample of 10% of records to determine consistency among coders. The total agreement between the coders was 84.9% and the interrater reliability was found to be high ($\kappa = .816$).

Results

Publication Type, Country of Author(s)'s Affiliation

The papers ($N = 237$) were published between 1997 and end of January 2015 (Figure 2). Half of the papers were original research papers ($N = 122$; 51.5%). Other frequent categories included letters to the editor/case studies (19.0%), essays/reports (8.0%), theoretical papers (6.8%) and editorials (4.2%; Table 1). Other types of publications included study protocols, website reviews, a description of a method to retrieve suicide-related information on the Internet, a column, and a commentary on a case study. There were 18 review papers, including descriptive/narrative and systematic reviews. Almost half of the reviews ($n = 8$) focused on web-based interventions, other reviews included e-learning and/or education, ethical aspects/regulations, online behaviors, searching for online information on suicide, suicide clusters or pacts, and case reports. There were no reviews on suicide bereavement or conversations about suicide and/or suicide methods on Internet forums.

Table 1. Type of publication on suicide and the Internet, 1997 to January 2015

Publication type	Frequency (%)
Research paper	122 (51.5%)
Letter to editor/case study	45 (19.0%)
Essay/report	19 (8.0%)
Theoretical	16 (6.8%)
Descriptive/narrative literature review	11 (4.6%)
Editorial	10 (4.2%)
Systematic literature review	7 (3.0%)
Other	7 (3.0%)
Total	237 (100.0%)

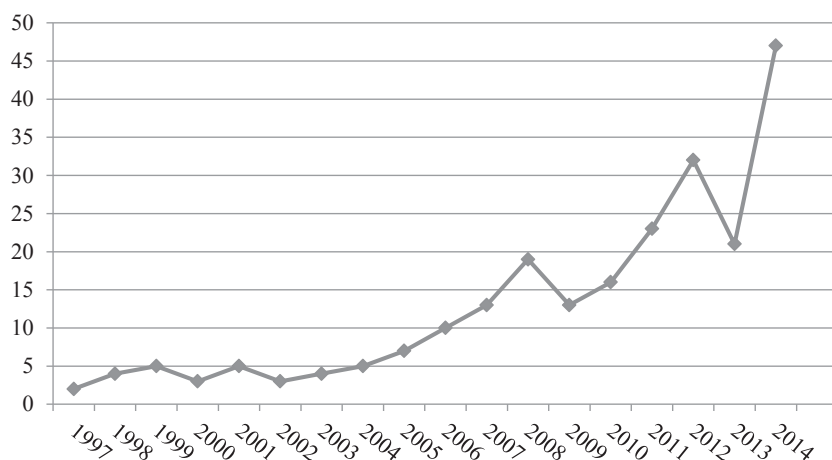


Figure 2. Number of publications on suicide and the Internet, 1997–2014.

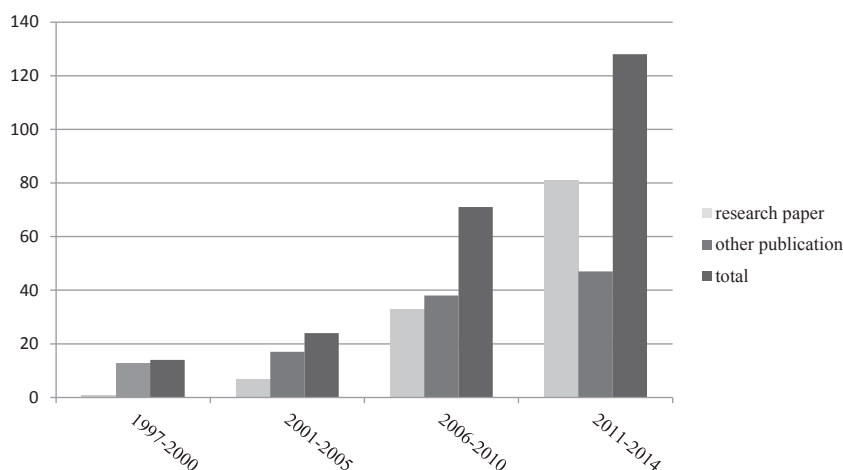


Figure 3. Number of research papers, other publications, and total publications on suicide and the Internet, 1997–2014.

There was a steady annual growth in the number of publications between 1997 and 2010, and the number of publications doubled between 2010 and 2012. More than half of the papers (54%) were published between 2011 and January 2015. The number of original research papers increased steadily from one paper (1997–2000) to 81 papers (2011–2014; Figure 3). More than half of the research papers (54.9%) were published from 2012 onward.

In general, publications originated in 29 countries, mostly in Europe (12 countries), Asia (eight countries), North America (US and Canada), Australia and New Zealand, including eight international collaborations. The majority of the papers ($n = 178$, 75%) were published in seven countries: the USA (30.0%), the UK (15.2%), Australia (8.4%), Japan (7.6%), Canada (5.5%), Israel (5.1%), and The Netherlands (3.4%). Regarding original research papers ($N = 122$), over half of studies (56.6%) originated in four countries: USA (26.2%), UK (10.7%), Japan and Australia (9.8% each).

Topic Area

The five most frequent topic areas in all publications were searching for information on suicide online (19.8%), online interventions (19.4%), online behaviors (13.9%), conversations about suicide and/or suicide methods on Internet forums (12.2%), and e-learning/education/preventive resources (8.4%; Table 2). These four topic areas were of most interest in the majority of original research papers (82.8%). Nonresearch publications focused also on case reports (13.9%), ethical aspects and regulations (13.0%), and e-learning, education, and preventive resources (12.2%). Relatively few research studies and other papers looked at suicide bereavement and online suicide clusters and pacts (3.8% each).

Internet Medium Type

The authors of almost a third of the papers (30.4%) wrote about the Internet in general, without specifying the online medium (Table 3). This was less the case in original re-

Table 2. Topic area in publications on suicide and the Internet, 1997 to January 2015

Topic area	Research papers (N, %)	Other publications (N, %)	Total (N, %)
Searching for information on suicide online	27 (22.1%)	20 (17.4%)	47 (19.8%)
Intervention	25 (20.5%)	21 (18.3%)	46 (19.4%)
Online behaviors	25 (20.5%)	8 (7.0%)	33 (13.9%)
Conversations about suicide and/or suicide methods on Internet forums	24 (19.7%)	5 (4.3%)	29 (12.2%)
E-learning/education/preventive resources	6 (4.9%)	14 (12.2%)	20 (8.4%)
Case report	1 (0.8%)	16 (13.9%)	17 (7.2%)
Ethical aspects/regulations	0 (0.0%)	15 (13.0%)	15 (6.3%)
Bereavement	8 (6.6%)	1 (0.9%)	9 (3.8%)
Suicide cluster/pact online	2 (1.6%)	7 (6.1%)	9 (3.8%)
Other	4 (3.3%)	8 (7.0%)	12 (5.1%)
Total	122 (100.0%)	115 (100.0%)	237 (100.0%)

Table 3. Internet medium in publications on the Internet and suicide, 1997 to January 2015

Internet medium	Research papers (N, %)	Other publications (N, %)	Total (N, %)
Forum/ message board	23 (18.9%)	7 (6.1%)	30 (12.7%)
Search engine (Google, Yahoo etc.)	18 (14.8%)	8 (7.0%)	26 (11%)
Information website	10 (8.2%)	11 (9.6%)	21 (8.9%)
Social media	6 (4.9%)	12 (10.4%)	18 (7.6%)
Intervention website (online psychosocial intervention)	13 (10.7%)	2 (1.7%)	15 (6.3%)
Online education program	7 (5.7%)	4 (3.5%)	11 (4.6%)
Blog	4 (3.2%)	0 (0%)	4 (1.7%)
Chat	2 (1.6%)	2 (1.7%)	4 (1.7%)
E-mail	0 (0.0%)	4 (3.5%)	4 (1.7%)
Multiple mediums	7 (5.7%)	12 (10.4%)	19 (8.0%)
Other	11 (9.0%)	2 (1.7%)	13 (5.5%)
Not specified (i.e., Internet)	21 (17.2%)	51 (44.3%)	72 (30.4%)
Total	122 (100.0%)	115 (100.0%)	237 (100.0%)

search papers (17.2%) than in other types of publications (44.5%). Where specified, almost half of original research papers (44.4%) explored suicidality on forum/message boards (18.9%), use of search engines (14.8%), and intervention websites (10.7%). A number of research papers (9.0%) looked at *other*, which included videoconferencing, online games, and online news in the context of suicide. The focus of other types of publications was instead on social media (10.4%) and on the use of multiple mediums and information websites (9.6% each). Of interest, no research study focused exclusively on e-mails and only two studies looked at chats.

The number of studies per medium category, including unspecified *Internet*, and the range of online mediums under study have been increasing from 1997 to January 2015. The first studies focused on suicidality expressed on

online forums or message boards, and this medium continues to draw research interest. Since 2006, there has been an increasing research interest in social media (e.g., Facebook, Twitter, etc.) and online interventions along with a decrease in empirical studies on information websites.

Suicide-Related Variable of Interest

In general, two thirds of the all publications focused on *suicide* (35.0%) or *other* suicide-related variables, as specified in individual papers (32.0%), such as suicide bereavement, suicide contagion, or self-harm. Other publications focused on *suicidal ideation* (25.0%), *suicide risk* (17.7%), and *suicide attempt* (13.9%); some of the publications included more than one variable and the percentages do not

sum up to 100%). In the case of nonresearch papers, the term *suicide* was often used in a generic way to describe any aspect of suicidal ideation and/or behavior online.

The original research studies focused on *suicidal ideation* (34.4%) and *suicide* (20.5%), with fewer studies focusing on *attempted suicide* (12.3%) and *suicide risk* (18.0%). Almost half of the original research papers (36.9%) looked at *other* suicide-related variables specified in individual studies, such as bereavement after suicide, suicide contagion, or suicide warning signs.

Original Research Studies: Study Design and Study Sample

Regarding the design of original research papers, almost two thirds of the studies were solely quantitative (64.0%) with a majority of studies employing a cross-sectional design (30.3%), using individual data (18.0%), as well as prevalence and ecological studies (13.1% each). There were also six RCTs. Only 13% of the studies used mixed methods. The remaining studies used qualitative methodology based on content analysis (e.g., thematic, discourse, semiotic; 23%). Concerning study sample, approximately 60% of the research studies involving participant samples reported on sociodemographic characteristics of participants, such as gender (62.1%) and/or age (62.2%) of study participants. Where applicable and specified, across the original research studies and accounting for different sample sizes, 45.1% of participants were male ($SD = 22.6$; $min. = 8\%$, $max. = 100\%$ in individual studies). Almost half of the studies (43.3%) looked at suicidality and the Internet in adolescents (up to 18 years of age) and young adults (19–24 years). Remaining studies either included a wide range of age groups (up to 65+ years; 40.1%) or focused specifically on adults (25–65+ years; 16.6%).

Discussion

The mapping study found 237 publications on suicide and the Internet between 1997 and the end of January 2015, including 122 original research papers. There was a steady increase in the number of publications, especially original research papers, over this period. Of note, half of all publications, and two thirds of original research papers, were published from 2011 onward. Although publications in general originated in 29 countries and some were based on international collaboration, approximately half of the papers were published in three English-speaking countries: the USA, the UK, and Australia. Moreover, more than half of original research studies originated in the USA, the UK,

Japan, and Australia. A similar preponderance of studies and publications originating in English-speaking countries has been reported in suicidology research in general (Stack, 2012), including studies on the effectiveness of psychosocial interventions (Leitner, Barr, & Hobby, 2008) and postvention (Andriessen, 2014). This finding possibly is an artifact of the study methodology, that is, inclusion of publications in the English language only. Nonetheless, differences in the epidemiology, methods used, and risk factors in suicidal behavior between countries and cultures call for caution when generalizing results of studies generated in Western, predominantly English-speaking countries to other settings (Henrich, Heine, & Norenzayan, 2010; Phillips & Cheng, 2012). Comparison studies conducted to date indicate that there may be differences between countries and languages regarding online suicide-related information (Cheng, Fu, & Yip, 2011; Krynska & Andriessen, 2010; Till & Niederkrotenthaler, 2014), and possibly the ways people at risk use the Internet (Ozawa-De Silva, 2010). The amount of empirical research on the Internet and suicide conducted in Japan found in this study illustrates a much welcome and much needed broadening of perspective in current suicidology research.

More than half of all types of publications identified in the mapping study, including the majority of original research studies, were devoted to four topics: searching for suicide information online, online interventions, online behaviors/how people use the Internet, and conversations about suicide/suicide methods on Internet forums. Four of the seven systematic reviews summarized research outcomes regarding the effectiveness of online interventions. Much less has been published on suicide clusters/pacts online, e-learning in suicide prevention, bereavement after suicide and the Internet, and ethical aspects/regulations. Mok and colleagues (2015) also observed a significant accumulating evidence base regarding only selected aspects of the suicide-related Internet use.

There has been an increase in the range of Web-based mediums studied between 1997 and early 2015 and in the number of papers, including original research studies, looking at each of these mediums. Nonetheless, most of the literature was devoted to suicide-related use of online forums/message boards, search engines, intervention and information websites, and social media. Only a few nonresearch publications and empirical studies looked at blogs, chats, or e-mails. The changing research interest in particular online mediums, for example, increasing interest in social media and online interventions, most likely reflects the changing patterns of Internet use (Perrin, 2015) and the rapid development of e-mental health interventions (Lal & Adair, 2014). One reason for the small number of studies on e-mails and chats could be that the contents of these particular media outlets are usually not publically

available (unlike social media or public websites), which makes it hard for researchers to investigate them.

Interestingly, in one third of the publications, the authors used the general term *the Internet*, without specifying the medium, and this was the case in one fifth of the original research papers. Given the ever-changing nature of the Internet, including the ongoing emergence of new online media and changing patterns of usage, it seems prudent to be as specific as possible when researching and discussing possible links between the use of specific Internet modalities and suicidality. Different networking sites, such as Facebook, Twitter, Instagram, Pinterest, and LinkedIn, offer different possibilities of communication and interaction, and sociodemographic and psychological differences have been reported among users of different sites (Bucacurri, Lax, Nicolazzo, & Nocera, 2015).

Approximately half of the publications found in the mapping study were original research papers. These were conducted mostly using a range of quantitative design, such as cross-sectional studies, individual data, prevalence, and ecological studies, as well as several RCTs. One third of the studies used qualitative or mixed methods. We also found other types of publications, including letters to the editor/case studies, theoretical papers, editorials, and reviews. The wide variety of research designs and types of papers may reflect the broad scope of interest regarding online suicide-related phenomena, as evidenced also by the range of topics and variety of online mediums reported in our study. In fact, the scope of Internet-related suicide research may be as wide as suicide-related research in general, and it may become the online counterpart of the off-line-related research. Nonetheless, the mapping study found that the majority of research studies focused on exploring the links between suicidality and the Internet in adolescents (up to 18 years) and young adults (19–24 years), and where applicable and reported, on the average the study samples included similar proportions of males and females. Epidemiological data show differences in Internet use in different demographic groups (Perrin, 2015), and planned inclusion of different age and gender groups in future studies on the Internet and suicide could provide significant insights.

The mapping study found a limited number of publications focusing primarily on ethical and legal issues, such as privacy, confidentiality, and protection of vulnerable populations, for example, people with mental health problems, at risk of suicide, and children and adolescents. It is possible that different types of publications, including original research studies, reported on ethical and legal implications of research, yet the analysis of the content of the publications was beyond the scope of the mapping study. It is also possible that Internet-based research and clinical practice in other areas, such as online recruitment meth-

ods for web-based studies (Lane, Armin, & Gordon, 2015; Thornton et al., 2016) and online psychological interventions and counseling (Richards & Viganó, 2013), have reached maturity and inform online suicide studies and interventions. Nonetheless, publications discussing specifically legal and ethical concerns and issues around suicide research and prevention over the Internet are valuable contributions to suicidology (Mishara & Weisstub, 2007).

Another important finding of the study relates to the types of suicide-related variables of interest explored in the literature, including empirical studies, on suicide and the Internet to date. The two most frequently researched phenomena were suicidal ideation and suicide, and fewer empirical studies focused on other aspects of suicidality, such as suicide attempts. Of note, some of the published papers (in particular nonresearch papers) used the generic term *suicide*, without describing the particular aspect of suicidal behavior or ideation. There is ongoing research regarding similarities and differences between individuals with suicidal ideation and behavior (Nock et al., 2008; O'Connor & Nock, 2014). Future studies of online suicide-related behaviors should consider the overlap between these groups of Internet users and the impact of online activities on the possible progression from suicidal ideation to suicidal behavior. There is already accumulating evidence that individuals at risk of suicide are quite distinct in their online behaviors, for example, in regard to developing online interpersonal relationships (Harris, McLean, & Sheffield, 2014), and such insights may be helpful in developing effective web-based intervention and prevention strategies.

Limitations

The mapping study focused on the English-language peer-reviewed literature, excluding papers published in other languages and non-peer-reviewed sources, such as books and conference presentations. The study has not included studies reporting the use of mobile phone-based interventions and applications in suicide prevention, which is a rapidly progressing research area (Chen, Mishara, Liu, 2010; de Beurs, Kirtley, Kerkhof, Portzky, & O'Connor, 2015). Given the rapid development of new communication technologies and the ongoing interest of suicide researchers in the emergent media (Collings & Niederkrotenthaler, 2012), future studies and reviews could include a broader range of technologies. The study aimed to be a mapping exercise in the field of the Internet and suicide, and as such did not include either an analysis of the results of original research studies nor an assessment of the quality of the reviewed publications, including original research papers.

Conclusion and Future Research

There is a rapid emergence of research witnessed in recent years. Nonetheless, there remain a number of crucial gaps that could be addressed in the future. The differences between different Internet mediums, including the level of interactivity and the sociodemographic profiles of frequent users, deserve further exploration and consideration when looking at opportunities for intervention and prevention (Lewis, Heath, Michal, & Duggan, 2012; Robinson, Cox et al., 2015). There may also be significant similarities and differences in the ways individuals in different countries and cultures use the online resources and communicate online about their suicidality (Sueki & Eichenberg, 2012). Such comparisons are an important area for further studies and call for international collaborations, which may be facilitated by the worldwide accessibility and relative ease of access and sharing of the online material.

While some topics, Internet mediums, and suicide-related variables are frequently studied and discussed in the literature, others seem (relatively) neglected. Consequently, there is a variation in the strength of research evidence regarding different online suicide-related behaviors and phenomena. For example, the present study found that only one in nine empirical studies included a suicide attempt as a variable of interest. Identification of such blind spots should lead to new studies and broadening of knowledge and online suicide prevention and postvention practice. There is also need for further development and adjustment of existing research methodologies to effectively explore online phenomena related to suicidal ideation and behavior.

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About the authors

Karolina Kryszyska, PhD, MA, is a research fellow at the Dementia Collaborative Research Centre, School of Psychiatry, at the University of New South Wales, Australia. She is an affiliated researcher with the Faculty of Psychology and Educational Sciences, KU Leuven, Belgium. She works in the field of suicide research and prevention, and mental health, and is a member of the IASP's Media and Suicide SIG.

Michael Westerlund, PhD, is a senior lecturer at the Department of Media Studies (IMS) at Stockholm University. His research focuses on digital communication about problematic and risky subjects, such as suicide.

Thomas Niederkrotenthaler, MD, PhD, MMS, is Associate Professor at the Suicide Research Unit of the Institute of Social Medicine, Vienna, Austria. He is co-chair of the International Association for Suicide Prevention Media and Suicide Special Interest Group, and founding chairman of the Wiener Werkstaette for Suicide Research (<http://www.suizidforschung.at>).

Karl Andriessen, MSuicidology, is an Anika Foundation PhD Student at the School of Psychiatry, University of New South Wales, Sydney, Australia. He is an affiliated researcher with the Faculty of Psychology and Educational Sciences, KU Leuven, Belgium, and outgoing co-chair of the International Association for Suicide Prevention Special Interest Group on Suicide Bereavement and Postvention.

Dr. Vladimir Carli, MD, PhD, is a senior lecturer in suicide prevention of at the National Centre for Suicide Research and Prevention (NASP), at Karolinska Institutet. He is Co-Director of the WHO Collaborating Centre for Suicide Prevention. His main interest is in the field of the development and evaluation of interventions for young people.

Gergő Hadlaczky, PhD, is an experimental psychologist at the National Centre for Suicide Research and Prevention of Mental Ill-Health (NASP) at Karolinska Institutet. He works in the field of suicide research, with main focus on public health-related prevention, the decision-making of suicide, and media.

Benedikt Till, PD, DSc, is a psychologist and assistant professor at the Suicide Research Unit, Institute of Social Medicine, Center for Public Health, Medical University of Vienna, Austria. He works in the field of media psychology and suicide research, and he is board member of the Wiener Werkstaette for Suicide Research.

Danuta Wasserman, MD, PHD, is Professor of Psychiatry and Suicidology at Karolinska Institutet and Director of the National Centre for Su-

icide Research and Prevention of Mental Ill-Health. She is the Director of the WHO Collaborating Centre for Research, Methods Development and Training in Suicide Prevention and former president of the European Psychiatric Association and the International Academy of Suicide Research.

Karolina Kryszńska

School of Psychiatry
University of New South Wales
AGSM Building
Sydney NSW 2052
Australia
k.krysznska@unsw.edu.au