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Effects of Social Media Use on Erotomanic Delusional Disorder

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ABSTRACT

Primary erotomania, or erotomanic delusional disorder, is a rare condition characterized by a subject's delusion that someone else is in love with them. Erotomania without the presence of other mental health conditions is extremely uncommon, and the development of delusions is not well understood; however, research has suggested that delusions often follow periods of heightened mood and emotionality. Social networking sites have become increasingly utilized over the past decade, and research has shown connections between the use of these sites and negative mood changes. Considering that social media use can decrease mood, this study aims to determine if SNS use can predict mood changes and if both these mood changes and SNS use can predict future effects on erotomanic delusion. Data on the mood, social media use, and delusions of 40 individuals diagnosed with primary erotomania will be collected through ecological momentary assessments (EMAs); this data will then be used to find correlations between mood, SNS use, and delusions.

Effects of Social Media Use on Erotomanic Delusional Disorder

In the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, erotomania is classified as a subtype of Delusional Disorder. In this *erotomanic type,* "the central theme of the delusion is that another person is in love with the individual," and "the person about whom this conviction is held is usually of higher status (e.g., a famous individual or a superior at work) but can be a complete stranger"(American Psychological Association, 2022). This description of the disorder aligns with what is known as primary erotomania, or de Clerambault's syndrome, with lengthy delusions occurring without the presence of common symptoms of schizophrenia and without influence by any other mental disorder (erotomanic delusions coupled with schizophrenia or directly attributed to another mental disorder would be better described as secondary erotomania).

French psychiatrist Gaëtan Gatian de Clérambault wrote the first "accepted" description of what he called *pure* erotomania (now called primary) in 1921 and differentiated it from the *associated* type (now called secondary). After his death, primary erotomania was given the eponym "de Clerambault's syndrome" despite our modern understanding of the disorder differing from his views (Berrios and Kennedy, 2002).

Literature Review

Diagnostic Criteria

The most "accepted" diagnostic criteria for primary erotomania, not delusional disorder in general, were detailed by Ellis and Mellsop (1986), who listed the following:

a. A delusional conviction of being in amorous communication with another person.
b. This person is of much higher rank.

c. This other person had been the first to fall in love.
d. The other person had been the first to make advances.
e. The onset is sudden.
f. The object of the amorous delusions remains unchanged.
g. The patient explains the paradoxical behaviour of the loved one.
h. The course is chronic.
i. Hallucinations are absent.

However, Ellis and Mellsop found that only two cases out of the 53 in history that they analyzed and none of their own five met all of the criteria; the presentation of erotomania can vary greatly by individual.

Presentation

The central characteristics of erotomania surround a strong delusion held by a subject of another individual's love for them. Within this delusion, subjects often maintain their belief in another's love through misinterpreted actions or idealized assumptions. These delusions of love can apply to anyone—global celebrities, a stranger on the street, an old friend. Subjects don't always act upon their delusions, but cases that require medical intervention often include participation in stalking behavior (unwarranted or constant messaging, digital harassment, or even physical approach) (Kelly, 2005).

If acted upon, these delusions can clearly be disruptive or impact another individual; further, they can also have a dramatic effect on the subject's well-being (Seeman, 2016).

Causes

The causes of these erotomanic delusions are not fully understood, but can be attributed to a number of factors. Socially isolated persons who lack relational experience and therefore struggle to understand social cues regarding romantic attraction may be particularly vulnerable; for instance, the perception of an unintended message could lead to a misinterpretation of another individual's romantic feelings (Seeman, 2016). These misinterpretations can be the catalyst for a delusion, but also, as previously mentioned, are common throughout the period of belief and can therefore worsen a delusion.

Periods of heightened emotion can contribute to delusions in general, and states of increased stress are correlated to erotomanic delusions due to the instinct to seek attachment to a greater figure.

Epidemiology

The incidence of both forms of erotomania is not well-studied, but the lifetime prevalence of delusional disorder is estimated to be about 0.2%, and erotomania is one of the rarer subtypes (APA, 2022). A 2015 study found that delusional disorder has been reported as about 15 cases per 100,000 every year with a 3:1 female-to-male ratio (Copeland et al., 1998) and a 2002 study discovered 15 (11 female, 4 male) cases of both forms of erotomania out of 400,000 people (Kennedy et al., 2002).

Delusional disorders in general are understood to be fairly equal in incidence across genders, but possibly slightly more common in females; however, jealous and persecutory subtypes are more common in males, and the erotomanic type is more common in females.

Yamada et al. found a 3:1 female-to-male ratio of delusional disorder in a study of 4,144 patients of a psychiatry clinic in Japan over six years; however, they also found a trivial difference in the sex distribution of specific subtypes and confirmed the established understanding of the erotomanic type as the rarest.

Delusional disorder also occurs more frequently among individuals within lower socioeconomic classes (Kendler, 1982); this difference may be related to the common urge within erotomanic delusions to seek an individual of "higher status" or socioeconomic status.

Cultural Factors

In its description of delusional disorder, the DSM-5 notes that "an individual's cultural and religious background must be taken into account in evaluating the possible presence of delusional disorder; in fact, some traditional beliefs unfamiliar to Western cultures may be wrongly labeled as delusional, so their context must be carefully assessed"(APA, 2022).

Meyers also expands on the possible effects of culture shock, social isolation, and loss (Meyers, 1998). Specifically shown in research on immigration, difficult emotions felt when experiencing a new culture can significantly affect an individual. The belief that one will never be able to adjust to a new culture can cause social isolation, one of the common factors in erotomania. Experiencing the loss of culture can leave a void that could be filled through the other end of an erotomanic delusion.

Not only do traditional beliefs have to be added to the context of cases of erotomania, but also details about an individual's previous experiences. This information can provide valuable insight into the understanding of the causes of delusions.

Genetic Factors

Gauld discovered the first case of erotomania possibly caused by a genetic event; erotomania was reported within a family along with a frameshift in the *AUTS2* gene. No other recent genetic research on erotomania exists, but further studies within families could lead to discoveries on the possibility of genetic factors.

Social Media

Social media and the digital world, in general, have undergone an unprecedented explosion throughout our lives and infrastructure; with hundreds of millions of adults and teenagers constantly seeing the lives of those within their inner circles and also all of the users they've never met, our understanding of networks and personal connection has drastically shifted.

Research has shown that social media use can have a significant impact on mood and mental health in general, especially among adolescents. Lives seen through the lens of a social networking site can often be exaggerated or deceiving; constantly seeing these "better" parts of others' lives could have an effect on the mood of users. A 2012 study on Facebook use among college students found that increased use correlated with having the sentiment that other users on the site were "happier" and had "better lives" (Chou and Edge, 2012).

In addition to general mood, social media/technology use has also been shown to have effects on specific psychiatric disorders.

Bipolar Disorder

Matthews et al. analyzed technology use among individuals diagnosed with bipolar disorder, and concluded that significant use could be an early signal of mood episodes (Matthew et al., 2017). Considering that technology use may predict these emotional changes within a disorder, similar social media use may predict mood changes and erotomanic episodes.

Psychosis

Berry et al. considered the effects of social media use on mood, self-esteem, and paranoia in psychosis; in a pool of forty-four participants, they concluded that social media use predicted low mood, but not self-esteem or paranoia. They also discovered variances within the way social media was used by individuals. Perceptions of low social rank and highly emotional usage of social media predicted low mood but also self-esteem and paranoia. Low mood, self-esteem, and ideas of low social rank and common predictors of erotomanic delusions, and if specific uses of social media presented these effects among individuals diagnosed with psychosis, they very well could affect individuals diagnosed with erotomania.

Relevance to Erotomania

Erotomanic delusions often occur after states of heightened emotionality. Social media use and addiction are shown to be correlated with increased psychological distress and negative mood, so the mood changes brought upon by social media use could affect the presentation of erotomania.

Research Question

The negative effect social media use can have on mood and depressive symptoms is well-researched. No studies have analyzed the onset of erotomanic symptoms with any reference to mood or social media use; since heightened mood and emotionality often precede erotomanic episodes, emotions exacerbated by social media use could affect vulnerable individuals. This longitudinal study will therefore search for any correlation, seeking to answer: Does social media use exacerbate erotomanic delusions?

Hypothesis 1

Heavy social media use will predict both concurrent and future mood changes.

Hypothesis 2

Heavy social media use will predict both concurrent and future changes in erotomanic delusions.

Hypothesis 3

Mood changes will predict concurrent and future changes in erotomanic delusions.

When mood is included, it fully mediates social media's effect on erotomania.

Methods

Participants

This study will consist of 40 individuals between the ages of 21 and 45. The sample will be equally divided by gender in order to analyze if erotomania shows up differently in the small pool of people. Every participant must have a diagnosis of erotomanic delusional disorder.

Materials

To collect data on the mood, delusions, and social media usage of the participants, this study will utilize three different assessments.

Mood Ecological Momentary Assessment (EMA) — IMS-12

The first will be 12 questions, based on the 22-item IMS (Nahum et al, 2017). Items were removed after a principal axis factor analysis.

1. Worthless / Valuable
2. Pessimistic / Optimistic
3. Apathetic / Motivated
4. Guilty / Proud
5. Numb / Interested
6. Withdrawn / Welcoming
7. Hopeless / Hopeful
8. Tense / Relaxed
9. Worried / Untroubled
10. Fearful / Fearless
11. Anxious / Peaceful
12. Restless / Calm

Mood is highly dynamic; this EMA is used to assess an individual's current "mood."
Each of the 12 items uses a seven-point Likert scale, with the two sides of each being the two poles of the scale.

The sum of these scores will be taken every time the assessment is administered, and the data will be analyzed to determine mood fluctuations.

The IMS-12 also has factors of depression and anxiety, with high internal consistency for both the subscales and the total scale (Cronbach's alphas of .93, .90, and .93 for total, depression, and anxiety, respectively).

Erotomania Assessment - CDBS

Due to the lack of established ecological momentary assessments of erotomanic delusions specifically, this study will utilize the general Conviction of Delusional Beliefs Scale (CDBS).

The CDBS shows positive correlations with other assessments of delusions, but provides more items and a self-reported process capable of being used in a remote study.

The CDBS is also unique in its specific items that target the cognitive, behavioral, and emotional aspects of a conviction (Combs et al., 2006).

The nine items of the CDBS follow:

1. Has the subject questioned their truth of belief? (cognitive)
2. Has the subject thought their belief was not true? (cognitive)
3. Would the subject be okay if the belief were not true? (emotional)
4. Does the subject find few things to support their belief? (cognitive)
5. Did others tell the subject their belief was not true? (behavioral)
6. Does the subject like to talk about their belief? (behavioral)
7. Does the subject feel anxious about the truth of their belief? (emotional)
8. Is the subject's belief logical/ well-supported? (cognitive)
9. Can others change the subject's belief? (cognitive)

Each of these items is rated on a 1 (not at all) to 5 (all the time) Likert scale. The score of each item is summed to get a total score between 9 and 45; higher final scores reflect greater convictions in a belief.

Combs et al. determined that the CDBS demonstrated high levels of internal consistency, and presented convergent validity with a positive correlation to each of the four other measures of belief conviction.

Social Media Use Questionnaire

This study will use the nine-item Social Media Use Questionnaire (SMUQ) in order to assess the severity of an individual's dependence on social networking sites. The nine items follow:

1. I struggle to stay in places where I will not be able to access SNS.
2. I feel anxious when I am not able to check my Social network account.
3. I feel angry when I am not able to access my social network account.
4. I use SNS when I am in the company of friends.
5. My relatives and friends complain that I spend too much time using it.
6. I feel guilty for the time I spend on SNS.
7. I stay online longer than I initially intended.
8. I spend a large proportion of the day using.
9. I lose track of time when I use SNS.

Each of these items is rated on a five-point Likert scale, from 0 (never) to 4 (always). The scores for each item are then analyzed to determine a score for an individual's dependence and a subscore for both a withdrawal and a compulsion component.

Procedure

This longitudinal study will take place over one year. Participants will be asked to complete all three EMAs/questionnaires every week, and their respective scores will be collected and analyzed. As for method of delivery, participants will receive these assessments on a device of their choice at the end of every week.

Conclusion

The first identified case of erotomania/delusional disorder exacerbated by social media was in 2017, when a college student stalked another student through social media (Faden et al, 2017). Frequent users of networks like Facebook and Instagram often show significant parts of their daily lives; most only plan to share their lives with close friends or in inner circles, but photos and posts are put on display for millions of individuals. Since erotomanic delusions hold that another person is desiring the subject, the "easy access" to anyone's life allowed by social media could cause individuals to act on their erotomanic delusions online. This new risk merits further study.

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