CRITICAL ANALYSES WITH THE HELP OF RECENT LITERATURE TO HIGHLIGHT THE RELATIONSHIP BETWEEN NARCISSISM AND ADDICTION TO SOCIAL MEDIA/NETWORKING

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ABSTRACT

Since the first social media sites appeared, the relationship between social media use and narcissism has been a topic of study. According to research, social media use can cause narcissism on the one hand and increase social media use on the other, with a potentially mutual effect between the two. The narcissistic culture is currently being replicated, and narcissism is being encouraged on social media. Social media sites have been found to be an ideal environment for meeting narcissistic needs, and narcissistic behaviours are rewarded. Furthermore, their narcissistic attitudes and behaviours in real life are mirrored in their social media behaviours, and their narcissistic levels rise even further. While numerous meta-analyses have been conducted to synthesise empirical evidence on the relationship between narcissism and typical online behaviours (e.g., uploading photos and usage frequency), evidence on the relationship between narcissism and Problematic Social Media Use (PSMU) has yet to be systematised. The current study is a systematic review on the subject.

INTRODUCTION

Narcissism is characterised as a tendency to consider oneself better than others, continuously seek respect and validation from others, dwell or be over-considerate of one's appearance and achievements, and engage in self-centred thinking and behaviour.

Like other personality constructs, narcissistic traits among the general population tend to occur along a continuum. The end of that continuum would be Narcissistic Personality Disorder (NPD). However, the report refers to trait narcissism as there is no substantial research done relating social media use with the clinical population. The report further speculates that the results would be similar. It also includes subclinical narcissism, primarily grandiose narcissism and vulnerable narcissism. Extroverted and assertive tendencies characterise the grandiose 'overt' type of narcissism; this has been linked to a range of social media behaviours, such as time spent, frequency of posts and selfies. On the other hand, the vulnerable 'covert' type is characterised by neuroticism and does not show a stable relationship with social media behaviours.

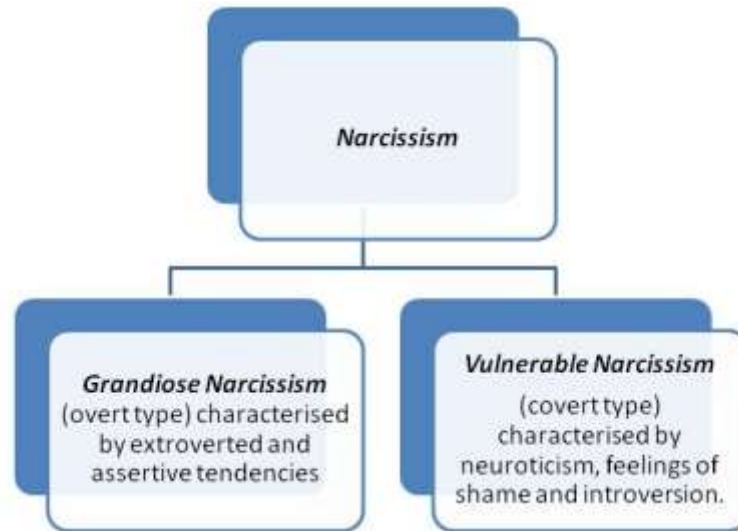**NARCISSISM AND ADDICTIVE SOCIAL MEDIA USE**

Fig 1- Sub-types of Narcissism

Adverse narcissism outcomes include threats to young adults' psychological health, preventing long-term intimate relationships, and aggressive reactions to criticism. However, it has also shown positive outcomes like high self-esteem, openness to experience, extraversion, low anxiety and neuroticism. According to the seven-factor NPI model (Raskin & Terry, 1988), we can distinguish between adaptive and maladaptive narcissism. Adaptive narcissism includes the two factors of authority and self-sufficiency, whereas maladaptive narcissism includes the three factors of entitlement, exploitativeness, and exhibitionism.

NARCISSISM AND ADDICTIVE SNS USE

While distinguishing between addictive and non-addictive (e.g., excessive, enthusiastic) behaviours, researchers use specific addiction criteria (Griffiths, 2005). Particularly, addictive social media use should be manifested by being preoccupied with social media (salience), using social media so as to cut back negative feelings (mood modification), gradually using social media more so as to induce the same pleasure from it (tolerance/craving), suffering distress if prohibited from using social media (withdrawal), sacrificing different obligations and/ or inflicting harm to other vital areas of life because of the social media use (conflict/functional impairment), and wanting or making an attempt to regulate the use of social media without success (relapse/loss of control).

Social Networking Sites or SNS are viewed as the perfect tool for narcissists. They allow users to broadcast information about themselves to a considerably extensive network of people. It fulfils the need for praise and attention in a dramatically short period. Moreover, these websites offer complete control over the user's self - presentations, allowing narcissists to create a self-image to their liking. Individuals who value their thoughts, feelings and experiences can publicise them allowing others to validate them using metrics of 'likes', 'shares' and 'followers' 'comments', and several others based on the platform used.

In the research linking addictive SNS use and narcissism, different results emerge when the type and degree of narcissistic traits are factored in. The relationship shared by social media and narcissism has been mainly observed from two standpoints; Social media as a platform for narcissists to receive the attention they desire and social media as a catalyst for increasing narcissism.

Several models can be used to explain narcissism. A prominent model is the Big Five where

narcissism is grounded in low agreeableness, extraversion and neuroticism. A more detailed variant would be the HEXACO model, which includes a factor of humility and honesty. Search for a more detailed tool would lead us to examine the Big Five at a facet level like the NEO. (6 for each factor; Costa & McCrae, 1992)
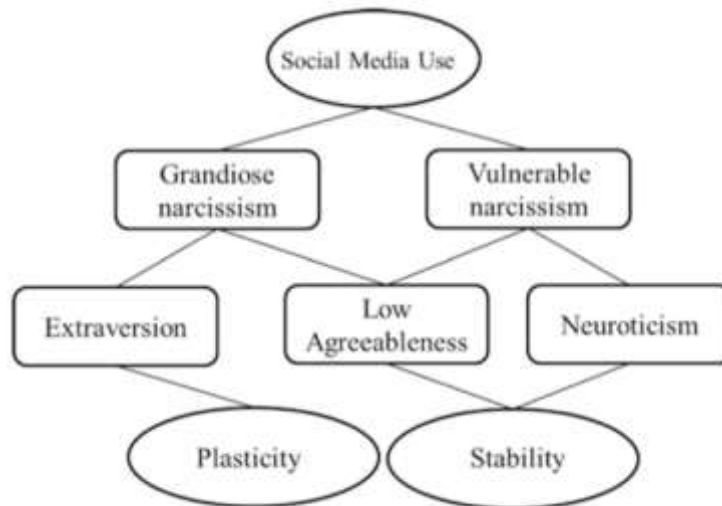

Fig 2- Two- Factor Model of Personality- DeYoung (2015)

A variation from this approach would be to ground narcissism in a two-factor model meta traits of plasticity (extraversion plus openness) and stability (conscientiousness plus agreeableness minus neuroticism). These are based on a cybernetic trait model (DeYoung, 2014). Majority of the research uses NPI or the Narcissistic Personality Inventory to measure narcissism.

CURRENT MODELS OF NARCISSISM AND SOCIAL MEDIA

Recent research classified SNS usage by narcissists in six theoretical models: the self-enhancement model, fit model, trait model, narcissistic lens model, social network model and cultural model.

Firstly, the self-enhancement model (closely linked to the self-regulation model) states that social media is an excellent medium for self-promotion and enhancement due to its features. In order to fulfil their needs for self-enhancement, narcissists will feel drawn to such a structure. Once they realise that they are receiving reinforcement and validation, social media is viewed as a conducive system, reflecting in their usage patterns (addiction). Narcissists will engage in self-enhancement to an increase in social status. Additionally, also confront those who try to harm their status. Self-enhancement, primarily seen in grandiose narcissism is done through the self-serving bias, inflating self-beliefs, reporting the better-than-average effect, and over-stating knowledge capability that they could not possibly have. Vulnerable narcissists display self-protection, characterised by avoidance, to protect the narcissist's ego from danger. These distinctions have not been fully agreed upon yet (Wallace, 2011). The challenge with this model is that it has been researched and verified in parts but not whole.

The second model is the fit model. Narcissists have difficulties forming intimate relationships. While social media aims to connect with others, ironically, it is an ideal platform for them. This is because social media is conducive for wide but shallow relationships. This fulfils the need to have an extensive network. Individuals high in grandiose narcissism fit the bill for this type of social interaction. They are attracted to partners who will help them increase their social status and self-esteem and are willing to sacrifice relationships for status.

The third model is called the expanded trait model. In terms of the Big Five personality traits, individuals high in grandiose narcissism have high extraversion and openness and low agreeableness. In light of that, we could view addictive social media use

as an extension of the narcissist's extraversion trait. In contrast, individuals high on vulnerable narcissism show low agreeableness and neuroticism, which suggest anxiety and discomfort with social media use. This suggests that increased social media use is a better fit for individuals high on grandiose narcissism than vulnerable narcissism.

The fourth model is called the narcissistic lens model. This model focus on the traces and marks left behind by a narcissistic in the physical and social world. The metaphor of a lens stemmed from Brunswik's research and is referred to as the Brunswikian lens model. It conceptualises the importance of cues (content on social media) as a mediator in the link between an individual's traits and an observer's perception of them. This does not translate to a conclusion as these cues could also be false. For example, self-promoting photos, flashy clothes and make up would be valid cues; however, the use of "I" in-text would be an invalid cue. One of the early links in this model was found between narcissism and self-enhancing personal email addresses (Marcus, Machilek & Schütz, 2006). The challenge in using this research model is extracting and examining specific cues. These cues can be objective (number of status updates) and less objective (observer's perception). Despite that, the data can be quite valuable (Back, Schmukle, & Egloff, 2010; McCain et al., 2016).

The fifth model is the social network model, which examines narcissism within egocentric (Lamkin, Clifton, Campbell, & Miller, 2014) or socio-centric (Clifton, Turkheimer, & Oltmanns, 2009) networks. Centrality in social networks has two variations: in-degree centrality wherein people report being linked to the target and out-degree wherein the target reports links to lots of people. This link could manifest itself in several forms - from merely knowing, liking, friendship, or something else. Some studies suggest that grandiose narcissism is linked to out-degree but not in-degree centrality (Clifton et al., 2009; Czarna, Dufner, & Clifton, 2014).

The sixth and the final model is the cultural model that focuses on the interplay of culture and social media. An early approach to this argued that the cultural rise of social media and grandiose narcissism would go hand in hand. Social media provided the opportunity for an enhanced self-presentation and rewards for broad but shallow networks; it created a niche well suited for narcissists. Until the economic collapse (in 2008), this model seemed sufficient; however, since the economic collapse, high unemployment and debt reduced the narcissistic fantasies but did not slow down social media growth. A second model emerged from this called the great fantasy migration hypothesis, which states that the combination of high narcissism and a belief in the collapsing economy would drive people to engage in fantasy to maintain their self-image. Research has shown that both vulnerable and grandiose narcissists engage in geek culture (McCain, Gentile, & Campbell, 2015), an excellent example of the fantasy realm. If the real world has 'failed' the narcissists by not providing enough opportunities, social media can provide a stage for them to fulfil their need for external validation.

Together, these models paint a picture where narcissists engage in self-enhancement to the extent they may sacrifice close relationships. One of the motivations to engage in these behaviours could be engaging in cultural fantasies that may distract them from the disparity of their self-image and their success in real life. Each of these models has implications for the relationship shared by narcissists and social media.

Models	Summary
Self Enhancement Model	Social media is an ideal tool for self-promotion and creating an enhanced image to advertise to the world.
Fit Model	Broad but shallow relationships are preferred by narcissists, and social media is a perfect fit for those.
Expanded Trait Model	Narcissists are high on extroversion, and social media use is an extension of that trait.
Social Network Model	Narcissists engage in varying levels of in-degree and out-degree centrality. This may have implication on their online social media network.
Cultural Model	The belief in the collapsing economy may lead to narcissists migrating to the fantasy of social media, where they can regulate their self-image.

Fig 3- Research Models on Narcissism and Social Media

DIFFERENCES BETWEEN VARIOUS SOCIAL NETWORKING SITES (SUCH AS FACEBOOK & TWITTER)

The growth of individual users, particularly the millennials, has occurred in staggering proportions on the Internet. With addictive usage of Social Networking platforms among the population and such easy accessibility to communication through smartphones, SNS has begun to change the ways people and communities operate considerably. As per 2020 report on the average, Facebook had more than 1.73 billion daily active users (Facebook, 2020); Instagram had more than five hundred million monthly active users and daily shared photos with 4.2 billion daily likes (Instagram, 2020); and Twitter had 330 million monthly active users (Twitter, 2019).

The increasing fan base of such websites has led to the development of numerous Social Networking platforms that cater to specific individuals and particular interests, playing a dominant role in people's social landscapes and platform involvement (Lup, Trub, & Rosenthal, 2015). As Twenge and Campbell (2009) believe, when it comes to addictive SNS use, these online communities promote and nurture a conducive platform for personality traits like narcissism to take place within the form of self-regulation via social connections.

The user metrics show growing popularity for each Twitter and Facebook, with Twitter growing considerably quicker than Facebook (BCS, 2013). Twitter's recent growth highlights its increasing relevance in the discussion of narcissism. Additionally, Twitter has certain innate features that might make it more fertile grounds to narcissistic motives and behaviours than other popular social platforms, such as Facebook.

Facebook is one of the most common and prototypical SNS (e.g., Bergman et al., 2011 and Wilson et al., 2012). Facebook has various features available to users including friend requests, "tagging" others, comments, sharing pictures, and sharing status updates (Tong, Van Der Heide, Langwell, & Walther, 2008) with most of these features promoting interaction between a user and his or her community of friends. Previous research has usually hypothesised and established a positive relationship between numerous peers and narcissism (Bergman et al., 2011, Carpenter, 2012 and Ong et al., 2011), with the rationale that having large numbers of followers would be attractive to narcissists as a measure of importance or popularity. Also, Facebook allows each individual to post their own "status," a personal statement updating their friends on their activities or currently doing.

Recent research has found that people who had high levels of narcissism traits began using Twitter (and other textual-based platforms) more and more over time. However, those who used Facebook addictively (and other visually-based platforms) tended to become more narcissistic over time. This differential association between social media platforms and narcissism is significantly the same as that noted in another piece of research that demonstrated that Facebook and Twitter differed within the aspects of narcissism that drove their usage: those high in "superiority" feelings prefer Twitter, whereas those high in "exhibitionism" prefer Facebook.

CYBER AGGRESSION, CYBER VICTIMIZATION, AND SEXUALIZED SELFIES

It may even be the case that another side of personality or behaviour links narcissism with addictive social media use. One chance suggested by a recent study, where it had been found that cyber-bullying and cyber-stalking promoted the narcissism-social media relationship. Narcissists have sturdy feelings and need to realise additional power. One way they will try this is to intimidate others, and notably by committing personal cybercrimes. By this, narcissism is connected to social media use, indirectly, through personal cybercrime. The latter social-media action permits the narcissist to dominate and intimidate others on social media. This might be why "grandiose" narcissism, with its more aggressive tendencies, is connected to the addictive use of social media more than the "vulnerable" sorts of narcissism.

A key element in social media that has emerged over the last few years is the advent of selfies. Researchers have linked selfie clicking with the trait levels of narcissism (e.g., Barry et al., 2017; Weiser, 2015). Inherently, sexualised selfies include self-objectification. Since these can be looked as a means to craft a desirable and attractive image online, narcissism is a natural extension. Distinctions in the facets of narcissism are essential here too. The subtype of grandiose narcissism tends to be the most reliable predictor of selfies. However, vulnerable narcissism is also linked to taking selfies that are theme-oriented to physical appearance. (Barry et al, 2017). Overall, grandiose narcissism is more consistently linked to selfies (McCain, Campbell, & Sumerson, 2018).

A study conducted by Stuart et al., 2019 found that taking selfies was strongly associated with frequency of taking self-sexualising selfies and strengthening the purpose of considering the importance of how sub-factors of pathological narcissism are related to selfie behaviours. The current

findings showed that exploitativeness (as part of grandiose narcissism) was related to increased selfie- and sexualised selfie-taking. In contrast, contingent self-esteem (as part of vulnerable narcissism) was associated solely with sexualised selfie-taking. Besides, in line with the hypotheses, selfie behaviour mediates the results of narcissism on cyber behaviours, with both easy and serial mediation effects being evident.

The external validation garnered by the social feedback that comes as a result of this behaviour can, itself, have adverse outcomes for individuals high in narcissism. For example, not receiving likes or a negative comment might threaten the ego, for people with high levels of narcissism, may result in distress and externalising behaviours to heal damaged self-worth (Baumeister et al., 2000). Thus, if the ways of self-promotion fail to evoke the desired response, young women with narcissistic tendencies are also driven to interact aggressively online to diminish others and inflate the self. Alternatively, young women higher in narcissism may click and post increasingly provocative selfies to receive validation and recognition, inadvertently leaving themselves open to victimisation and derogation, a phenomenon dubbed "selfie-shaming" (or victimisations targeted toward one's selfies; Brandes & Levin, 2014).

It was seen that exploitativeness was related to both taking more selfies and taking more self-sexualising selfies. In turn, exploitativeness was also indirectly (via selfies) and directly related to increased negative cyber behaviours. One possible answer for these associations is that people, high in exploitativeness, could manipulate situations to profit. For the young women higher in exploitativeness, taking selfies is also a goal-driven activity used to exploit the digital setting, with gaining attention as their desired outcome. Notably, previous research has suggested that the attention received online does not need to be positive to satisfy its objectives; "if you want to get your peers' attention, the images should be surprising, funny, stunning or provocative" (Willem et al., 2017, p. 88). Therefore, it may be the case that taking selfies. In turn, sexualised selfies, do not seem to be intended by the requirement to be as desirable but could merely imply attention, whether or not positive or negative.

ADDICTIVE USE OF SOCIAL MEDIA, DEMOGRAPHICS AND NARCISSISM

Previous research suggests that younger people were more affected by the addictive use of social media than older people (Andreassen, 2015). The effect size was between small and medium, so contributes meaningfully to our understanding of addictive social media use. From real world experience as well, this has sensible face validity because the new younger generation (the so-called 'digital natives' and 'screenagers' [Griffiths, 2010]). The research also hypothesised and demonstrated that individuals from the sample who are not in a current relationship would report higher levels of addictive social media use. However, though the findings were statistically significant, the impact of relationships standing on addictive social media use was very small (and unlikely to be purposeful within the current context), and thus without any practical importance.

GENDER DIFFERENCES

Thus, from the previous researches, it can be concluded that entirely different kinds of social media are connected, in several ways, to entirely different aspects of narcissism. This brings to light a different hypothesis during this increasingly complex research: the differences between men and women. Men and women dissent in terms of their propensity to indicate narcissism, a minimum presently in several societies, with greater rates for men (8% of the male population) than women (5% of the female population). Men conjointly score slightly more than women in terms of "exploitative/entitlement" feelings, and "authority/leadership" needs, though there is no distinction in "exhibitionism." However, it seems that this sex difference does not translate into the world of social media in any straightforward manner. Evidence from a range of sources shows that social media has a disproportionately negative impact on women, including on their levels of narcissism and connected behaviour.

A recent study noted that girls reported more addictive social media than boys (43% of girls versus 31% of boys use it for a minimum of an hour daily at age 15). These girls also reported lower levels of happiness and many social and emotional difficulties as they develop. To clarify these findings, girls create comparisons between themselves and others a lot more often than boys. Such social comparison is increased (indeed promoted) on social media, inflicting social media's differentially adverse effects between the sexes.

Research is increasingly showing that such social-comparison for women is an active, and partially aggressive, method that will be deeply related to female

narcissism. In recent laboratory experiments, it was found that women are relatively more likely to use intimidatory self-presentation tactics on social media than men. Echoing the work mentioned earlier, the narcissistic attribute of "exploitativeness" is related to increased selfie taking by women. This will cause increased female aggression, usually inter-female, as well as making alarming problems for the "exploitative" (or, indeed, "vulnerable") narcissist—such as increasingly sexualised portrayals of the self.

This behaviour could get reinforced by the user receiving "likes," which are particularly important for the "vulnerable" narcissist. This reinforcement drives a lot of this utterly inappropriate and self-harming behaviour. However, not receiving "likes" will be even as dangerous for this cluster and their behaviour will lead to a temporary increased level of activity and aggression—a widespread phenomenon of non-reward in the animal laboratory—and several negative impacts on physiology and immunity, through the action of stress hormones—a known result of internet addiction.

NARCISSISM AND GENETICS

Grandiose or agentic narcissism as measured by the narcissistic personality Inventory (NPI; Raskin & Terry,1988) is widely researched. 2 studies have examined its etiology. One study investigated 139 pairs of twins (75 MonoZygotic pairs, 64 DiZygotic pairs) in from the USA and North American nation and found that variations in narcissism were chiefly explained by genetic factors (59%) and non-shared environmental factors (41%) (Vernon, Villani, Vickers & Harris, 2008). They examined 304 pairs of twins (152 MZ, 152 DZ) in China's completely different culture. It was found that genes (47%) and non-shared environments (53%) chiefly influenced narcissism (Luo, Cai, Sedikides, & Song, 2014). These findings suggest that about half of grandiose narcissism's variation is attributed to genetic influence, with the remaining half attributed to non-shared environmental influences, a pattern that holds across cultures.

Based on the same twin sample, they surveyed adaptive and maladaptive narcissism in a second study. Adaptive and maladaptive narcissism are shaped on the idea of the seven-factor model of NPI (Raskin & Terry, 1988). Adaptive narcissism includes the two factors of authority and self-sufficiency, whereas maladaptive narcissism includes the three factors of entitlement, exploitativeness, and exhibitionism (superiority and vanity factors were not used). Past research showed

that these two styles of narcissism have distinct personality foundations and adaptive functions. The twin study found that each of the adaptive and maladaptive narcissism was heritable (37% and 44%, respectively), with the individual variations, for the most part, explained by non-shared environments (63% and 56%, respectively) (Cai, Shi, Fang, & Luo, 2015). Moreover, 54% of the genetic effects and 85% of the non-shared environmental effects on adaptive and maladaptive narcissism varied. These findings indicate that although adaptive and maladaptive narcissism share some genetic (46%) and environmental (15%) evidence, the bulk of their variations are determined by different genes and environments, providing evidence for the distinctiveness of adaptive and maladaptive narcissism.

To summarise, narcissism is heritable despite its manifestations. The environment is the non-shared environment (e.g., specific life events) instead of the shared environment (e.g., shared physical family) exerts substantial influence on narcissism. These findings are in line with a large body of twin studies on personality (Bouchard, 2004). Firstly, genetic and environmental influences on narcissism vary with its manifestations, with larger genetic influence on overall narcissism (e.g., agentic narcissism and communal narcissism) than its components (e.g., adaptive narcissism and maladaptive narcissism). Second, all contrastive manifestations of narcissism are considerably (although, not entirely) dissimilar in their genetic and environmental foundations.

METHODS

Electronic literature databases were searched to identify studies that examined the relationship between narcissism and PSMU. This systematic literature review is guided by the Cochrane method, and the search method and findings are presented in accordance with the relevant sections of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Higgins and Green, 2011, Moher et al., 2009). Studies were included in the systematic literature review based on the following inclusion criteria: they must (a) quantitatively examine and report the relationship between grandiose narcissism, vulnerable narcissism or both, on the one hand, and problematic use of social media or specific social media platforms (i.e., Facebook, Instagram, Twitter), on the other hand; (b) use a multidimensional conceptualization of PSMU; (c) be published in an

academic journal not before 2016; and (d) be available in English.

This systematic literature review has a focus on narcissism and Social Media Usage at the subclinical level rather than at the clinical level in order to increase the generalizability of the findings, as understanding personality and behaviors as traits allows for greater flexibility and a deeper understanding. Moreover, the vast majority of the studies in the social media field have been conducted with non-clinical populations.

CONCLUSION

In the current day and age, using excessive social media is considered normal behaviour. The structure of social media platforms is meant to have a direct relationship between time spent and rewards acquired. These rewards are in the form of likes, shares, upvotes, retweets, going viral, just to name a few. The subtle psychological rewards can come in the form of external validation, acceptance, increase in connections, a platform to display new talents or promote new ventures. Well established are the compromises that come with these benefits - social comparisons, setting unhealthy standards for yourself, losing touch with reality, addiction and creation of unfulfilling relationships. Not only has narcissism become a controversial trait with many now advertising its relationship with success, it has become increasingly complex to measure. The essay has attempted to understand the various lenses through which we can view the relationship between SNS usage and narcissism.

While years of research are still required for scholars to settle on a theory which they can validate, it is indisputable that the relationship exists. The limitations of the research are immense with most relying on self-reports and lack of platform specific tools. With increasing advancement in technology, it may be possible for researchers to understand social media usage without these limitations with artificial intelligence. A future where the study of narcissism could lead to identification of people at risk through analytics of social media usage may not be far. It may be worthwhile to note that with the studies done in learning - the reinforcement model along with the rewards of social media may be nurturing a generation where narcissism may be a necessary evil.

LIMITATION

This area of research, is almost a decade old, is now seeing some replicable studies and relationships with grandiose narcissism. In the direction researchers are heading in, there may even be a need to re-evaluate what they consider to be normal so they can avoid labelling the next generation as dysfunctional under their current definitions. It is an area of research which is going to be extremely exciting to watch out for.

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