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What is This?

# Online social networking in people with psychosis: A systematic review

**Elizabeth Highton-Williamson, Stefan Priebe and Domenico Giacco**

## Abstract

**Background:** Online social networking might facilitate the establishment of social contacts for people with psychosis, who are often socially isolated by the symptoms and consequences of their disorder.

**Aims:** We carried out a systematic review exploring available evidence on the use of online social networking in people with psychosis.

**Methods:** The review was conducted following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Included studies examined the use of the online social networking by people with an a priori diagnosis of psychosis (inclusive of bipolar disorder). Data from included studies were extracted and narratively synthesised.

**Results:** A total of 11 studies, published between 2005 and 2013, reported data on online social networking in people with psychosis. People with psychosis seem to spend more time in chat rooms or playing online games than control groups. The use of other online tools, such as Facebook or communication through e-mail, is lower or the same than controls. Online social networking was used by patients with psychosis for establishing new relationships, maintaining relationships/reconnecting with people and online peer support.

**Conclusion:** Online social networking, in the form of forums or online chats, could play a role in strategies aimed at enhancing social networks and reduce the risk of isolation in this population.

## Keywords

Psychosis, computer-based communications, social networking, schizophrenia, bipolar disorder

## Introduction

The Internet can be a forum for increasing social contacts (Campbell, Cumming, & Hughes, 2006; Ellison, Steinfield, & Lampe, 2007; Grieve, Indian, Witteveen, Tolan, & Marrington, 2013; Morahan-Martin & Schumacher, 2003; Valkenburg, Schouten, & Peter, 2005). This may be particularly important for people with psychosis (i.e. psychotic and bipolar disorders) who may have diminished social networks comparative to the general population (Erickson, Beiser, Iacono, Fleming, & Lin, 1989; Giacco, 2013; Goldberg, Rollins, & Lehman, 2003; Lipton, Cohen, Fischer, & Katz, 1981) and restricted access to social support beyond the realms of family or mental health services (Beels, 1981; Bengtsson-Tops & Hansson, 2001; Buchanan, 1995; Cresswell, Kuipers, & Power, 1992; Greenblatt, Becerra, & Serafetinides, 1982).

The diminished social relations of people with psychosis may be related to a number of factors: (a) symptom-specific characteristics (Milev, Ho, Arndt, & Andreasen, 2005), (b) deficits in non-verbal communication (Dimic et al., 2010; Lavelle, Healey, & McCabe, 2013) and (c) negative social consequences of illness (Cechnicki, Angermeyer, & Bielanska, 2011; Elgie & Morselli, 2007; Ucok, Gorwood, & Karadayi, 2012; Völter et al., 2012).

With regard to psychotic symptoms, a distinction has been made (Hansen, Torgalsboen, Melle, & Bell, 2009) between *passive social withdrawal* and *active social avoidance. Passive social withdrawal* could be mostly related to negative symptoms (avolition, alogia, anhedonia, blunted affect and attentional impairment). *Active social avoidance* has been linked to positive symptoms (hallucinations, delusions, suspiciousness, thought disorders) and consequent hostility. While the *passive social withdrawal* is specific to schizophrenia and related disorders, high levels of positive

Unit for Social and Community Psychiatry (World Health Organization Collaborating Centre for Mental Health Services Development), Newham Centre for Mental Health, Queen Mary University of London, London, UK

**Corresponding author:**
Domenico Giacco, Unit for Social and Community Psychiatry (World Health Organization Collaborating Centre for Mental Health Services Development), Newham Centre for Mental Health, Queen Mary University of London, London E13 8SP, UK.
Email: d.giacco@qmul.ac.uk

symptoms or hostile behaviours can also be observed in people with bipolar disorder (Azorin et al., 2007; Toomey, Faraone, Simpson, & Tsuang, 1998).

Deficits in non-verbal behaviours and difficulty identifying and engaging with social cues have been identified in people with psychosis (Dimic et al., 2010; Lavelle et al., 2013). Possible negative consequences of the illness-related disability such as unemployment, financial difficulties and stigma, may lead to reduced opportunities for social interactions (Cechnicki et al., 2011; Elgie & Morselli, 2007; Ucok et al., 2012; Völter et al., 2012).

Online social networking may facilitate social interactions for people with psychosis. First, relationships through online social networks do not require the immediate responses that are necessary in face-to-face interactions; this may reduce the difficulties relating to psychotic symptoms which may negatively influence face-to-face contacts (Docherty et al., 1996).

Second, online social interactions may not require the use of non-verbal behaviours especially in the initial stages of interaction (Kiesler, Siegel, & McGuire, 1984). Third, online social interactions may be more fluid and allow for the online network user to come into contact with people from other social groups (Boyd & Ellison, 2007; Campbell et al., 2006; Indian & Grieve, 2014; Morahan-Martin & Schumacher, 2003). Also, the stigma and consequent fears of unpredictable or dangerous behaviours may reduce the face-to-face social contacts of people with schizophrenia and bipolar disorders (Ellison, Mason, & Scior, 2013; Magliano, De Rosa, Fiorillo, Malangone, & Maj, 2004). This may have less influence during online social networking.

However, there have been concerns that online social networking may lead to excessive use of the Internet, sometimes leading to the development of co-morbid Internet addiction (Young, 1998) and less drive to maintain real-world social contacts (Davis, 2001; Kraut et al., 1998; Murali & George, 2007). Problematic Internet use may be associated with lower levels of offline social support (Caplan, 2002; Davis, 2001; Kraut et al., 2002) and therefore may apply in particular to those belonging to vulnerable populations, including people with psychosis.

An understanding of whether, and if so, how online social networking is used by people with psychosis may help to establish whether online tools can be part of strategies to increase social support for them.

Therefore, in this study, we aim to review for the first time the available evidence on the use of online social networking (i.e. any social interaction occurring online) in patients with psychosis.

We will explore data available in the literature to answer the following two research questions:

1.  What are the existing data on the use of online social networking in people with psychosis? Has any difference been identified between people with psychosis and other clinical/non-clinical populations?
2.  For what purposes do people with psychosis use online networking?

## Methods

### Search strategy

We systematically searched through the electronic databases MEDLINE, Embase, PsycINFO, Web of Knowledge, British Nursing Index (BNI) and Cumulated Index to Nursing and Allied Health Literature (CINAHL). The last search was on the 21 January 2014. Search terms were a mixture of online networking tools descriptors, mentally ill patient descriptors and outcomes: (*Internet* OR *web* OR *online\** OR *chat* OR *forum* OR *Facebook* OR *Twitter* OR *Instagram* OR *email* OR '*second life*' OR *virtual* OR '*social media*' OR '*social networking*') AND (*psychosis* OR *schiz\** OR '*affective disorder*' OR *bipolar* OR '*mood disorder*') AND (*friend\** OR *acquaint\** OR *relation\** OR *support* OR *sharing* OR *compan\** OR *social*). Grey literature databases (Proquest and Ethos) were searched using the above search terms. Studies were also identified through citations from relevant literature reviews investigating online social networking use in people with mental illness.

All potential studies were exported into a reference citation manager. Duplications were removed. All titles were screened for inclusion by two reviewers (E.H.W. and D.G.). The abstracts of the selected studies were subsequently screened for inclusion by E.H.W. with a random selection of 25% of the abstracts (compiled by an online number generator) also screened by D.G.

Included studies examined the use of the online social networking by people with an a priori diagnosis of psychosis (inclusive of bipolar disorder). Studies that used alternative diagnostic classifications or self-report diagnoses were translated into the appropriate International Classification of Diseases – 10th version (ICD-10) (World Health Organization, 2008) code of F20–F29 and F31. For example, schizotypal disorder was considered as one of the psychotic disorders according to ICD-10, while it is part of personality disorders in the Diagnostic and Statistical Manual IV and V Editions (American Psychiatric Association, 2000, 2013). We included studies exploring any type of online social networking (defined as any social interaction occurring online), on any type of online social networking site (SNS), with the exception of interactions between participants and mental health professionals. Similarly, studies were excluded if they were examining online psychological or psychosocial interventions (including exclusion of online interventions with a social networking component). We were inclusive of any comorbidity; all study designs; all ages, genders or nationalities; any publication year or language.
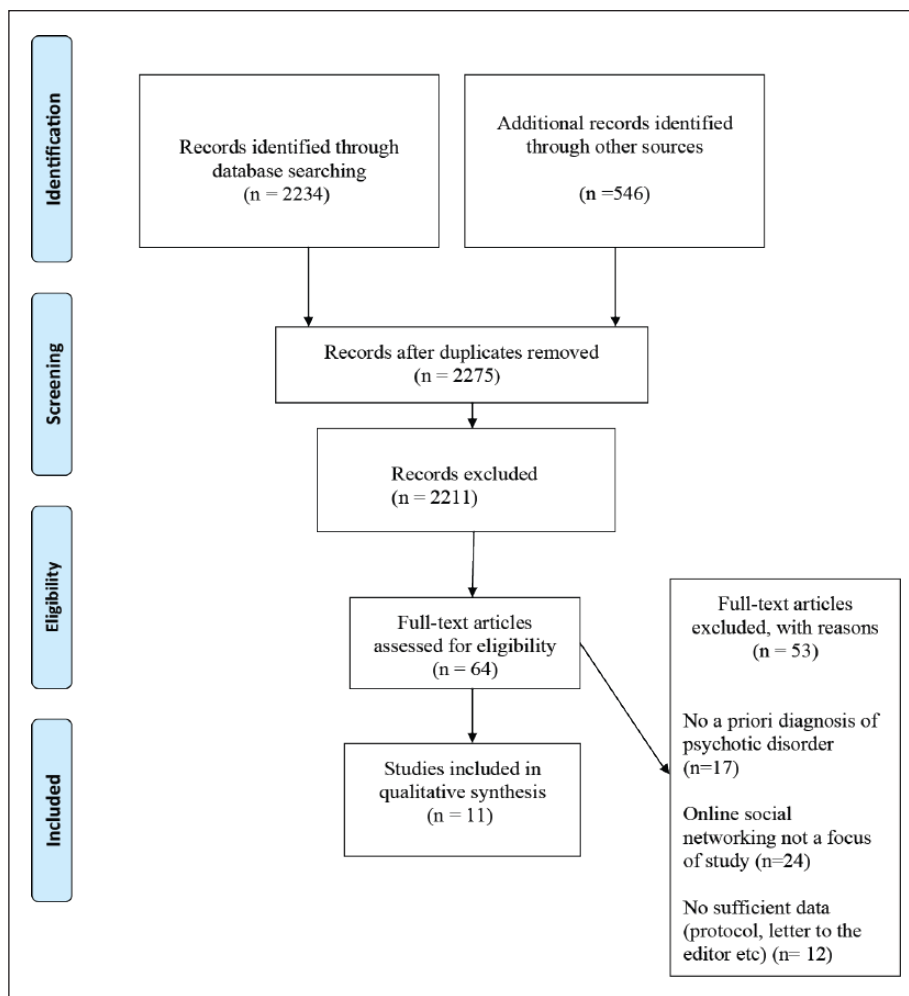
**Figure 1.** PRISMA Diagram.
PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Selected full-text articles were then obtained for the final screening. Final study selection was completed by two independent reviewers (E.H.W. and D.G.) with a third reviewer (S.P.) available to resolve disagreements. Details of the included studies are summarised in Table 1.

The details of the selection procedure are displayed in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) (Moher, Liberati, Tetzlaff, & Altman, 2009) diagram (Figure 1).

### Data extraction

Data extraction was completed independently by one reviewer (E.H.W.) and checked by a second reviewer (D.G.) with a third reviewer adjudicating in the event of disagreement (S.P.).

The data extraction tool was piloted to ensure adequate documentation of the qualitative and quantitative components of the included studies. Once finalised, data were extracted on study design, patient characteristics, aims, methods and findings, as well as extracting data specific to

the research questions. Data examining the specific usage of online social networking (e.g. differences between clinical and non-clinical populations in Internet usage and type of online/offline social relationships) were collated, and differences in study findings were identified.

A preliminary synthesis allowed for the grouping of studies according to the similarity in type of online social network and type of online social relationship. This preliminary grouping was then explored further, and the main themes emerging from the articles relating to the purpose of online social networking use were identified independently by E.H.W. and D.G. Results were then narratively synthesised.

## Results

### Selection of studies

A total of 2,780 records were retrieved. After the removal of duplicates and the application of inclusion and exclusion criteria on abstracts, 64 full-text papers were

**Table 1.** Included studies (in chronological order).

| Author | Daley et al. | Haker et al. | Mittal et al. | Schielein et al. | Chang | Vayreda and Antaki | Schrank et al. | Spinzy et al. | Veretilo and Billick | Bauer et al. | Martini et al. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Publication year | 2005 | 2005 | 2007 | 2007 | 2009 | 2009 | 2010 | 2012 | 2012 | 2013 | 2013 |
| Paper type | Full paper | Full paper | Full paper | Full paper | Full paper | Full paper | Full paper | Brief report | Full paper | Full paper | Full paper |
| Country | United States | Switzerland | United States | Germany | Taiwan | Spain/United Kingdom | Austria | Israel | United States | Germany | Brazil |
| Study Design | Case Study | Observational | Observational | Observational | Observational | Qualitative | Qualitative | Observational | Case study | Observational | Observational |
| Sample Size (clinical population) | 1 | 467 | 69 | 1200 online postings | 438 | 14 | 26 | 143 | 1 | 2262 online postings | 30 |
| Diagnosis | Refractory psychosis; neurological illness | Schizophrenia/psychosis | Schizotypal personality disorder (n=19) | Bipolar disorder | Psychosis | Bipolar disorder | Schizophrenia or schizoaffective disorder | F20–F29 (psychotic disorders) | Bipolar disorder I | Bipolar disorder I or II | Bipolar I or II (not in acute mood episode) |
| Diagnosis Formally Assessed | Yes (hospitalised patients, DSM IV) | No (patient self-report) | Yes (SCID-I[a] + BDI[b]) | No (patient self-report) | No (patient self-report) | No (patient self-report) | Yes (ICD-10) | Yes (ICD-10) | Yes (hospitalised patients, DSM IV) | No (patient self-report) | Yes (SCID) |
| Control Group | No | No | Yes 1. Other personality disorder (n=22) 2. healthy c. (n=28) | No | No | No | No | Yes 1. Affective and anxiety disorders (n=118) 2. healthy c. (n=100) | No | No | Yes 1. Healthy (n=30) |
| Type of online social networking tool | Chat rooms/social Internet use | Forums | Non-specific social Internet use | Forum | Forum | Forum | Non-specific social Internet use | Non-specific social Internet use | Facebook | Forums | Facebook |
| Purpose of online social networking | Establishing new contacts | Peer support | Establishing contacts/maintaining contacts (unclear) | Establishing contacts/peer support | Peer support | Peer support | Peer support | Establishing contacts | Re-establishing relationships | Peer support | Establishing contacts/maintaining contacts (unclear) |
| Type of relationships established | Friendship | Relations with peers | Acquaintance/gaming | Relations with peers | Relations with peers | Relations with peers | Relationships with peers | Virtual/Real life/Romantic | Friendship/Family relationships | Relations with peers/Friendships | Close contacts/acquaintances |
| Setting of relationship | Online to offline | Online | Online | Online | Online | Online | Online | Online/Offline | Online to offline | Online | Online/Offline |

SCID: Structured Clinical Interview for DSM Disorders; DSM: Diagnostic and Statistical Manual of Mental Disorders; ICD: International Classification of Diseases.
[a]SCID: Structured Clinical Interview for DSM Disorders
[b]Becks Depression Inventory.

examined. A total of 11 studies (please see Table 1) reported data on online social networking of people with psychosis, that is, psychotic disorders (ICD-10 codes: F20–F29) and bipolar disorder (F31).

## Characteristics of studies

The characteristics of the 11 included studies, diagnosis of study participants and type of online social networking assessed are summarised in Table 1. The included studies were published between 2005 and 2013. The total number of patients with psychosis assessed in 9 of the 11 included studies was 1,189. Two studies (Bauer, Bauer, Spiessl, & Kagerbauer, 2013; Schielein, Schmid, Dobmeler, & Spiessl, 2008) were analyses of postings of carers, patients and professionals, with no mention of how many individual patients were assessed. Two studies were case reports (Daley et al., 2005; Veretilo & Billick, 2012). Three studies had more than 100 participants (Chang, 2009; Haker, Lauber, & Rössler, 2005; Spinzy, Nitzan, Becker, Bloch, & Fennig, 2012). The largest study (*n* = 467) (Haker et al., 2005) was an observational study.

*Use of online social networking by people with psychosis and differences with control populations.* The individual case studies suggest that people with psychosis use online SNSs (Daley et al., 2005; Veretilo & Billick, 2012). Observational studies examining forum use suggest that people with psychosis are utilising these online SNSs to engage in online social interactions (Bauer et al., 2013; Chang, 2009; Haker et al., 2005; Schielein et al., 2008; Vayreda & Antaki, 2009). Five studies empirically investigated whether people with psychosis use online social networking (Bauer et al., 2013; Martini et al., 2013; Mittal, Tessner, & Walker, 2007; Schrank, Sibitz, Unger, & Amering, 2010; Spinzy et al., 2012) with three studies directly comparing this usage to other populations (Martini et al., 2013; Mittal et al., 2007; Spinzy et al., 2012).

Very variable rates of Internet usage were found in different studies. Specifically:

- Schrank et al.'s (2010) qualitative study reported that 14 out of 26 schizophrenia participants stated having used online SNSs.
- Haker et al. (2005) and Bauer et al. (2013) reported that majority of postings within online self-help forums for bipolar disorders were written by patients and only few postings by carers and professionals.
- Mittal et al. (2007) reported that the schizotypal disorder group spent significantly more time using the Internet than the other personality disorder group and healthy controls. The schizotypal disorder group did spend significantly more time in chat rooms and playing online games despite having less offline social contacts. The time spent in chat rooms

and online gaming was significantly associated with increased symptoms (relating to schizotypal disorder). There was no difference in time spent on e-mail between the three groups.

- Spinzy et al. (2012) found that symptom severity (relating to psychotic symptoms) was significantly correlated with reduced access and usage of the Internet. However, in proportion, there was potentially more time spent using online social networking in the psychotic disorders group, despite the reduced Internet access.
- Martini et al. (2013) reported that the bipolar disorder group had poorer knowledge of online SNS terminology, fewer friends on Facebook (as well as fewer friends offline), less frequent Internet use and fewer digital devices than healthy controls.

*Main purposes for use of online social networking by people with psychosis.* Identified purposes for using online social networking were establishing new relationships, maintaining relationships/reconnecting with people and online peer support. Three studies examined whether these relationships did translate into offline relationships. (Daley et al., 2005; Spinzy et al., 2012; Veretilo & Billick, 2012).

*Establishing new relationships.* The potential of the Internet in enabling patients with psychosis to establish new social contacts arose in four studies (Bauer et al., 2013; Daley et al., 2005; Mittal et al., 2007; Schielein et al., 2008; Spinzy et al., 2012; Veretilo & Billick, 2012). The consequent relationships included friendships, acquaintances (playing online games together), romantic relationships and relationships with fellow patients (see Table 1). Conversely, there were also indications of a negative relationship between online social networking and establishing relationships (particularly with regard to offline social contacts) in two studies. Specifically:

- Schielein et al. (2008) showed that the bipolar disorder patients used self-help forums more to build social networks than to speak about their symptoms.
- Spinzy et al. (2012) showed that 78%–80% of the psychotic disorder group expressed a wish to establish social connections, as well as reporting having significantly fewer friends compared to the other disorders group and the healthy controls. A stronger correlation between creating virtual relationships and real-life relationships through the Internet was observed in people with psychosis compared to controls.
- Mittal et al. (2007) reported the schizotypal disorder group having fewer offline friends than both the other personality disorder group and healthy controls. A significant negative correlation between

offline friendships and time spent in chat rooms was also reported, and a negative trend was found between offline friendships and time spent using online games.

- Martini et al. (2013) found that the bipolar disorder group had fewer close contacts and fewer acquaintances than healthy controls in both online (Facebook) and offline settings, but this was not influenced by symptoms.
- Bauer et al. (2013) reported that there were expressions of 'friendship' between self-help forum users in a small but relevant percentage (23%) of the online postings.
- Daley et al. (2005) reported within their case study that an adolescent patient diagnosed with psychosis (co-morbid with epilepsy) met a boy in a chat room (relating to his neurological disorder) with whom he established a relationship which continued to develop into a close offline relationship.

*Maintaining relationships/reconnecting with people.* One case study by Veretilo and Billick (2012) reported the beneficial effect of the use of an online SNS (Facebook) for a bipolar patient with high social disability. Using online social networking, this patient could re-establish contact with some friends and also with his son and ex-wife that translated into offline contacts (talking to the phone, going to the movies, dinner, etc.).

*Peer support.* Five studies examined opportunities for patients with psychosis to find peer support through the Internet (Bauer et al., 2013; Chang, 2009; Haker et al., 2005; Schrank et al., 2010; Vayreda & Antaki, 2009). The peer support consisted mainly of receiving information on their illness and its treatment and on sharing experiences with fellow patients. Online forums were also used for discussion around the social-emotional aspects of having a diagnosis (Bauer et al., 2013). Specifically:

- Haker et al. (2005) reported that people with psychosis used online self-help forums predominately for 'disclosure of personal experiences', 'providing and requesting information', describing 'symptoms' and discussing 'medication'. Other users (relatives) predominately provided information and discussed issues surrounding 'resources', 'social networks', 'substance abuse' and 'legal issues'.
- Vayreda and Antaki (2009) reported that people within a bipolar disorder forum (specifically examining new users) use the forum to ask for help (not advice) about their illness.
- Chang (2009) analysed communication patterns in an online psychosis support group and reported five types of social support provided/received by/from peers: (1) 'informational support', that is,

information on medication, how to contact psychiatrists/psychologists and health institutions; (2) 'esteem support', that is, positive comments to acknowledge patients' abilities or to alleviate feelings of guilt; (3) 'network support', that is, companionship and sharing of similar experiences; (4) 'emotional support', that is, understanding of a situation, expressing sorrow for the support seeker's circumstances and proving them with hope or confidence and (5) 'thanks', that is, expressing gratitude for support received.

- Schrank et al. (2010) reported the way in which illness-related interactions with others contributed to increased self-esteem and reassurance, particularly through discussing experiences and receiving useful information from their peers anonymously on the web. However, only a minority of participants interviewed (5 out of 26) cited using the Internet to interact with others about their illness. Several concerns were cited by study participants: fear of Internet addiction, distrust of other people and wanting to protect themselves from potentially harmful or 'dramatic' illness stories.
- Bauer et al. (2013) reported that patients employed self-help mechanisms such as 'disclosure' to discuss their experiences of having a diagnosis of bipolar. The notion of being part of larger online group ('online group cohesion') was also expressed by patients as well as providing one another with empathy and support. The most frequently discussed topic by patients was their 'social network'. Posts relating to the illness (medication, symptoms) and financial issues (e.g. financial, legal and housing issues) were also frequently discussed.

## Discussion

### Main results

People with psychosis seem to use the Internet more frequently than control groups for the purposes of social networking, spending more time in chat rooms or online games, despite having fewer offline social contacts. However, participation seemed to vary across studies. Some studies suggested that people with psychosis (specifically bipolar disorder and schizotypal disorder) may find e-mail (Mittal et al., 2007) or Facebook (Martini et al., 2013) less preferable than other online social networking tools. Online networking through e-mail and Facebook may be used predominately to connect with an *existing* social network, which is usually poorer in people with psychosis (Mittal et al., 2007).

Both cross-sectional and qualitative studies have identified that the reasons for online social networking in patients with psychosis are predominately establishing

new contacts (either resulting in offline interactions or not), re-connecting with people they had lost contact with and finding/providing peer support.

## Strengths and limitations

This review has, for the first time, reviewed the available literature on the use of online social networking of people with psychosis. It used a systematic way of approaching and collating the literature. The search strategy allowed capturing and screening of a large number of studies, with evidence from several hundred people with psychosis, from different countries. In order to minimise the possibility of missing relevant data, different researchers independently reviewed the data. No language restrictions were adopted, and, when needed, the first authors of the papers were contacted to clarify ambiguous information.

However, there are several limitations which should be considered in the interpretation of our results. First, a comparison of the results of the included studies could only be carried out narratively, owing to inconsistency of designs and methods across studies, and the literature in the field is still scarce.

Second, the review focused on the use of online social networking of people who had already received a diagnosis of psychosis. This strategy was adopted in order to guarantee homogeneity of the findings and specificity of our results to clinical populations. However, it led us to exclude studies where the use of online social networking preceded a formal diagnosis.

Third, we used a definition of psychosis which includes both schizophrenia-related disorders and bipolar disorders (Reininghaus, Priebe, & Bentall, 2013). While this was adopted to be inclusive of all types of psychotic disorders, specific differences between people with schizophrenia and those with bipolar disorders in accessing and using online social networking may still exist. Similarly, there was no formal assessment of diagnosis within five of the included studies, and diagnosis type in these cases was reliant on self-report.

Fourth, the findings related to the research question 'for what purposes do people use online social networking' might have been influenced by the type of online SNSs which are considered in the reviewed studies.

## Comparison with the literature

### Use of social networking in people with psychosis and comparison with other clinical/non-clinical populations.
There is preliminary evidence from a small number of studies, comparing different populations (schizotypal disorder, psychotic disorder, bipolar disorder) with healthy controls (Martini et al., 2013; Mittal et al., 2007; Spinzy et al., 2012). The heterogeneity of the included studies makes it difficult to assert the way people with psychosis use online

social networking compared to other clinical and non-clinical populations. Individual differences in both clinical and non-clinical populations (i.e. personal preference, computer literacy, access to other social contacts) will undoubtedly play a role in their own preference for online social networking.

These individual differences were not conclusively identified in this review and require further investigation. There may be a few possible avenues of investigation:

1. *Availability and accessibility of the Internet.* Reduced accessibility to the Internet was identified in people with schizotypal disorder (Spinzy et al., 2012). Socio-economic status, age and education can influence the availability of online tools (Finn, 1999) and their use for social contacts.

2. *Co-morbid social anxiety.* People with psychosis have shown high levels of social anxiety (Michail & Birchwood, 2009). Online social networking has been suggested to be a less threatening medium for people with social fear and anxiety (Campbell et al., 2006; Indian & Grieve, 2014; Pierce, 2009) and therefore may be more preferable in those with psychosis who exhibit social anxiety as well.

3. *Interpretation of the anonymity of online social networks.* In many, the anonymity of the online environment could allow for a degree of personal disclosure and openness which may be hindered in offline social interactions (Bauer et al., 2013; Kummervold et al., 2002). This is of particular relevance when thinking about patients with stigmatised illnesses (Berger, Wagner, & Baker, 2005; Cechnicki et al., 2011) and may encourage some people with psychosis to engage in online social networking. However, patients with schizophrenia may also be wary about sharing information in an anonymous online setting (Schrank et al., 2010), and this 'anonymity' could in fact lead to a possible increase in psychotic symptoms alongside the exacerbation of paranoid thoughts.

### Risks related to use of social networking tools.
We found little evidence in the studies on people with psychosis for the risk of social isolation related to excessive use of online social networking. Only one study, assessing a specific population of patients with psychosis, that is, those with schizotypal disorder (Mittal et al., 2007), reported a correlation between less offline social contacts and use of online social networking. Since the study had a cross-sectional design, it is not possible to disentangle whether social networking use was a cause or a consequence of social isolation (Mittal et al., 2007).

No studies found evidence of bullying or online harassment to be experienced or inflicted by patients; one reported few 'negative statements' in online forum postings (Haker

et al., 2005). Case reports have shown stalking behaviours (Krishna et al., 2013) and emergence of psychotic symptoms with content related to online social networking (Nitzan, Shoshan, Lev-Ran, & Fennig, 2011) in people who had not previously received a diagnosis of psychosis.

It needs to be emphasised that risks of online social networking were not the primary research question in any of the identified studies. Risks of online social networking in clinical populations of people with psychosis need to be more systematically explored, particularly when assessing the outcomes of online interventions including a social networking component.

## Implications

The difficulties of the patients with psychosis in establishing and maintaining social networks, related to negative symptoms, deficits in non-verbal behaviours and social dysfunctioning (Giacco et al., 2012; Lavelle et al., 2013; Ucok et al., 2012; Völter et al., 2012), may not constitute significant hurdles to online social networking.

Online forums or chat rooms could facilitate the establishment of new social relations for patients who have fewer offline contacts. Online social networking may be used alongside strategies such as social connection projects and standard befriending schemes (Hallett, Klug, Lauber, & Priebe, 2012). Enhancing social networks may provide people with psychosis support to cope with life stressors potentially leading to relapse and poor outcomes (Jorm, 2005; Sias & Bartoo, 2007).

However, the balance between risks and benefits needs to be more firmly established before clinicians begin to formulate if and how to use social networking to strengthen social networks of socially isolated patients.

Key questions should be addressed with experimental studies, that is, (a) what is the best social networking tool to be used for people with psychosis in terms of benefits/risks profile and (b) whether (and which kind of) online social contacts can become supportive offline relationships.

## Conflict of interest

## Funding

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