

Internet-related Delusional Disorder

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Objective: We report a case of internet-related delusional disorder and review the psychiatric literature of 16 reported cases from 1997 to 2005. **Case report:** This 18-year-old female student claimed that her virtual boyfriend who she had never met suddenly lost contact and that another internet acquaintance had sent messages relating the suicide of her boyfriend, his parents and grandparents. The delusion was also associated with major depressive episode. The internet-related delusion and depressive disorder showed good response to combined treatment by pharmacotherapy and psychotherapy in four weeks. **Conclusion:** The present case and our review of the literature suggest that the internet can have specific influences on the etiology, form and implications for the management of delusional disorders. Internet-related delusion, just like internet addiction may represent a novel form of psychopathology.

Key words: delusion, internet
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Introduction

The worldwide availability of the internet has brought significant changes to commerce and social communication. It has become one of the most common ways of communication and is regularly referenced in commercials, academic studies and any kind of news. Therefore, internet might feature as a central theme of delusions. Our review of the literature found 16 cases of internet-related delusion were reported during the period from 1997 to 2005 [1-9]. As internet addiction had gradually been accepted as a novel form of psychopathology [10], internet-related delusions might also represented a new form of psychopath-

ology [2]. We report a case of psychotic symptoms highly related to the internet and review the reported literature on this condition.

Case Report

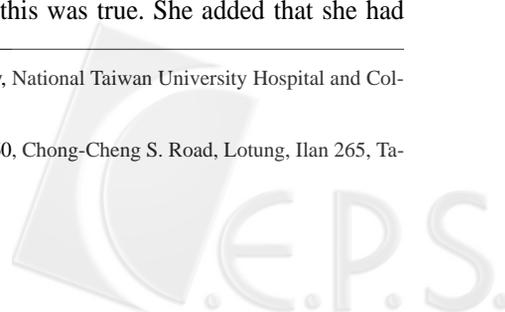
An 18-year-old female senior high school student was brought to the outpatient clinic by her mother due to problems including crying all night, social withdrawal, frequent absence from school and deteriorated school performance for three months.

She stated that she had done something wrong to her French boyfriend, which had made him commit suicide three months ago. She believed that this was true. She added that she had

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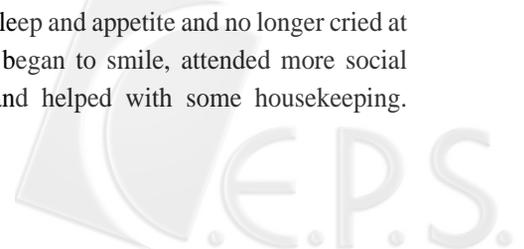
met her boyfriend on the internet for three years and had contact with him only by email everyday. She described having fell in love with him and that this was her first love of her life. She described romantic responses from him via e-mail. After a short-term honeymoon period during the first 3 months of their relationship, however, he frequently argued that she had an irresponsible manner and always delayed her replies to his e-mail. But she also noted that they still had many precious memories.

The patient reported that she and her boyfriend had one mutual female friend who also contacted with them by e-mail frequently. She claimed that three months prior to her visit to our clinic, her boyfriend abruptly lost contact with her and their mutual female friend suddenly sent a message to her that he had committed suicide because she did something irresponsible to him. A few days later, she described that their female friend sent another message again that both of her boyfriend's parents had also committed suicide due to the boyfriend's suicide. A few days later, a third message was sent that her boyfriend's grandparents on his father's side had also committed suicide due to the suicide of her boyfriend's parents. She reported feeling extremely guilty that these five suicides were all her fault and that these events had led to the onset of a deep depressive state manifested by her reluctance to eat, sleep, and talk. She described hiding in her bedroom and crying till midnight and poor motivation to attend the school. She reported planning to commit suicide, later. She suffered from depressed mood, loss of interest, poor concentration, guilty delusion, strong suicidal idea, insomnia, poor appetite with body weight loss (3 kg in three months), lack of energy and psychomotor retardation. These symptomatic manifestations persisted for three months and fulfilled the Diagnostic and Statistical

Manual, 4th edition (DSM-IV) criteria of major depressive episode [11].

She described having spent at least one hour daily communicating with her boyfriend via the internet. She confessed that she had never met her boyfriend or the female friend who sent the messages about the serial suicidal events. Nevertheless, she insisted that all of these individuals were real and the events were true, even under firm persuasion and clear explanation by her family and teachers. She did not receive any further messages from her two internet companions after these events and so could not demonstrate their existence. She described that they had vanished from the internet and she became delusional and depressed.

She did not have any previous history of psychiatric disorder or major medical disorder. There was no family history of psychotic or depressive disorders. She attended a local public senior high school and had a regular school life with average school performance before this episode. Despite explanation and guidance based on common sense reality, this patient firmly believed that this internet-related tragedy of suicidal events had occurred and that it was all her fault. Delusional disorder, internet-related and depressive disorder, NOS were diagnosed based on DSM-IV criteria [11]. In addition to supportive psychotherapy and educational guidance, combined pharmacotherapy with aripiprazole 10 mg daily and citalopram 20 mg daily was given for four weeks. The patient's internet-related delusional symptoms gradually remitted and she no longer felt guilty again. She also reported that she could not remember the details about the internet-related events and did not want to think about this troublesome experience. She had improved sleep and appetite and no longer cried at night. She began to smile, attended more social activities and helped with some housekeeping.



She planned to quit school temporarily to release stress due to her academic requirements and decided not to use the internet temporarily for her psychological wellbeing.

Discussion

Our review of published cases of internet delusion revealed that the presentation of delusions involving the internet may vary considerably. (Table 1) The role of the internet in such delusional beliefs is largely confined to two major themes. The first theme is the use of the internet as an explanatory tool to account for unusual experiences, such as experiences of being controlled, auditory hallucination or having one's thoughts read. The second theme is the supposed use of the internet by people who are thought to be conspiring against the affected person.

Analysis of the contents of presentation revealed that almost all of the cases had a persecutory nature manifested by claims of being controlled, threatened, spied on, followed, monitored, conspired against or having thought broadcasted. Comorbid psychiatric disorders included schizophrenia spectrum disorders in eight cases were, bipolar affective disorder in two, body dysmorphic disorder in one, but were not clearly reported in five cases. Nine cases were male and seven were female. The age ranged widely from 19 till 64.

Our patient was relatively young (18-years-old) and was clearly delusional. She used the internet without transmission of photographs as a daily routine and had developed a virtual love relationship. Overindulgence led to the development of a romantic fantasy involving a romantic intimate relationship with feelings of love and excitement. It is unclear what event precipitated the patient to believe that she had a boyfriend from a foreign country and that he had a female friend

who delivered the messages about suicides. It is also unclear the extent to which she had developed actual virtual relationship. The patient could certainly not be considered responsible for having caused the serial suicides which she described and her narrative suggested the events were false and impossible due to lack of sound objective reasoning and evidences. She had delusional conviction that a series of suicides were all her fault. This led to the diagnosis assignment of delusional disorder. The manifestations of the process of pathological grief reaction with guilty delusion were sufficient for the diagnosis of major depressive episode.

Stompe et al [12] considered that socio-cultural influences on delusional presentation can be broken down into a number of levels, all of which could be susceptible to the influences of cultural and social setting. They reported that technical innovations only affect the final stages (concretization) of a multi-stage pathological process that culminates in the formation of a delusion. Therefore they suggested that the influence of a technology such as the internet is relatively unimportant as an etiological factor in psychosis.

Vaughan et al [9] suggested that the internet may not only simply affect the epiphenomenal manifestations of the underlying biological sign, but also create the etiology and form of psychopathology. This kind of psychopathological process has implications for the clinical management of the resulting symptomology. Catalano et al [2] postulated that a lack of knowledge about the relevant technology may fuel internet-themed delusions. Based on their successful treatment of internet delusion using cognitive behavioral therapy, Vaughan et al [9] concluded that using both didactic and interactive exploration of the internet could dispel magical notions about internet technology, and this was of therapeutic value. Besides, Duggal et al [5] suggested that the presence of internet-

Table 1. Reported Cases of Internet-related Delusion

Reference	Age	Sex	Psychiatric Diagnosis.	Reported Internet-related Delusion
Case 1 Tan et al [1]	27	M	Body dysmorphic Disorder	His wife was controlled by the internet, Neighbor putting his information online
Case 2 Catalano et al [2]	40	M	Not reported	mind and body controlled by the internet Sex photograph/video of him/girl friend on the internet
Case 3 Catalano et al [2]	41	M	Not reported	He was a witch and searched for other witches online Received magnetism from the internet everyday
Case 4 Podoll et al [3]	32	M	Paranoid Schizophrenia	Internet message threatening to expose his use of internet pornography
Case 5 Podoll et al [3]	19	M	Paranoid Schizophrenia	Bill Gates destroying his files, spying on him and following him, personal files duplicated and broadcasted over the internet beyond his control
Case 6 Kobayashi et al [4]	57	F	Schizoaffective disorder	Voice commanding, sent by a satellite and transmitted via the internet
Case 7 Duggalet al [5]	31	M	Paranoid Schizophrenia	Sister-in-law controlling his thoughts and actions, sending voices and reading his thoughts via the internet
Case 8 Margolese et al [6]	26	M	Schizophrenia	Being followed by internet chat-rooms devoted to him, Several well-known websites dedicated to him because of similarities between his name and theirs
Case 9 Compton et al [7]	53	F	Not reported	Internet controlling her by implanted microchips and home appliances for the past three years
Case 10 Compton et al [7]	21	F	Not reported	Her photographs and recordings distributed on the internet
Case 11 Compton et al [7]	64	F	Not reported	Being followed by "www"(world wide web) people
Case 12 Schmid-Siegel et al [8]	36	F	Paranoid schizophrenia	Chip implanted in her brain broadcasting what she saw by web-cam to the internet
Case 13 Vaughan et al [8]	31	F	Bipolar affective disorder	Found secret information about Al-Qaeda terrorist network being monitored by internet and phone calls: bugged by microphones and concealed cameras
Case 14 Vaughan et al [8]	42	M	Schizophrenia	Pornography and indecent images being distributed across the internet by secret organizations
Case 15 Vaughan et al [8]	36	F	Bipolar affective Disorder	Her photographs /videos being transmitted across radio, television and internet
Case 16 Vaughan et al [8]	19	M	Schizophrenia	Internet being used to tell others about his secret
Case 17	18	F	Delusional disorder Depressive disorder, NOS	Delusion of virtual boyfriend's suicide associated This report with major depressive disorder

themed delusions may be a specific prognostic indicator. They noted that cognitive therapy was particularly effective in treating the delusional belief, largely because of the ease by which reality testing by collaborative empiricism can be used in therapy. These reports suggest that technological concepts may have specific influences on the etiology, form and implications for the clinical management of patients with such delusional beliefs.

The internet is now widely used in Taiwan, and nearly all students and workers used the internet as a routine activity. Our patient was well acquainted with the process of internet, but she still developed magical notions from internet technology. The failure of her family, teachers and psychiatrists to persuade her of the false nature of her delusional beliefs, however, led to an increasingly severe condition.

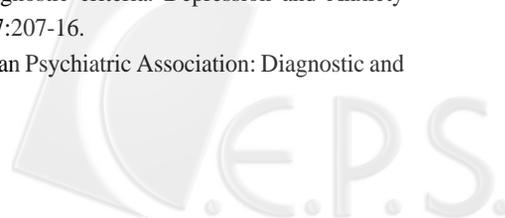
This patient had elaborate delusions about a tragedy involving a virtual boyfriend from a foreign country who suddenly vanished and another virtual female friend who acted as a messenger about serial suicides of her boyfriend and his family. The concealed crucial aspects of the delusions (all of the characters died for her fault) led to the creation of tension and drama. The virtual aspects of this patient's delusions were characteristic of their false and emotion-laden nature. Both of these emotional elements could dramatically affect the life and spirit of an individual. Our review of reported cases of delusions involving the internet suggested a possible pathway by which the virtual world of the internet can be incorporated into delusions. The need for a clear self-awareness and attention to avoiding situations which may precipitate such delusions should be emphasized.

Our review of the literature revealed a lack of information regarding the prognosis of internet delusion. Two of the reported cases showed good response to cognitive behavioral therapy. The in-

ternet-related delusion in this case showed good response to combined treatment with the antipsychotic aripiprazole and the antidepressant citalopram in four weeks suggesting that there might be a psycho-physiological component in the morbid state, other than the patho-psychological problem of internet-related delusion.

References

1. Tan S, Shea C, Kopala L: Paranoid schizophrenia with delusions regarding the internet. *J Psychiatry and Neuroscience* 1997;22:143.
2. Catalano G, Catalano MC, Embi CS, Frankel RL: Delusions about the Internet. *Southern Med J* 1999;92:609-10.
3. Podoll K, Habermeyer E, Noller B, Ebel H, Sass H: The internet as a delusional topic in paranoid schizophrenia. *Nervenarzt* 2000;71:912-4.
4. Kobayashi T, Okada Y, Nisijima K, Kato S: "Internet delusion" in a patient with a schizoaffective disorder. *Can J Psychiatry* 2001;46:89-90.
5. Duggal HS, Jagadheedshan K, Nizamie H: "Internet delusion" responsive to cognitive therapy. *Indian J Psychiatry* 2002;44:293-6.
6. Margolese HC, Chouinard G, Beauclair L, Miller R: Using the rating scale for psychotic symptoms to characterize delusions expressed in a schizophrenia patient with "Internet psychosis". *Can J Psychiatry* 2002;47:485.
7. Compton MTL Internet delusions. *Southern Med J* 2003;96:61-3.
8. Schmid-Siegel B, Stompe T, Ortwein-Swoboda G: Being a webcam. *Psychopathology* 2004;38:84-5.
9. Vaughn B, Ethan G, Cara M, Peter WH, Hadyn DE: "Internet delusions": A case series and theoretical integration. *Psychopathology* 2005;38:144-50.
10. Shapira NA, Lessig MC, Goldsmith TD, et al.: Problematic internet use: proposed classification and diagnostic criteria. *Depression and Anxiety* 2003;17:207-16.
11. American Psychiatric Association: Diagnostic and



Statistical Manual, 4th ed. (DSM-IV), Washington DC, 1994.

12. Stompe T, Ortwein-Swoboda G, Ritter K, Schanda

H: Old wine in new bottles? stability and plasticity of the contents of schizophrenic delusions. Psychopathology 2004;36:6-12.



網際網路相關妄想症

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目的：報告一位網際網路相關妄想症案例，並回顧從 1997 至 2005 年，文獻上所報告的 16 位個案。**病例報告：**一位 18 歲的女性聲稱交往三年的法國男網友突然失去聯絡。不久，從網路傳來數通有關其法國男友、男友之父母及祖父母因她的過失相繼自殺。個案對此網路事件深信不疑，因而陷入罪惡妄想及重鬱

症。經過門診支持性心理治療與藥物治療四週之後，其妄想及重鬱症狀已明顯緩解。**結論：**由於這些個案研究報告顯示，新科技概念對此類特殊妄想之病因、形式及臨床治療有特殊的影響。因此網際網路相關妄想，如同網際網路成癮，可能漸漸會被接受成為一種新興的精神病理類型。

關鍵詞：妄想症，網際網路
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