



Like” and “Love” Responses as Addiction Factors on Social Media

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Abstract

The discovery of internet has facilitated humans in their daily life such as in getting information, performed business transaction, etc. The occurrence of social media since the 1990s has developed a new function of internet which enables the users to interact with each other virtually. Unfortunately, social media is suspected to cause phubbing behavior among internet users. A previous study has stated that the ‘like’ and ‘love’ responses in social media posts may cause a social media addiction in the users’ everyday life that can interfere with their daily activities. In this article, we explain briefly a review from neuroscience perspective on the emergence of addictive behavior in the use of social media in daily life.

Keywords:Internet, Social media, Addiction, Brain



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Introduction

Besides its function to disseminate information, the internet has been commercialized and used in various aspects of human life, such as education, research, health and social. The internet has many functions, including fulfilling information needed for work, networking, improving quality of communication and relationships, and sharing interests. These functions are reflected in the development of social media which is a place for individuals and communities to be interconnected, build relationships based on interest, share information, and even be able to improve technical capabilities of its users (Ito M, Horst H, Bittani M: 2008). In addition, it is known that people in general access the internet as much as 5 hours a day (Aslan and Yazici, 2016)

Despite its benefits, social media is also known to bring adverse effects such as addiction, which is characterized by a desire to always get attention, changes in mood, excessive time in accessing social media, withdrawing from the surrounding environment, having interpersonal conflicts (Griffith, 2011). These events may occur due to two factors, namely obtaining a poor quality of life in real life compared to when accessing and managing social media and getting a good response when doing social media activities.

The first factor is based on Abraham Maslow's theory of needs which states that humans have a need to be accepted, recognized, respected and have a position in their environment so that if this need is not met in the real world, he will seek and try to get this need from cyberspace.

Social media addiction may have triggered the occurrence of phubbing phenomenon. It is a condition where people are being focused on their social media while ignoring their companions in the real surroundings. This is thought to be due to the greater satisfaction they get in the social media in the real world. According to existing research, phubbing can cause damage to relational proximity (Przybylski and Weinstein, 2013), provoke negative feelings (Hart et al., 2004), reduce the quality of satisfaction in relationships, and, in the long run, can cause conflicts in social relationships (McDaniel and Coyne, 2016; Roberts and David, 2016). Social media addiction may be caused by getting good responses in the form of "like" and "love" responses which make the users feel that social media accepts, acknowledges and respects them as an individual.

Previous papers have shown that the internet and social media can cause addiction to its users. In the other research, the result is people check their phone 80 times a day (Asurion, 2017). However, how the underlying process in the brain is still unclear. Therefore, in this review, we aim at discussing how the brain may process positive responses on social media posts into an addictive behavior.

Results and Discussion

Conventional media and social media

Almost all forms of communication use media to convey messages from communicators to communicants (Mulyana, 2000). Communication media is traditionally divided into printed and broadcast media. *Printed media*, which use printing techniques, include newspapers, magazines, tabloids and others. In contrast, *broadcasting media*, which use broadcasting facilities, include television, radio, flyers, and so on.

Communication has two forms: indirect and *indirect communication* uses media/intermediaries to deliver the messages. Such as in the mass communication. In contrast, *direct communication* is known as interpersonal communication that allows the communicator (messenger) to deliver messages and the communicants (message recipients) to respond directly. The response from the communicants can be in the forms of approvals, comments, opinions, delivery of a reply message to the first communicator.

It is this principle of interpersonal communication that has inspired the founders and developers of social media to create response features such as "like", "love", and comments in social media posts. These features are considered as representations of the communicator's response to the post they are seeing. The "like" or "love" can be used as a gesture of agreeing or liking a post, while the comment feature as a facility for expressing verbal opinions.

Based on the description above, it can be concluded that the fundamental difference between media and social media is in the pattern of use. In social media, after a communicator has delivered a message (in this case, social media posts), they can receive responses directly from the communicants without waiting for a long time (even in seconds). Meanwhile, the conventional media require the message to be processed through a multi-step editorial process and distribution to the communicants. In addition, the communicants' responses to the message are also indirect because these responses need to be in the media to be available to the communicator.

Hierarchy of Need and Addiction

Being active in the social media is an effort to fulfill the need of self-esteem as Abraham Maslow (year) has explained in his theory of hierarchy of needs. He explained that humans have five stages of needs throughout their lives. Each stage needs to be fulfilled before proceeding to the next stage successfully. According to Poston (2009), the stages include: 1) *physical needs* (the need of such as eating, drinking, sleeping, physical fitness, and sex); 2) *safety needs* (the need to feel safe such as feel safe from danger); 3) *belonging needs*, (the need of love and belongs to society or etc and such as they have family or they feel loved); 4) *esteem* (the needs of being recognized and appreciated by other such as having roleplay in society), and finally; 5) *self-actualization* (the need of being actualized such as actualizing their knowledge). In case of social media, a person uses social media to fulfill the esteem need by shaping a self-image and identity that is acceptable, recognized, respected and has a role in the virtual environment.

Along with the development of social media features, the intensity of their usage has also increased. A research has shown that a person can check their favorite social media 10 times a day (Common Sense Media, 2009). This indicates a change in their behavior in the form of checking their social media account repetitively.

Based on the data above, social media may have become one of the causes of addiction due to the repetitive behavior that are unhealthy or destructive in which individuals experience difficulty to stop (Yee, 2002). According to Lance Dodes in his book entitled "*The Heart of Addiction*" (in Yee, 2002), there are two types of addiction, namely *physical addiction*, which is related to the usage of alcohol or cocaine, and *non-physical addiction*, which is a type of addiction that does not involve two of the above. Social media addiction may belong to the non-physical type. Social media addiction allows the person to experience behavioral changes such as the desire to always get attention, changes in mood, spending excessive time in accessing something, withdrawing themselves from the surrounding environment, having interpersonal conflicts and addictions that are continuous (repetitive) (Savci, 2017).

The continuous, repetitive characteristics of addiction have led to another phenomenon, named phubbing. It is when someone is being in company with other people, but that person focuses on their device, and is unable to release their attention from their activities in cyberspace. Phubbing has impacted interpersonal relationships negatively by increasing potential as a reason for conflict in interpersonal relationships (Tertadian, 2012; Bernroider et al., 2014), ignoring interpersonal communication (Karadag et al., 2015), damaging relational proximity (Przybylski and Weinstein, 2013), lowering communication quality lower and making it less empathic (Misra et al., 2014).

The role of "like" and "love" features on the human reward system

The scientific explanation of social media addiction may lie in the destruction of the braking system as a result of excessive activity of the reward system in the human brain. The reward system works when a person executes an action that produces a satisfying sensation. When an addicted social media user receives a stimulus in the form of "like" and "love" responses to their post, the ventral tegmental area (VTA) in the midbrain releases dopamine—a neurotransmitter that produces a feel-good sensation—to the nucleus accumbens in the basal forebrain (Garrett, 2003).

Over time, the reward system becomes desensitized and, as a result, requires a higher amount of stimulus. As a result, the dopamine will be produced in an excessive amount—a condition termed *dopamine flood*. The extremely high amount of dopamine alters chemical and pathological conditions which leads to a dysfunction called *hypofrontal syndrome* within the frontal area. In addition, electroencephalography (EEG) studies have revealed brainwave changes when the brain has become addicted to a stimulus. The frontal lobe is dominated with delta wave, which indicates a decrease of

activity in the area (Sengoku, A & Takagi, S., 1998), and gamma wave, which indicates an increase in impulsive behavior (Choi, JL. Et al., 2013).

One of the dysfunction is the damage of *the braking system* in the prefrontal cortex which prevents an addict from being able to determine priority. This may explain the phubbing behavior among social media users who have become addicted by the satisfaction of seeing the "like" and "love" responses they get so that they keep focusing on their virtual activity intensively instead of interacting with their companions in the real surrounding.

Conclusions

The use of social media, which is basically an effort to meet human need for self-esteem, can lead to changes in human behavior such as addiction. This may occur because the "like" and "love" responses received in social media posts can be a stimulus for the reward systems in the human brain. This addiction behavior may lead to phubbing phenomenon that decreases the quality of communication and interpersonal relationships. Therefore, the use of social media should be limited in order to avoid the negative impacts.

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