Millennials and Anxiety: An Exploration into Social Networking Sites as a Predisposing Factor

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Abstract

Social media is the main form of communication and self-expression among Millennials (young adults born 1981 through 1996). Its use is gaining more breadth worldwide, while its effect on mental well-being remains much disputed. At the same time, current research points out to unprecedented levels of anxiety among this generational cohort. The present article aims to understand the patterns and the neurophysiological fundamentals of social behavior and human connectedness, as well as its evolutionary basis, in relation to increased engagement in electronic communication by Millennials. An in-depth analysis of social emotions and their regulatory role, as well as the mechanisms of social homeostasis are presented. This theoretical framework was used to study the relationship between social behavior, alienation, anxiety and social networking sites.

Keywords: millennials, anxiety, social networks, social homeostasis, cognitive-behavioral changes

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I. CONTENT INTRODUCTION & RATIONALE

This theoretical paper explores a potential causality relationship between the rise of the modern social network and clinically-significant increases in anxiety levels with the Millennial generation, looking into such aspects as evolutionary phenomena, measured cognitive-behavioral modifications, timing of socio-economic and cultural events, and demographic data.

Millennials have been identified as the most anxious generation in history by new research, including the annual mental health national poll released by the American Psychiatric Association (APA, 2018). Rapid growth experienced in the technological sector during Millennials' key periods of psychological development, combined with the rise of Internet and social networks, lead us to believe that a relationship of causality lies therein.

Social networks are not a novelty brought about by the advances of the new millenium. They have existed throughout the entirety of our species' history, albeit in non-electronic form. Genetic markup and culture are proved factors that drive sociality. Humans have an innate propensity to connect dating back to our hunter-gatherer days. The advent of technology, however, has catapulted the need to constantly satisfy this natural drive to unprecedented levels, by making it faster and easier to connect than ever before.

With Millennials at the peak of their cognitive and physiological potential and comprising the great majority of the workforce, there is increased interest in how this generation and its distinguishing characteristics will impact society as a whole. This paper represents a step in this direction, serving to provide an insight into millennial psychology.

II. DEFINING GENERATIONS: EMPIRICAL SUPPORT FOR GENERATIONAL DIFFERENCES WITH MILLENNIALS

1. Demographic delineations

The present article references the generational cutoff points established by the Pew Research Center to divide populations by generational cohorts. These cutoff points have been established by taking into consideration unique formative experiences (historical events, technological, economic and social shifts), attitudes on key issues, and differences in those attitudes across demographic groups, as well as processes relating to life-cycle and aging.

To ensure the Millennial generation is analytically meaningful and to begin exploring insights into this cohort, 1996 has been set as the last birth year for Millennials. Those born starting 1981 through 1996 (aged 22 to 37 in 2018) will be considered Millennials. Those born from 1997 onward will be part of the following generation (Dimock, 2018). The working definition of Millennials is loosely based on the age span of Generation X (aged 54 to 72 in

2018), otherwise known as Baby Boomers (born between 1965 and 1980). The Millennial generation (16 years) is shorter in span than the Boomers (19 years).

Millennials are also different from the previous generations in that they are not clearly defined by a major historical event. Boomers are the only generation officially designated by the U.S. Census Bureau based on the famous birthrate surge subsequent to War World II, which began in 1946 and came to an abrupt decline starting 1964 (Dimock, 2018).

However, there are other key political, social and technological factors that have influenced this generation like none other before it.

2. Socio-economic and cultural context

A defining historical moment for the Millennial generation was 9/11. Most Millennials were 5 to 20 years old when the terrorist attacks happened, making them old enough to understand the grave significance of that moment. The event was followed by the wars in Iraq and Afghanistan, which shaped the current political landscape across the world. Millennials also witnessed the election of the first black president in 2008, when the large youth voter turnout marked a turning point in history.

Beyond politics, most Millennials entered adulthood and the workforce at the height of a global crisis, a period of general economic decline observed in world markets during the late 2000s and early 2010s, and dubbed The Great Recession by economists. To this day, decisions taken during that time shadow many Millennials' career choices and future earnings. Yet the long-term effects of this phenomenon, which sociologists have named a "slow start" for Millennials, are unknown as of yet (Dimock, 2018).

Perhaps the greatest defining factor of this generation has been technology. Millennials came of age alongside the Internet, a development that shaped how people aged 22 to 37 communicate, interact, seek and share information. Technology and social networks seem to dominate modern life when it comes to communication among Millennial peers and sharing personal information. Millennials connect with each other over the web, on mobile devices, through Wi-Fi and high-bandwidth cellular service (Dimock, 2018).

Smartphones are the second greatest technological development to define this generation. When the iPhone was launched in 2007, the youngest Millennials were 9 (Dimock, 2018). Smartphones — iPhones in particular — quickly gained popularity and set the stage up for the emergence of the modern social network. In the decade to follow, social media, on-demand entertainment and video platforms made their way into Millennials' lifestyle, significantly transforming how this generation perceives and practices sociality.

The Millennial generation has positioned itself as a leader in the early adoption and use of technology. Almost all Millennials (97%) reported using the Internet on a regular basis, and 28% of them navigate exclusively on a smartphone. When it comes to devices, more than nine-in-ten Millennials (92%) own smartphones, and most of them (85%) say they use social media. Specifically, Millennials are in the lead when it comes to signing up for and using platforms such as Instagram (52%) and Snapchat (47%), compared to older generations (Jiang, 2018).

III. PSYCHO-SOCIAL CONSIDERATIONS

In this section, we will attempt to review current literature on the evolutionary foundation of social networks, as well as the psycho-physiological fundamentals of social behavior, to determine what drives Millennials to social networking sites (SNS).

Humans are social in nature, governed by complex biochemical emotive devices that convey critical situational data to the brain and prepare the body to respond to environmental changes. As such, these devices are life-regulating phenomena responsible for the health and integrity of the organism (Damasio, 2003).

The human brain and the rest of the body make up an indissociable construct, a complex interconnection of structures integrated by biochemical and neural regulatory circuits. Humans engage a stimulus through the combined effort of the body and mind, and the corresponding instinctual devices — emotions (Damasio, 2003).

Emotions, particularly, are the fundamental units of survival. In the broad sense, we speak of emotions-proper, which Damasio (2003) subdivides into background emotions, primary emotions, and social emotions. They are not learned responses, but rather a part of the unconscious apparatus of our neurophysiology. Of particular interest are social emotions as regulatory and adaptive devices. Some of the most common social emotions are sympathy, embarrassment, shame, guilt, pride, jealousy, envy, gratitude, admiration, indignation, and contempt.

Social emotions are significantly more complex than primary emotions because they are not individual notions, but require relationships with other human beings. Another trait of social emotions is that they lead to reciprocity and altruistic behavior. As well, they are absolutely essential to our survival and well-being (Damasio, 2003).

Emotive reactions are aligned with the body and brain to appraise a situation and generate behavior that is conducive to the well-being of the organism (Damasio, 1994). Ultimately, all processes are directed towards the organism's main homeostatic endeavors: self-preservation and efficient functioning. By homeostasis, we understand the tendency of organisms to self-regulate and maintain the internal environment in a stable state. When homeostasis cannot be achieved,

the organism experiences a state of tension called atrophy. Plausibly, when our biochemical emotive devices are not sufficiently engaged, they will eventually atrophy as well (Damasio, 1994).

Additionally, social homeostasis is defined as the fundamental need of all social beings to be in a state of social balance, achieved through a feeling of belonging and connectedness to others. Moussaieff and McCarthy (1995) and de Waal (1996) observed this phenomenon in social animals. Essentially, individual organisms establish relationship and form groups because of their biological needs. Fear of banishment, estrangement and aloneness are also motivators to establish relationships and engage in social behavior.

Social behavior traces back to the time of hunter-gatherer societies. Early humans secured their survival by relying on the group, engaging in mutual cooperation, dividing tasks and sharing resources. As it was proven to be an adaptive behavior conducive to survival, it was prioritized and passed down genetically, under the guise of social homeostasis. Consequently, modern-day humans possess a unique capacity for affiliation and connection. This capacity comes as a complex biochemical system optimized to seek out and respond to social triggers and cues aligned to suit homeostatic endeavors (Damasio, 2003).

An individual who has achieved social homeostasis is emotionally-balanced and socially-adjusted, experiences a strong sense of connection to others and the self, and is generally described as joyful and content. The socially-satiated individual also experiences a strong sense of social identity and has a good awareness of his role within the group (Damasio, 2003).

Social homeostasis varies from individual to individual, as do the different ways through which it can be attained. Individuals who experience the highest state of connection and belonging are considered in the greatest social equilibrium. Conversely, those who report sentiments of loss, isolation and disconnect are considered in a state of tension, and as such, in a state of social atrophy (Damasio, 2003). When in this state, action must be taken to reinstate balance and the sense of well-being.

Qualitative differences of social homeostasis have also been observed, a contributing factor being social distance. Life partners and significant others provide more social intimacy than friends do, while family members and close friends provide more social satisfaction when compared to acquaintances. Maintaining homeostasis is more affected by the quality and strength of relationships, than it is by the sheer number of those relationships (Damasio, 2003).

The majority of day-to-day interactions do not supply meaningful social engagement. Only those contacts perceived as irreplaceable (Cosmides & Tooby, 1992), who share compatible ideas and values (Buss, 2008; Cole & Teboul, 2004), or are otherwise beneficial (Bleske & Buss, 2001) meet the criteria required to become an object of social satiation and, thus, to achieve social homeostasis.

Moreover, there is the issue of neocortical constraint. Dunbar (1996) conducted a regression analysis of the brain size in modern humans and discovered specific cognitive restrictions. He observed that the human brain has a limited cognitive capacity for social processing. Specifically, he uncovered that the amount of interactions the brain can sustain is capped to a finite number of individuals. Hence, there is a maximum group size with whom individuals can maintain meaningful social contact that is conducive to homeostasis:

The neocortical constraint seems to be on the number of relationships that an animal can keep track of in a complex, continuously changing social world: the function subserved by the level of grouping will depend on the individual species'ecological and social context (Dunbar, 1993, p.2).

According to Dunbar, the social brain is capped at 150 contacts, which is the approximate number of members in a traditional hunter-gatherer group. This fact is of critical importance when analyzing social behavior, since our species lived as hunter-gatherers 1,000 times longer than anything else (Cosmides & Tooby, 1997).

In conclusion, it is not biologically possible for an individual to stretch past the neocortical constraint if the social interaction is to remain meaningful. After that capacity mark is reached, the quality of the relationship will decrease significantly and will yield no further benefits to suit homeostatic endeavors.

IV. THE SOCIAL NETWORK EFFECT

In this section we will explore the cognitive and behavioral particularities that accompany extensive use of social networking sites (SNS), as they have been observed and measured in the extant literature of social networks and social network analysis proper.

Current theories seem to point out toward SNS as an expression of individuals' search for social homeostasis. As previously stated, humans have a deep-seated need to experience and express social emotions by engaging in meaningful relationships with their peers. Conceivably, if individuals are not satisfied with their immediate relationships, they will find themselves in a state of social atrophy. As such, they will seek relief elsewhere.

It is in these circumstances that SNS have emerged as the perceived ideal social outlet to fulfill the biological need for social homeostasis. However, there is a great deterrent from this solution. Dunbar's research suggests that there could be a physiological threshold for cognitive processing of social networks as well, although this has not been researched in-depth. Theoretically, once this threshold is reached, there would be no need to continue engaging with more social contacts online.

A study conducted at Cleveland State University analyzed this issue among students. The study found that the participants considered social networks a key tool in building relationships: 47.1% rated social sites as very important or important to them, 43.3% responded that they are neutral in terms of social networks (they are neither important, nor unimportant). Only 8.7% considered social networks of no importance. The average of the total number of contacts on the social networks of the participants was 389. This is clearly a much greater number than Dunbar's research suggests the human brain can support (Suran, 2009).

The study also evaluated four negative social emotions (envy, embarrassment, shame and guilt), unified under a variable titled social alienation. Alienation is a negative state of equilibrium, consistent with social atrophy and tension disruptive of social homeostasis. The findings found that alienation seems to be correlated to a person's total number of SNS contacts: there was a negative relationship between alienation and the total number of contacts reported (Suran, 2009).

Using SNS to compensate for a state of social atrophy seems to render paradoxical effects. Instead of obtaining social satiation, hence, achieving social homeostasis, individuals seem to experience heightened sentiments of disconnection, even depression and anxiety. In 2014, Brian Primack, of the Center for Research on Media, Technology, and Health at the University of Pittsburgh, found a linear association between the number of platforms used by an individual and depression and anxiety. Associations remained strong after controlling for total time of social media use.

Primack and his colleagues surveyed 1,787 young adults, ages 19 through 32, using a depression assessment tool and questionnaires to evaluate social media use. The questionnaires addressed the 11 most popular social media platforms at the time: Facebook, YouTube, Twitter, Google+, Instagram, Snapchat, Reddit, Tumblr, Pinterest, Vine and LinkedIn. The study also assessed social isolation, asking questions such as how often the participants felt left out.

Those who reported spending the most time on social media (more than two hours a day) had social isolation rates perceived twice as high as those who reported they spend half an hour a day or less on those sites. Those who most frequently visited social media platforms (58 visits a week or more) had perceived social isolation rates more than three times higher than those who visited the SNS less than 9 times per week (Primack, et al., 2014).

Researchers at King's College, London, U.K., conducted a study on 2,000 millennials and found that the chances of experiencing depression or anxiety among those who reported feeling lonely were more than double. They assessed the experiences of same-sex twins born in 1994 and 1995 in England and Wales, at different stages of life. Loneliness, mental health, physical health and relationships were of primary concern. Their findings show that the chances of facing mental health problems for those identified as lonely were double, while their chances of

unemployment increased by 38%. Moreover, participants with high levels of loneliness were found to be predisposed to engaging in "physical health risk behaviors," such as smoking, alcohol and drug use (Matthews, et al., 2018).

The implications of this phenomenon are multiple, as communication on social media is increasingly widespread. Social media sites and blogs now account for nearly one quarter of the total time spent on the Internet by Millennials (Abel, Buff, & Burr, 2016). The last few years have even witnessed the emergence of phobias related to hyper-connectivity. One such example is nomophobia, the fear of leaving home without a smartphone. There is also Fear of Missing out (FOMO), which causes subjects to stay constantly connected, so they can instantly share or compare with others to control their anxiety. These two phobias are often comorbid and are a toxicity factor for the relationships of the affected individual.

V. MILLENNIALS & ANXIETY

Millennials are the most anxious generation according to research conducted last year by the American Psychiatric Association (APA, 2018). The research consisted of testing over 1,000 American adults and found that anxious feelings increased most in the last year among Baby Boomers, but the Millennial generation was identified as the most anxious overall.

Participants were asked to answer questions about how health, safety, finances, relationships and politics have affected their mental health. APA used the resulting information to compile its annual national anxiety rating by computing the average score on a scale from zero to 100. In the past year, the score increased by five points to 51, with 39% of people declaring they feel more anxious than in past years (APA, 2018).

One particularity of anxiety among Millennials is the pervasive presence of FOMO. The fear of missing out (FOMO) is defined as the "uneasy and sometimes all-consuming feeling that you're missing out, that your peers are doing, in the know about, or in possession of more or something better than you" (Abel, Buff, & Burr, 2016). Past research has indicated that FOMO is comprised of irritability, anxiety, and feelings of inadequacy, with individual's feelings of irritability, anxiety, and inadequacy intensified when they view social media (Wortham, 2011).

Seventy percent of Millennials admitted that they experienced some form of struggle related to FOMO (the highest percentage out of any generation). Notably, 36% of Millennials reported that they experience FOMO often or sometimes. Furthermore, 46% of Millennials noted that their FOMO has been amplified by their use of social media (JWTIntelligence, 2012).

Technological breakthroughs, as well as faster and easier access to the Internet, have made information easier to obtain and, consequently, more addictive than ever. Through push notifications, Millennials have the ability to instantly receive electronic information updates

about their social network in real time (on a smartphone, a tablet, a laptop, etc.). This can stimulate individuals to compare their own lives with facts they've read in online posts and observations they've made through images on social media sites, making them feel less satisfied with their life and behavior (Abel, Buff, and Burr, 2016).

VI. CONCLUSIONS

As the use of social media continues to remain a major mean of communication in today's society, the need to understand the relationship between social media usage and its effect on the psychological and physical well-being of those who engage with it continues. The Millennial generation is of particular interest, as it is at the forefront of technological developments, as well as the backbone of workforces worldwide.

Social media use was significantly associated with increases in depression and anxiety, as well as the feeling of social alienation. Given the proliferation of communication technology and social networking sites, identifying the mechanisms of this association is critical for developing therapeutic intervention plans for those affected with these conditions, sustained by social media use.

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