Suicide-Related Internet Use Amongst Suicidal Young People in the UK: Characteristics of Users, Effects of Use, and Barriers to Offline Help-Seeking

Jo Bell, Katherine Mok, Eric Gardiner & Jane Pirkis

Accepted author version posted online: 07 Jun 2017.

Submit your article to this journal ⌇

View related articles ⌇

View Crossmark data ⌇

Suicide-Related Internet Use Amongst Suicidal Young People in the UK: Characteristics of Users, Effects of Use, and Barriers to Offline Help-Seeking

Jo Bell

Department of Psychological Health and Well-being, University of Hull, Hull, UK

Katherine Mok

Melbourne School of Population and Global Health, University of Melbourne, Carlton, Australia

Eric Gardiner

Department of Psychological Health and Well-being, University of Hull, Hull, UK

Jane Pirkis

University of Melbourne, Melbourne, Australia

Address correspondence to Jo Bell, University of Hull, Psychological Health and Well-Being, Cottingham Road, Hull, East Yorkshire, Hull HU6 7RX, United Kingdom of Great Britain and Northern Ireland. E-mail: j.bell@hull.ac.uk

Abstract

Objectives: The study replicates research by Mok, Jorm, and Pirkis (2016a, 2016b) using a UK sample to examine: differences between suicidal people who go online for suicide-related reasons

1

and suicidal people who do not; perceived effects of suicide-related Internet use; perceived barriers to offline help-seeking.

Methods: A total of 72 UK citizens (18–24 years) who had contemplated killing themselves or deliberately harmed themselves with the intention of dying within the past 12 months participated in an anonymous online survey.

Results & Conclusion: Suicidal young people who use the Internet for suicide-related purposes are a high risk group characterized by higher levels of social anxiety. Main purposes of suicide-related Internet use were to connect with others and seek information. Both had positive and negative effects.

Keywords:

INTRODUCTION

This article is concerned with suicide-related Internet use amongst suicidal young people in the UK. While there is a substantial body of research on the role of the media in suicidality (highlighting issues such as suicide contagion), research into the role of the Internet is still in relative infancy, particularly with regard to use of online venues dedicated to information and communication about suicide. Although there is evidence that interest and research in this area is growing (e.g., Hagihara, Miyazaki, & Abe, 2012; Mars et al., 2015; Padmanathan et al., 2016; Recupero, Harms, & Noble, 2008; Westerlund, 2013), we remain largely unaware of how people with suicidal thoughts use the Internet, what practices users are engaging in and for what purposes, and what is helpful and harmful in these online spaces (Aleo, Soderberg, Pohl, & Alao, 2006; Bell, 2014; Daine et al., 2013; D'Hulster & Van-Heering, 2006).

Previous research by Harris, McLean, and Sheffield (2009a) looked at individuals who went online for help with suicide by examining intentions to use online help sources in comparison with face-to-face and telephone. Their work suggested that those with a suppressive problem solving approach (characterised by avoidance and denial of problem-solving activities and related to social withdrawal) were most likely to go online for help with suicidal ideation. This type of problem solving approach was also negatively related to seeking offline help.

Whilst Harris et al. (2009a) assessed help-seeking intentions of individuals who go online for help with suicide, Mok et al. (2016a) looked at the actual behaviours of suicidal people who went online for suicide-related reasons and those who did not. They found no differences between suicidal people who went online for suicide-related reasons and those who did not on measures of depressive symptoms and perceived social support. However, suicide-related Internet users reported significantly higher levels of social anxiety and lifetime and past year suicidal ideation than non-suicide-related Internet users, and a higher likelihood for future suicide with the two latter variables significantly predicting suicide-related Internet use. Both groups generally perceived the same barriers to offline help-seeking and were unlikely to seek help from any source. They concluded that suicidal young people may choose to go online for alternative methods of coping when their suicidal feelings become more severe, demonstrating the need for more online suicide prevention efforts.

However, despite emerging evidence that suicide-related Internet users may form a higher risk group from this study and others (e.g., Harris, McLean, & Sheffield, 2009b; Katsumata, Mtsumoto, Kitani, & Takeshima, 2008; Sueki, 2013) there remains a lack of consensus on what constitutes helpful or harmful online content and exchange. In another paper, Mok et al. (2016b) investigated the perceived impact of suicide-related Internet use, particularly taking into account

whether websites explicitly exhibited harmful attitudes towards suicide or potentially helpful attitudes towards suicide, the online availability of information on suicide methods, participation in online communities and the perceived level of supportiveness of the online environment. They argued that the potential effects that different types of websites may have on users has not been previously studied. Participants reported both positive and negative online experiences, even for similar forms of suicide-related Internet use, suggesting suicide-related Internet use is complex and its impact cannot necessarily be attributed to specific types of websites or online content. Mok et al. (2016b) questioned the notion of 'pro-suicide' websites, pointing out that there is a lack of evidence of their actual effect on individuals and categorisation of such sites as 'pro-suicide' are often heterogeneous and subjective (Till & Niederkrotenthaler, 2014).

Mok et al's. (2016a, 2016b) research involved Australian young people. They suggested that more research (involving direct contact with suicidal Internet users from different populations) should compare suicide-related and non-suicide-related Internet use and users' perceptions of the impact of suicide-related Internet use. This suggestion forms the basis and rationale for the study reported on here, which compliments Mok et al's. (2016a, 2016b) work by replicating their studies using a UK sample of young people aged between 18-24 years. Our study aims to examine: the differences between suicidal people who go online for reasons relating to their suicidal problems and suicidal people who do not; perceived effects of suicide-related Internet use; perceived barriers to formal and informal offline forms of help-seeking for suicide.

METHOD

Sample and Procedure

Participants (British citizens or permanent residents aged 18–24 years who had thought about killing themselves or had engaged in deliberate self-injurious behaviours with the intention of dying within the past 12 months) took part in an anonymous online survey. Personal identifiable information was not collected.

Materials

Participants were measured for depressive symptoms, risk of suicide, perceived social support, social anxiety, anticipated help-seeking behaviours, and perceived barriers to offline help–seeking (all as per the Mok et al. (2016a) study):

The Patient Health Questionnniare (PHQ-9; Kroenke & Spitzer, 2002; Kroenke, Spitzer, & Williams, 2001; Spitzer, Kroenke, & Williams, 1999) assessed depressive symptoms. This comprises 9 depressive items. Participants indicate the frequency with which they have experienced symptoms over the past two weeks (on a scale of $0 - 3$: 0 = not at all; 3 = nearly every day). Cronbach's α for this study was .90.

The Social Interaction Anxiety Scale (Heimberg, Mueller, Holt, Hope, & Liebowitz, 1993; Mattick & Clarke, 1998) measured social anxiety. It consists of 20 items. Individuals rate on a 5-point scale the extent to which each item is true or characteristic of them (e.g., 'I become tense if I have to talk about myself or my feelings'). Higher scores indicate higher levels of social interaction anxiety (0 = not at all true of me; 4 = extremely true of me). Cronbach's α for this study was .87.

The Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) measured perceived offline social support. It comprises 3 subscales (12 items in total) assessing perceived social support from friends, family and significant others. Items are rated from

1 (very strongly disagree) to 7 (very strongly agree). Cronbach's α in this study for family, friends, significant others were .90; .92; .94 respectively.

The Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001) assessed suicide risk. It has 4 items assessing 4 areas of risk: lifetime suicidal ideation and attempts, past year suicidal ideation; disclosure of suicidal feelings or intent, and likelihood of future suicide. Different rating scales are used for each item. For example, likelihood of future suicide is assessed on a 7-point scale (0 = never; 6 = very likely), whereas past year suicidal ideation is assessed on a 5-point scale (1 = never; 5 = very often). Total scores range from 3–18. Cronbach's α for this study was .85.

The General Help Seeking Questionnaire (GHSQ; Wilson & Deane, 2005) assessed help-seeking intentions from different sources. Participants to rate how likely they would be to seek help for a particular problem from a list of sources. The problem is specified by researchers and in this case participants rated the likelihood of seeking help if they were experiencing suicidal thoughts. For each source, participants rated on a 7-point scale (1 = extremely unlikely; 7 = extremely likely). Help sources can also be added or edited and for the purposes of this study the following sources were added to the scale: 'online forum or message board', 'online mental health professional', and 'anonymous online social media'. Those who indicated that they were unlikely to seek help from the offline sources on the GHSQ were asked to select their reasons why from a list of help-seeking barriers (using items adapted from two studies Downs & Eisenberg, 2012; Cigularov, Chen, Thurber, & Stallones, 2008). There were 28 barriers listed in total.

In order to examine the potential effects of regular use of the Internet for suicide-related purposes, it was necessary to distinguish between suicidal users who used the Internet for suicide-related purposes and those who did not use the internet for suicide-related purposes. Only

6

participants who answered "Yes" to the question "Have you, in the past 12 months, used the Internet for suicide-related reasons?" were classified as suicide-related users (where 'suicide-related reasons' was defined as: 'going online for reasons relating to your own feelings of suicide, including looking for information or communicating with anonymous online partners, such as individuals whose real-life identities you do not know and / or whom you have never met face-to-face'). Four other conditional options ('Yes, but only to find offline sources of help', 'Yes to communicate with offline friends only (e.g., Facebook)'; 'Yes but only briefly because I did not find it helpful'; 'No') were included to avoid potential differences in interpretation of the question. Those who responded to any of the four conditional options were classified as 'non suicide-related Internet users', as were those who used the Internet solely to communicate their suicidal problems with family and offline friends.

Suicide-related users were also invited to complete an open-ended response section of the survey. There were 7 open-ended questions assessing online experiences, behaviours, and perceived effects of suicide-related Internet use. Participants were asked to: rate whether the websites they used were 'pro-suicide' or 'anti-suicide' (or both); reflect on the 'good' and 'bad' things about the sites they used; describe their typical activities; rate whether their use had positively or negatively affected their suicide-related problems and other aspects of their life; explain other reasons for not seeking help from offline resources.

ANALYSIS

To test for differences between suicide-related users and non-suicide related users on measures of suicide risk and perceived social support (PHQ-9; SIAS; MSPSS; SBQ-R), independent samples t-tests were used. Kolmogorov-Smirnov tests for normality of each sample

7

distribution were carried out for all measures and bootstrapped p-values were reported if there was evidence of non-normality.

Chi square tests of independence were calculated to show differences between suicide-related and non-suicide-related users on perceived barriers to offline help-seeking. To reduce the likelihood of Type I error, we carried out chi-squared tests only on a small number of barriers. These were barriers endorsed by 50% or more respondents (of both user types) in the Mok et al. (2016a) study. Specifically, these were: 'I prefer to deal with issues on my own'; 'I question how serious my needs are'; I would not know what to say about my problems'; 'I worry about what others will think of me'. We also ran a chi square test on the barrier 'I worry that my actions will be documented in my academic record' because a statistically significant difference between user type was found in the Mok et al. (2016a) study for this barrier.

All quantitative analyses were carried out on SPSS Version 23 for Windows.

Responses to the seven open-ended questions about their experiences of suicide-related internet use and perceived impact were summarised descriptively without statistical hypothesis testing. Following methods by Mok et al. (2016b), content analysis (based on Zhang and Wildemuth, 2009) was used to identify and code themes from responses. Similarities and differences between responses were coded and organised using constant comparative methods (Ritchie & Spencer, 1994; Strauss & Corbin, 1990).

Ethical approval for the study was granted by the Faculty of Arts and Social Sciences Research Ethics Committee at The University of Hull. Participants responded to an advertisement on various free general online resources (e.g., The University of Hull portal, Gumtree, Pre-loved, Bossfit, Facebook, omegl, Newsbeat, netmums) which was posted with the permission of relevant

administrators/moderators. The survey was not advertised on suicide-related or mental health sites in order to capture both suicide-related and non-suicide-related users.

The advertisements featured a short description of the study and a link to the online survey. A Plain Language Statement described the types of questions (with examples) and the potential for distress to occur. Those who felt they might be upset by the content covered were advised not to participate. Participants could exit the survey at any point where they were directed to a list of local and national help resources.

RESULTS

The majority of the sample was recruited from The University of Hull student portal (91.6%). After removing incomplete cases (43) the total sample was 72. Of those, 26 were classified as suicide-related users (13 female; 11 male; 2 other) and 46 as non-suiciderelated users (30 female; 16 male).

Suicide Risk and Perceived Social Support

For this section, sample sizes were reduced to 22 and 38 as a result of additional missing data for suicide-related and non-suicide related users respectively. **Table 1** shows that on measures of suicide risk and perceived social support (PHQ-9; SIAS; MSPSS; SBQ-R), data revealed that suicide-related users reported significantly higher levels of social anxiety and overall higher risk for suicide (including four areas of suicide risk as measured by SBQ total scores). Significantly more non-suicide related users in our sample reported that they could talk about problems with their family than suicide-related users.

However, these findings need to be interpreted with caution due to the reduced power and the possibility that the sample analysed is not representative of the original 115. Possibly those excluded from this analysis were more (or less) distressed.

Help-Seeking/Accessing Support

The most commonly endorsed barriers (i.e. those endorsed by 50% or more for both user types) were the same as those reported by Mok et al. (2016a), i.e. 'I prefer to deal with issues on my own'; 'I question how serious my needs are'; I would not know what to say about my problems'; 'I worry about what others will think of me'. **Table 2** and **Table 3** shows that all tests found no statistically significant association between barrier and user type. However, we acknowledge that larger sample sizes may have yielded more significant findings.

Perceived Impact and Effects of Suicide-Related Internet Use

11 participants provided responses to 7 open-ended questions about their experiences of suicide-related internet use and perceived impact.

None of the participants in our study rated the sites they used for suicide-related purposed as 'pro-suicide'. Most were classified as anti-suicide ($n = 6$) or neither/neutral ($n = 4$). One site classified as 'both'.

Two main themes of suicide-related internet use were found. These were *connecting with others* and *seeking information*. Both had positive and negative effects.

Connecting with Others

The majority of participants reported that they used the Internet to communicate with others about their suicidal feelings and that they offered a strong/supportive sense of community (including reciprocal care, help, support, understanding, advice, positive expression). For example:

'Very nice community, and people are very quick to reply- they genuinely care'; 'The chat can be supportive and helpful'; 'Strong community ran by people who suffer with the same mental health difficulties… offers a deep understanding and the advice is practical and more encouraging'.

'A chance to express everything you feel anonymously as a more creative less destructive outlet'.

Engaging in conversations with others as part of their suicide-related Internet activity had positive effects such as reducing isolation and perceived stigma, and enhancing sense of belonging:

'it kept me thinking that I wasn't the only person in this situation, which made me feel better'

'It allowed me to be who I was and normalised depression and self-harm so I didn't feel so on my own'.

'…has allowed self to find many who suffer same problems across globe and offers a shared experience'

For some respondents, communicating with others about their suicide-related-Internet use had both positive and negative effects. Disruptive, hostile and pessimistic commentary in online forums emerged as the main factor in generating negative effects:

'It makes me feel better sometimes, but if the chat's not supportive because of a few people it can make me feel worse'.

'... it was nice to see encouraging messages, and to get information on getting help, but it did get me down in the sense that everyone on there also had the same problems. It made me feel like there wasn't a way out, as it was a lot of people feeling rough'

'Yes – reading other people's suicide-related stories takes my mind off my own. No – it makes me realise how much crap is in the world'

Seeking Information

A smaller number of respondents (4) in our study reported that they used the Internet to seek clear factual information about suicide methods and about coping and therapy (1). Those who utilised sites for information on methods did not tend to perceive them as 'pro-suicide' rather they were described as 'neutral' (that is, neither advocates or discourages suicide):

'It was purely factual based', it purely tells you the likely effects of any imaginable attempts of suicide'.

The absence of a strongly preventive or disparaging attitude towards suicide on such sites was favoured by some:

Personally I really liked it. I don't feel its aim was to persuade me of anything...'

'Suicide is discouraged but not frowned upon or belittled'.

'Gives all the information on methods, effectiveness, and dosages fairly clearly. Sounds odd but it treats you as an adult in a way, in that it accepts your choice...'

12

The perceived positive effects of reading factual information about suicide methods, described by these participants included enhancing their sense of control and autonomy:

'...it's comforting knowing my preferred plan and the back-ups to it. Helps feel slightly more in control of thoughts'.

'...in a way having the plan(s) in my head now has helped me manage better in that I know I have a way out to escape my head now...'

And potentially preventing suicide:

'I suppose a lot of the information would result in people being put off suicide'.

'...it helped me to deter from self-immolation'.

On the other hand, perceived negative effects of seeking and reading factual information about suicide methods on the Internet included reinforcing suicidal thoughts and behaviours:

'It could potentially influence some people who may not have had a firm idea yet in their head and give them a plan'.

'…negatively in that it's helped me decide on plans, but even before that I had plans and had attempted. They just weren't as well informed'.

Perceived lack of credibility of information on these resources was also a negative feature:

'It would benefit from professional sources at times, as it's mostly anecdotal- so information on medication is patchy...'.

'I don't remember the author including where he got the sources from'.

Finally, further reasons for not seeking help from offline sources (or anyone) were reported. These included social anxiety and lack of trust and confidence. For example:

'I think I need medication, but initiating this kind of conversation is awkward. I wish there was an online doctor, but I don't know if I would even feel comfortable picking up a prescription. Most of all, I don't feel I could fully put across my feelings in a face-to-face situation, to write things down in an instant messenger form would make seeking help so much easier… just being able to be clear with my thoughts in my head and not feel rushed to speak and like I'm talking too much. I can't cope with people'.

'I'm scared to. It takes a lot of effort and courage and bravery, and when you feel suicidal you don't feel like getting help from anyone'.

'Zero confidence'.

DISCUSSION

Characteristics of Users

Our findings are largely consistent with Mok et al. (2016a). Both studies revealed significantly higher levels of suicide risk and social anxiety amongst suicide-related Internet users when compared to non-suicide-related users. Both studies found no significant differences on measures of depressive symptoms between user types. Small sample sizes and inadequate power may account for this finding, or perhaps the way we in which we described the study piqued the interest of those with a particular depression profile (irrespective of what their suicide or non-suicide related internet use was like). Further research is needed to examine this.

Mok et al. (2016a) found no significant differences between users on all measures of perceived social support. In our study, no significant differences were found, with the exception of family. Here, significantly more non-suicide related users reported that they can talk about problems with their family than suicide-related users.

Mok et al. (2016a) found that past year suicidal ideation and likelihood of future suicide predicted whether or not respondents used the Internet for suicide-related reasons: those who reported higher levels on these variables were 1.52 times more likely to use the Internet for suicide-related reasons. However, we did not attempt to replicate the regression analysis in our study as the data set (size) did not warrant it.

We have suggested that our findings are limited due the number of missing cases and increased risk of type II error. Therefore more research of this type using different populations is needed to examine these factors further.

Both studies found similar barriers to seeking help offline. The most commonly endorsed barriers across both studies for both user groups were: 'I prefer to deal with issues on my own'; 'I question how serious my needs are'; I would not know what to say about my problems'; 'I worry about what others will think of me'.

Taken together, these findings lend further weight to the suggestion that suicide-related Internet users are a high-risk group and are consistent with the idea that suicidal individuals may turn to the Internet as their suicidal feelings increase (Mok et al., 2016a). So why might someone who is suicidal be drawn to the Internet for suicide-related purposes, what do they find, and how does this affect them? Qualitative data from suicidal participants who use the Internet for suicide-

related purposes provided some insight into these questions. In the following section we discuss users' perceptions of suicide-related content and what it means for them.

User Perceptions of Suicide-Related Content

Our data showed strong similarities to Mok et al. (2016b) generated from the same open-ended questions. Their findings revealed both positive and negative experiences and potential influences of the Internet. They found two main uses: 'Communicating with Others' and 'Reading Information' on the Internet. The theme 'Communicating with Others' also subsumed social support and reducing isolation; providing and receiving help; triggering or reinforcing suicidal thoughts or behaviours. The theme 'Reading Information' included information on suicide methods, mental health related information, and coping strategies.

For some considerable time professionals working in suicide prevention have been concerned with 'pro-suicide' websites and the question of that what constitutes harmful or helpful online suicide-related information and exchange (Bell, 2014). Sites that offer factual information about suicide methods and their effectiveness have, in the past, been defined as 'pro-suicide' (e.g., Biddle et al., 2008; De Rosa et al., 2011). However, Till and Nierdenkrotenthaler (2014) argued that what counts as 'pro-suicide' is highly subjective and can vary widely. Our findings support this view. For example, users in our study tended to classify sites as 'pro-suicide' if they were explicitly encouraging or glorifying suicide; sites offering factual information about methods and effectiveness (without a strongly preventive attitude towards suicide) were classified as 'neutral' or 'neither' pro or anti-suicide. Mok et al. (2016b) reported similar findings in their study, where the impartial nature of content on suicide methods was viewed positively by some suicidal participants.

16

Westerlund (2011) drew attention to the instrumental scientific style used by some 'pro-suicide' websites in providing information on suicide methods. Such styles (characterised by impartiality and a notable absence of emotional aspects) he argues, give the sites a kind of credibility and authority in the field, which is attractive to some users. This 'non-problem oriented' approach to suicide, he suggests, appears to offer a way of avoiding strong emotions which are closely related to suicide (such as fear, sadness, anger). This is because it treats the subject of suicide – that is – the question of *how* to end one's life - as a serious objective topic which creates a distance 'outwards', enabling the user to separate him or herself from the emotions attached to the subject (also making it less disturbing). In other words, these sites might be helpful for some in providing a distraction or escape from overwhelmingly unpleasant emotions and a sense of mastery and control over them.

If we consider that some suicides are driven by a desire to escape from overwhelming unbearable emotional experiences (Baumeister, 1990), the idea that having a place where one can consider impartial, factual information about suicide methods (with neutral discourse uncontaminated by emotive content) can have a preventive effect seems less counter-intuitive. As was suggested by some of our respondents, having an informed plan can help one feel less trapped.

According to Westerlund (2011), the absence of emotional aspects characterised by the 'non-problem oriented' approach can be seen as an expression of Western masculinity, as can the aspect of credibility and authority which was valued by our participants. Participants in both this and Mok et al's. (2016b) study tended to prefer sites which (they felt) offered authority on the subject, with some saying sites with information about suicide methods could act to prevent suicide. On the other hand, in both ours and Mok et al's. (2016b) study, it was acknowledged that for some the reverse could be true.

17

This highlights the difficulty in determining what it is harmful or helpful in this type of suicide-related internet use. The question of what is harmful or helpful depends on the perceiver. So whilst researching and reading about suicide methods can be seen as a harmful, dangerous activity (and those who use the Internet to seek factual information about methods could represent a small subgroup at especially heightened risk it can), it can, at the same time, enable meaningful activity for some (Westerlund, 2011). The difference in this context may depend, in part, on who the user is and whether a 'masculine' or 'feminine' mode of expression is preferred. The 'neutrality' and accuracy of some of the information provided on some of these sits still raises questions. Future research is needed to address these two points.

Connecting with Others

In terms of positive effects of suicide-related Internet use, the strongest theme to emerge was a supportive sense of community and acceptance generated by communicating with others in online forums and chat groups. This chimes with Mok et al. (2016b) and previous research (e.g., Bell, 2014; Ozawa-de Silva, 2008; Whitlock, Powers, & Eckenrode, 2006) which has suggested that suicidal young people can find comfort and relief in discovering that they are not alone in their suffering. These types of online venues provide a sense of community, emotional support, and a positive coping resource for distressed young people.

Our data revealed that some users found help and support for their suicide-related problems online when they did not find it in their offline lives. According to Baker and Fortune (2008), the most important feature here is friendship and a sense of belonging. These things can be life affirming: sense of belonging has been discussed elsewhere as a fundamental human need (Baumeister & Leary, 1995) and an essential ingredient of the will to live (Joiner, 2005). Owing

to their unique features (such as anonymity, invisibility and accessibility), online support groups and forums may be particularly suited to the needs of socially anxious suicidal young people, who (self-conscious and fearful of social interaction and negative evaluations from others) are inhibited to seek face-to-face help.

Participant generated barriers to offline help-seeking in our study also emphasised the acute difficulties some individuals have in seeking help, and the value of online support over face-to-face. However, a strong sense of community, help and support was not always the experience described by users of online chat groups, blogs and forums in our study (and those in Mok et al, 2016b). A number of participants reported that triggering and disruptive content in these venues had exacerbated their suicidal feelings. According to Niezen (2013), this is when negative effects arise. Our findings were consistent with this.

For suicidal young people with high levels of social anxiety (who are likely to be more sensitive to negative evaluations), hostile or inflammatory comments from others online could be particularly damaging. This highlights the downside of 'open' communities and underscores how important it is that sites that are moderated by administrators who operate rules against unsupportive communication and remove disruptive or overly pessimistic content (also pointed out by Mok et al., 2016b).

Implications for Practitioners

On the whole, our participants reported mostly positive effects of suicide-related Internet use but we must not ignore the fact that suicide-related use can go both ways. We still have very little knowledge and understanding of how information is perceived and used by others and its impact on others, or indeed how to predict who might be motivated to use this information and for

what purposes. Ambiguous responses from respondents in particular highlight this, revealing that motivations for use may be dependent on current emotional state of the user and subject to frequent fluctuation: *'Sometimes it helps, depends if I want to feel better, or feel worse at the time'.*

Thus suicide-related Internet use is complex and its impact cannot be strictly attributed to specific types of websites or online content (Mok et al., 2016b). Some suicidal users want to talk openly suicide about without fear of reprisal, disapproval or unwelcome intervention; some want to have frank open honest conversations about the realities of suicidality, in all its detail. Some want factual impartial information (for some users this can be helpful and meaningful in recovery, allowing users to separate from painful emotions and gain control over thoughts). Some want to connect with others who feel the same: this is not understanding they can get in their everyday (offline) lives, especially those who are socially anxious and more likely to turn to the Internet to seek refuge, support and a common understanding amongst those who are most like them.

If we are to increase our understanding of the user perspective (Westerlund, Hadlaczky, & Wasserman, 2012) we must not be dismissive of suicide-related Internet use, nor should we view content as either 'pro-suicide' or 'anti-suicide'. Our results suggest some degree of caution in assuming that sites dedicated to information about suicide methods and their effectiveness will always have a harmful or negative impact on suicidal Internet users. They also suggest the need for trained moderators on interactive sites wherever possible to counteract the negative impact of triggering disruptive content. However 'triggering content' can be difficult to determine, (what is triggering for one person, may not be triggering for another), making it difficult for moderators to know how best to respond in a given situation. These are current challenges facing professionals and practitioners in the online world. Increasing cohesion between user and professional

20

perspectives requires an open-minded approach that can strike a balance between over-estimating and under-estimating the potential dangers of suicide-related content.

Limitations

The study was subject to a number of limitations. Firstly, the small sample drawn mostly from a student population in a single area of the UK limits the generalizability of the findings. One danger with a modest sample size could be that non-respondents differed from respondents. Secondly, the retrospective nature of the study may have introduced recall bias. Current mood states, in addition, may have affected the way in which participants responded (e.g., respondents in a low / negative mood at the time of completing the survey may be more likely to recall negative rather than positive experiences of suicide-related Internet use). Future research of this type could include a measure to assess current mood state to account for this. However, as this study was a replication of Mok et al. (2016a, 2016b) and when set beside their findings, a number of conclusions and findings are substantiated that enhance reliability and validity of our data. More research of this type with different populations is needed to further substantiate this work.

CONCLUSION

Our findings were consistent with Mok et al. (2016a, 2016b) and support previous research in the area, strengthening the existing knowledge base and the certainty with which statements about findings from previous studies can be made. Results suggested that suicidal young people who use the Internet for suicide related purposes are a high risk group characterized, in part, by higher levels of social anxiety. Qualitative data revealed two main purposes of suicide-related Internet use: to connect with others and to seek information. Both had positive and negative effects.

The majority of suicide-related internet users in our study reported that they used the internet to communicate with others about their suicidal feelings. Interactive online support sites and forums may be particularly suited to the needs of socially anxious suicidal young people who may find it more difficult to connect with others and seek support offline. The importance and need for trained moderators on interactive sites to counteract the negative impact of triggering disruptive content is also substantiated by our findings. How moderators can best approach this is a current challenge for researchers and practitioners.

Our findings also support previous research, which suggests that what counts as 'pro-suicide' is highly subjective and can vary widely. From a user perspective, we have speculated that sites hosting information about suicide methods and their effectiveness can be perceived as helpful or harmful, depending, in part, on whether a 'masculine' or 'feminine' mode of expression is preferred. This needs further investigation. Motivations for use (and impact and effect of use) may also be dependent on the current emotional state of the user and subject to frequent fluctuation. Therefore a more fluid conceptualisation of what counts as helpful or harmful content is needed.

Our findings are constrained by a limited sample. More research of this type with different populations is needed to further our understanding of how best to harness the Internet to prevent suicide.

References

Aleo, A. O., Soderberg, M., Pohl, E. L., & Alao, A. L. (2006). Cybersuicide: Review of the role of the internet on suicide. *CyberPsychology and Behaviour, 9*(4), 489–493. doi:10.1089/cpb.2006.9.489

Baker, D., & Fortune, S. (2008). Understanding self-harm and suicide websites: A qualitative interview study of young adult website users. *Crisis, 29*(3), 118–122. doi:10.1027/0227-5910.29.3.118

Baumeister, R. (1990). Suicide as escape from self. *Psychological Review, 97*(1), 90–113. doi:10.1037//0033-295x.97.1.90

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. doi:10.1037//0033-2909.117.3.497

Bell, J. (2014). Harmful or helpful? The role of the internet in self-harming and suicidal behaviour in young people. *Mental Health Review Journal, 19*(1), 61–71. doi:10.1108/mhrj-05-2013-0019

Biddle, L., Donnovan, J., Hawton, K., Kapur, N., & GUnnell, D. (2008). Suicide and the internet. *British Medical Journal, 336*, 800–802.

Cigularov, K., Chen, P. Y., Thurber, B. W., & Stallones, L. (2008). What prevents adolescents from seeking help after a suicide education programme? *Suicide and Life-Threatening Behaviour, 38*(1), 75–86. doi:10.1521/suli.2008.38.1.74

Daine, K., Hawton, K., Singaravelu, V., Stewart, A., Simkin, S., & Montgomery, P. (2013). The power of the web: A systematic review of studies of the influence of the internet and suicide in young people. *PLos ONE, 8*(10), e77555. doi:10.1371/journal.pone.0077555

De Rosa, C., Del Vecchio, V., Del Gaudio, L., Sampogna, G., Luciano, M., Giacco, D., & Fiorillo, A. (2011). Suicide and the internet: A search on Italian websites. *Italian Journal of Psychopathology, 17*(4), 376–382.

D'Hulster, N., & Van Heeringen, C. (2006). Cyber-suicide: The role of the internet in suicidal behaviour. A case study. *Tijdschr Psychiatr, 48*(10), 803–807.

Downs, M. F., & Eisenberg, D. (2012). Help seeking and treatment use amongst suicidal college students. *Journal of American College Health, 60*(2), 104–114. doi:10.1080/07448481.2011.619611

Gunnell, D., Bennewith, O., Kapur, N., Simkin, S., Cooper, J., & Hawton, K. (2012). The use of the Internet by people who die by suicide in England: A cross sectional study. *Journal of Affective Disorders, 141*(2–3), 480–483. doi:10.1016/j.jad.2012.04.015

Hagihara, A., Miyazaki, S., & Abe, T. (2012). Internet suicide searches and the incidence of suicide in young people in Japan. *European Archives of Psychiatry and Clinical Neuroscience, 262*(1), 39–46.

Harris, K., McLean, J., & Sheffield, J. (2009a). Solving suicidal problems online: Who turns to the Internet for help? *Australian e-journal for the Advancement of Mental Health, 8*(1), 1–9.

Harris, K., McLean, J., & Sheffield, J. (2009b). Examining suicide-risk individuals who go online for suicide-related Purposes. *Archives of Suicide Research, 13*, 264–276. doi:10.1080/13811110903044419

Heimberg, R. G., Mueller, G. P., Holt, C. S., Hope, D. A., & Liebowitz, M. R. (1993). Assessment of anxiety in social interaction and being observed by others. The social interaction anxiety scale and the social phobia scale. *Behaviour Therapy, 23*(1), 53–73.

Joiner, T. (2005). *Why people die by suicide*. London: Harvard University Press.

Katsumata, Y., Mtsumoto, T., Kitani, M., & Takeshima, T. (2008). Electronic media use and suicidal ideation in Japanese adolescents. *Psychiatry and Clinical Neurosciences, 62*, 744–746. doi:10.1111/j.1440-1819.2008.01880.x

Kroenke, K., & Spitzer, R. L. (2002). The PHO-9: A new depression diagnostic and severity measure. *Psychiatric Annals, 32*(9), 1–7.

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief depression severity measure. *Journal of General Internal Medicine, 16*(9), 606–613. doi:10.1046/j.1525-1497.2001.016009606.x

Mars, B., Heron, J., Biddle, L., Donnovan, J. L., Holley, R., Piper, M., … Gunnell, D. (2015). Exposure to, and searching for, information about suicide and self-harm on the Internet: Prevalence and predictors in a population based cohort of young adults. *Journal of Affective Disorders, 185*, 239–245. doi:10.1016/j.jad.2015.06.001

Mattick, R. P., & Clarke, J. C. (1998). Development and validation of measures of social phobia, scrutiny fear and social interaction anxiety. *Behaviour Research and Therapy, 36*(4), 455–470.

Mok, K., Jorm, A. F., & Pirkis, J. (2016a). Who goes online for suicide-related reasons? A comparison of suicidal people who use the internet for suicide-related reasons and those who do not. *Crisis, 37*(2), 112–120.

Mok, K., Jorm, A. F., & Pirkis, J. (2016b). The perceived impact of suicide-related internet use: A survey of young Australians who have gone online for suicide-related reasons. *Digital Health, 0*(0), 1–9.

Niezen, R. (2013). Internet suicide: Communities of affirmation and the lethality of communication. *Transcultural Psychiatry, 50*, 303–322. doi:10.1177/1363461512473733

Osman, A., Bagge, C. L., Gutierrez, P. M., Konick, L. C., Kpooer, B. A., & Barrios, F. X. (2001). The suicidal behaviours questionniare-revised (SBQ-R): Validation with clinical and non-clinical samples. *Assessment, 8*(4), 443–454. doi:10.1177/107319110100800409

Ozawa-de Silva, C. (2008). Too lonely to die alone: Internet suicide pacts and existential suffering in Japan. *Culture Medicine and Psychiatry, 32*(4), 516–551. doi:10.1007/s11013-008-9108-0

Padmanathan, P., Carroll, R., Biddle, L., Derges, J., Potokar, J., & Gunnell, D. (2016). Suicide and self-harm related internet use in patients presenting to hospital with self-harm: A cross-sectional study. *The Lancet, 388*, S2.

Recupero, P. R., Harms, S. E., & Noble, J. M. (2008). Googling suicide: Surfing for suicide information on the internet. *Journal of Clinical Psychiatry, 69*(6), 878–888. doi:10.4088/jcp.v69n0601

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. Burgess (Eds.), *Analysing qualitative data* (pp. 173–194). London: Routledge.

Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD. *JAMA, 282*(18), 1737–1744. doi:10.1001/jama.282.18.1737

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory pro- cedures and techniques.* Newbury Park, CA: Sage.

Sueki, H. (2013). The effect of suicide-related Internet use on Users' mental health: A longitudinal study. *Crisis, 34*, 348–353. doi:10.1027/0227-5910/a000201

Till, B., & Nierdenkrotenthaler, T. (2014). Surfing for suicide methods and help: Content analysis of websites retrieved with search engines in Austria and the United States. *Journal of Clinical Psychiatry, 75*, 886–892. doi:10.4088/jcp.13m08861

Westerlund, M. (2011). The production of pro-suicide content on the internet: A counter-discourse activity. *New Media and Society, 14*(5), 764–780.

Westerlund, M. (2013). Talking suicide: Online conversations about a taboo subject. *Nordicom Review, 34*(2), 35–46.

Westerlund, M, Hadlaczky, G., & Wasserman, D. (2012). The representation of suicide on the internet: Implications for clinicians. *Journal of Medical Internet Research, 14*(5), e122. doi:10.2196/jmir.1979

Whitlock, J. L., Powers, J. L., & Eckenrode, J. (2006). The virtual cutting edge: The Internet and adolescent self-injury. *Developmental Psychology, 42*(3), 407–417. doi:10.1037/0012-1649.42.3.407

Wilson, C. J., & Deane, F. P. (2005). Measuring help-seeking intentions: Properties of the general help-seeking questionnaire. *Canadian Journal of Counselling, 39*, 15–28.

Zhang, Y., & Wildemuth, B. M. (2009). Qualitative analysis of content. In B. M. Wildemuth (Ed.), *Applications of social research methods to questions in information and library science* (pp. 308–319). Westport, CT: Libraries Unlimited.

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment, 52*(1), 30–41.

Table 1. Results of t-tests for measures of suicide risk and perceived social support.

Bootstrapped *p*-values are presented because of evidence of non-normal distributions for some

variables

	Suicide-related mean (SD)	Non-suicide-related mean (SD)	*t*	P^1
SBQ-R total[2]	12.5 (2.60)	9.79 (4.66)	2.50	.011
SIAS[3] social anxiety	53.4 (16.2)	43.3 (17.4)	2.212	.023
PHQ[4]	16.7 (6.49)	14.8 (7.27)	1.034	.299
MSPSS[5] Significant other	14.9 (7.38)	18.5 (8.01)	−1.731	.080
MSPSS family	12.4 (6.14)	16.4 (6.49)	−2.380	.017
MSPSS friend	13.2 (6.88)	16.7 (6.44)	−1.985	.054

[1]Bootstrapped p-values are presented because of evidence of non-normal distributions for some variables.

[2]SBQ-R: Suicidal behaviors questionnaire-revised. Scores on this scale ranged from 3to 18with higher scores indicative of greater risk.

[3]SIAS: Social interaction anxiety scale. Scores on this scale ranged from 6 to 80 with higher scores indicative of greater anxiety.

[4]PHQ: Patient health questionnaire, measuring depression. Scores on this scale ranged from 1 to 27 with higher scores indicative of greater depression.

[5]MSPSS: Multidimensional scale of perceived social support. Scores on each of the subscales ranged from 4 to 28 with higher scores indicative of greater support from that source.

Table 2. Results of chi-square tests for perceived barrier endorsement

	Suicide-related user N (%)	Non-suicide-related user N (%)	X^2	p
I prefer to deal with issues on my own	15 (71.4)	24 (52.2)	1.477	.224
I question how serious my needs are	15 (71.4)	25 (54.3)	1.111	.292
I would not know what to say about my problems	15 (71.4)	26 (56.5)	0.794	0.373
I worry about what others will think of me	14 (66.7)	28 (62.7)	0.033	.855
I worry my actions will be documented in academic record	4 (19.0)	7 (15.2)	0.001	.970

Table 3. Frequencies of endorsement for other perceived barriers

	Suicide-related user	Non-suicide-related user
	N(%)	*N*(%)
My family would not support me	7 (33.3)	5 (10.9)
I believe seeking help is for weak people	6 (28.6)	9 (19.6)
I don't want help	3 (14.3)	5 (10.9)
I would prefer to wait for other people to notice my problems and help me	9 (42.9)	6 (13.0)
Service providers aren't sensitive enough to cultural issues	0 (0)	1 (2.2)
The location is inconvenient	1 (4.8)	2 (4.3)
I've had a bad experience with treatment	7 (33.3)	9 (19.6)
I fear being hospitalised	7 (33.3)	13 (28.3)
I worry that someone will notify my parents	7 (33.3)	17 (37.0)
I worry my actions will be documented in medical record	8 (38.1)	14 (30.4)
I question the quality of my options	4 (19.0)	14 (30.4)
I don't think anyone can understand my problems	9 (42.9)	19 (41.3)
I get a lot of support from others, such as family and friends	0 (0)	5 (10.9)
I am concerned about privacy	7 (33.3)	10 (21.7)

The problem will get better by itself	5 (23.8)	10 (21.7)
I question whether medication or therapy is helpful	8 (38.1)	13 (28.3)
I do not know where to get help	0 (0)	6 (13.0)
There are financial reasons	2 (9.5)	7 (15.2)
I don't have time	2 (9.5)	3 (6.5)
Stress is normal in college/graduate school	7 (33.3)	15 (32.6)
The waiting time until I can get an appointment is too long	10 (47.6)	9 (19.6)
The number of sessions is too limited	8 (38.1)	6 (13.0)
Service providers are not sensitive enough to sexual identity issues	2 (9.5)	1 (2.2)