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NAVIGATING THE TIKTOK HEALTH CRAZE: A SURVEY STUDY ON CONSUMERS' ATTITUDES TOWARDS MENTAL HEALTH INFLUENCERS

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Navigating the TikTok Health Craze: A Survey Study on Consumers' Attitudes Towards Mental Health Influencers

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Abstract

This study explores how consumers perceive mental health influencers on TikTok. TikTok is a widely accessible social media platform utilized by many influencers to market lifestyle habits, including mental health advice/trends. Within this context, influencers strategically position themselves within distinct consumer markets, employing various tropes to shape user perceptions. Notably, the absence of stringent controls on TikTok raises concerns about the potential spread of misleading or harmful information, particularly concerning mental health, to young, impressionable audiences. Focused on the effects of mental health influencers, this research aims to unravel the reasons behind the popularity of mental health influencers (MHIs) on the social media platform. There is limited research into consumer attitudes and perceptions towards MHIs, and more specifically, attitudes consumers hold about influencer-produced content. The current study aims to fill this gap.

Using a cross sectional survey study design, participants were selected through convenience and snowball sampling, and were asked to complete a general consumer attitudes questionnaire(n = 90, age M = 24.5, highly educated, frequent social media users). A frequency analysis of the consumer attitudes questionnaire revealed that a majority of consumers hold positive attitudes towards mental health influencers, and their contributions to the health sector, while simultaneously possessing high levels of skepticism about the validity and accuracy of influencer-related messages. Despite low credibility, consumers allow their individual health beliefs and behaviors to be shaped by online influencer health related content.

This study contributed key insights into how mental health influencers should communicate about mental health conditions, as well as the degree to which this communication

influences the consumers' behavior. Future research should explore how these findings can inform mental health content guidelines on social media platforms in more depth.

Keywords: mental health, online mental health help-seeking-behaviors, digital-help-seeking, online mental health, TikTok-Mental-Health, mental health influencers, social media

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1. Introduction

Mental health is considered one of the most salient topics characterizing countless fields of research, to date. Mental health conditions (mental and psychological disorders associated with significant levels of distress resulting in impairment in functioning and daily life) are extremely pervasive in the global population. It is estimated that around 970 million people worldwide were living with a mental disorder in 2019, with anxiety and depression being the most common (World Health Organization, 2023). Approximately 4% of the general population are currently experiencing an anxiety disorder (Global Health Data Exchange, 2019). Anxiety disorders are listed among the top contributors to the overall global burden of disease and disability and are the most common of all mental disorders (Vos T et al., 2015; Global Health Data Exchange, 2019; World Health Organization, 2023). Clinically-significant mental health conditions (i.e. generalized anxiety disorder) can be effectively treated with evidence-based, low-cost interventions; however, our current health systems in place are not sufficiently resourced (e.g. lack of funding or available services) to adequately address the high number of people resulting in pervasive treatment gaps worldwide (World Health Organization, 2001; Keynejad, Dua, Barbui & Thornicroft, 2018, as cited in Torous et al., 2021). Remarkably, even for high-income countries, offering sufficient evidence-based mental health treatment in the US alone estimates the requirement of an additional 4 million trained professionals (US Substances Abuse and Mental Health Services Administration, 2020, as cited in Torous et al., 2021). Additional barriers to treatment include the stigma and discrimination people with mental health conditions often report (World Health Organization, 2024; Barney, Griffiths, Jorm & Christensen, 2006 & Hinshaw, 2005, as cited in Hebben, 2019).

Avenues for reducing the stigma frequently associated with mental health conditions include addressing knowledge gaps between perceived and factual symptoms, pursuing new treatment alternatives, improving mental health literacy and clarifying understandings on current help-seeking behaviors (Clarke, Kousmanen, & Barry, 2015; Solmi et al., 2022; World Health Organization, 2023). In recent years, the Internet has become a widely accepted tool for combating these aforementioned barriers to treatment as it allows for anonymity and instantaneous answers for those in need (Chen et al., 2020). After the COVID-19 pandemic, society has quickly evolved and shifted the practice of mental health interventions from face-to-face to an online environment as the Internet has become a tool for many to seek online health resources and information (Chen et al., 2020; Torous et al., 2021). Studies analyzing the popularity online mental health information seeking behaviors (OMHISB) are abound, citing instantaneous answers, diagnoses and distress relief, anonymous and communal discussion of symptoms, increased privacy and security and increased efficacy as the primary motivators of OMHISB (Lucas et al., 2014 & Martinez-Miranda, J, 2019, as cited in Torous et al., 2021; Pretorius, McCashin & Coyle, 2022; Yan & Tan, 2017). Innumerably high amounts of young adults report engaging in OMHISB on social media platforms; this is largely attributed to the social, emotional and physical isolation many experienced during the COVID-19 pandemic (Kinoshita et al., 2022). Pretorius, McCashin & Coyle describe how frequently young people access mental health information online, stating that a majority of those seeking mental health services have utilized the Internet prior to their first consultation with a licensed practitioner (2022).

Along the same vein, the frequency of mental health messages, interventions, and advice circulating online has increased drastically as well (Clarke, Kousmanen, & Barry, 2015; Torus et

al., 2021). Smartphone apps dedicated to alleviating symptoms of almost every known mental disorder, mindfulness techniques, and computer games targeting mental health literacy have exploded in popularity (Clarke, Kousmanen, & Barry, 2015; Torus et al., 2021). Critically, much of this mental health content (games, interventions, videos, text-based images, songs, skits, etc.) originates/is created by what are referred to as 'influencers', or more specifically in this case, "health influencers". Influencers can be defined as "opinion makers with a large online following that influence their audience's attitudes and behavior" (Grabs & Sudhoff, 2014, as cited in Hebben et al., 2019). The primary point of contentious debate centralizes on whether or not the easily accessed and readily consumed online content propagated by "health influencers" differs in significant ways from traditional mental illness content (e.g. that received in 1:1, face-to-face wellness consultations with certified mental health practitioners). It seems current literature has failed to adequately address whether or not these frequently unaccredited health influencers are merely taking advantage of the space on social media platforms (SMPs) to dispense misinformation as a means of gaining popularity, or if the information is rooted in evidence-based fact, aimed at helping viewers suffering from mental health conditions. Furthermore, there is a sparsity in research investigating how people react to mental health videos created by health influencers on SMPs (such as TikTok) and whether audiences engage in specific response behaviors as outcomes of health influencer content on mental health conditions. The current study aims to fill this gap by investigating the specific response behaviors, self-diagnosis and intention to act (including help-seeking, and information sharing actions). This study assesses response behaviors in the context of anxiety and anxiety-related symptoms, as it is considered one of the most common mental health conditions affecting the general public.

Principally, health influencer videos about mental illness/mental health conditions can be erroneously used by viewers as a tool of self-diagnosis. A study by Yeung et al., (2022) reported that 79% of the top 100 most popular videos about ADHD on TikTok are classified as misleading or contain misinformation based solely on personal experience. Viewers suffering from symptoms related to various mental health conditions could internalize unverified, harmful perceptions based on the content of TikTok videos and use the posts to self-diagnose. Secondly, health influencer advice may motivate consumers to seek out the help of mental health professionals in hopes of addressing their personal health situations. Many videos shared by influencers contain information based on personal experience, normalizing the often stigmatized topic of mental health conditions and seeking treatment. Additionally, if viewers find the content in the video relatable and strongly internalize it, they may feel urged to share the information within their own personal microsystem. This may have both positive and negative effects depending on the quality of video-content, as exposure to misinformation has been shown to exacerbate health disparities (Starvaggi, Dierckman, & Lorenzo-Luaces, 2024).

The current study aspires to discover how individuals internalize and apply influencer messages to their own personal health situations. First, general consumer attitudes towards health influencers were investigated to determine if preconceived beliefs about health influencers affected the extent to which social media users classify content as a tool for self-diagnosis, and intention to act upon viewing anxiety and anxiety-symptom related videos. To this end, four major characteristics of health influencer videos were identified. The first characteristic concerns the method of information presentation and communication of the common mental health condition: anxiety. When creators decide what and how to film content, one of the most influential factors to be considered is how to communicate their message. Influencers can decide

to utilize a personal approach, where they are the main focus of the video (often centered), and directly engaged with dispensing or acting out mental health advice, or to limit the information medium to strictly text on the screen (sometimes utilizing artificial intelligence to dictate on-screen text). This choice can affect many different variables including video engagement, likeability, probability of being 're-posted', etc. Health influencers must present themselves as relatable to a wide audience, thereby either exploiting personable approaches and attributes, or presenting information via text only to limit the distractibility of other video factors. Importantly, research suggests that viewers identify with and trust information more when it is provided by those they perceive as similar to themselves (even if they lack medical expertise) (Engel, Gell, Heiss, & Karsay, 2024; Walter et al., 2021). This can be easily exploited, allowing "ordinary users [to] influence large audiences through perceived authenticity and closeness even if they lack relevant experience" (Engel, Gell, Heiss, & Karsay, 2024).

Apart from information presentation, the accuracy of the content in the video must be considered. Influencers can present accurate or inaccurate information concerning content topics, intentionally or unintentionally spreading misinformation. Peer-reviewed literature has examined this extensively, and has reported that on social media platforms (SMPs) misinformation (or fake news) spreads at a significantly faster rate than verified information (Vosoughi, Roy, & Aral, 2018, as cited in Cinelli et al., 2021). Oftentimes, people have a difficult time identifying misinformation especially given the niche echo-chambers online users frequently turn to when seeking out information online (Cinelli et al., 2021). The current study categorized videos as either containing, or not containing misinformation and did not attempt to analyze the intention behind the factual basis of the content.

Furthermore, the overall directness of aforementioned health information requires in-depth examination. The directness of health influencers' messages/content refers to the way a common mental illness, anxiety in this case, is described. An influencer can use a direct or indirect symptom description. Direct symptom description involves the influencer's choice to describe anxiety or specific anxiety-related symptoms in-depth, or to use an indirect description that is more vague and widely applied. Influencers want to appeal to many diverse groups of people; therefore, using an indirect, vague description of anxiety or anxiety-related symptoms might cause more viewers to identify with and relate to the content in the video. Everyone can feel anxious sometimes; however, clinically-significant levels of anxiety are characterized by intense, pervasive, and excessive fear and worry (World Health Organization, 2023). On the other hand, a direct label of generalized anxiety disorder may underscore the impact, urgency and utility of the video, encouraging users to share and promote this information, as well as forcing them to recognize their situation as a clinically-significant mental disorder possibly requiring direct or explicit treatment. Finally, adding a call to action in the video serves to remind the viewer that the information presented in the video may contain a certain altruistic purpose to help those suffering from anxiety or anxiety-related symptoms.

The findings of this study may support future research in investigating the consequences of the misinformation epidemic of online information, and the pivotal intersection with the burgeoning field of mental health online help-seeking. Future studies may build on the results revealed here to aid in investigations on other prevalent mental health conditions such as depression, eating disorders, obsessive-compulsive disorders, personality disorders, etc. The findings of this study may also offer important insights for practical application, illuminating a path in which licensed mental health practitioners and content creators can combat the most

prevalent aspects of misinformation that has been tailored to vulnerable audiences. Additionally, this study can help determine which message characteristics are most influential, and adjust TikTok content creation guidelines, in promoting evidence-based information efficacy regulations especially amongst young audiences. There is a wealth of evidence supporting the fact that people use the Internet to seek out mental health advice; however, to date, there is no previous research addressing the extent online health information seekers are influenced by specific characteristics of mental health videos. To target this gap and potentially reveal the extent with which people internalize and apply online mental health information to their own reality-based health situations, the following research question has been formulated:

RQ: What are consumer-related attitudes towards mental health influencers on TikTok?

2. Theoretical Framework

2.1. Mental health and Internet Usage

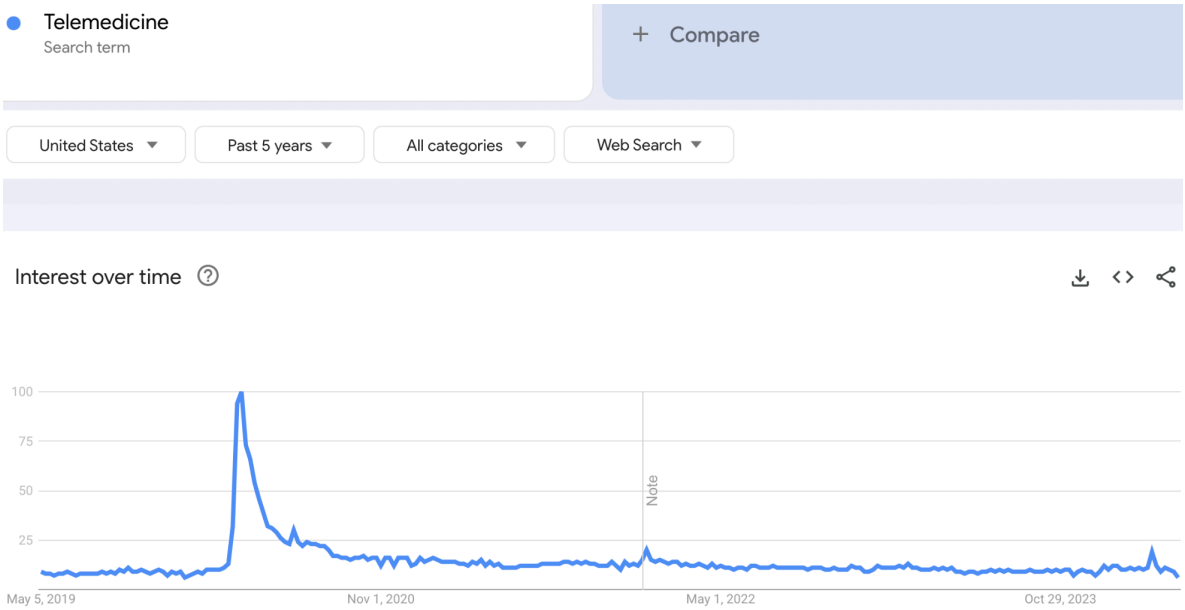
2.1.1. Mental health prevalence and barriers to treatment-seeking behaviors

Despite major advancements in treatments and screening procedures, mental illnesses (referred to as mental health conditions [MHCs]) remain the leading cause of disability worldwide (GBD Results Tool, 2019; Wu et al., 2023). The impact of mental health affects over one billion people globally each year, with depression and anxiety representing the leading causes of disability worldwide (Torous et al., 2021; World Health Organization Report, 2001, as cited by Zaken, 2023; Wu et al., 2021). It is estimated by the World Health Organization (WHO) that 1 of every 4 people will experience MHCs during their lifetime (World Health Organization Report, 2001, as cited by Zaken, 2023). Critically, people suffering from MHCs have a decreased life expectancy of 10 - 20 years, compared to the general population (Hjorthøj, Stürup, McGrath & Nordentoft, 2017, Walker, McGee & Druss, 2015, Saha, Chant, & McGrath, 2007, Nordentoft et al., 2013, as cited in Solmi et al., 2022; Husky et al., 2020, as cited in Wu et al., 2023; World Health Organization, 2022). Rising incidence rates of mental health disorders (i.e. anxiety (31.4%, depression (31.9%), distress (41.1%), and insomnia (37.9%)) during the COVID-19 pandemic have further compounded the global and economic burden of mental illness (World Health Organization Report, 2001, as cited by Zaken, 2023; Wu et al., 2021). During the first year of the pandemic alone, prevalence rates of depression and anxiety increased by 25% worldwide (World Health Organization, 2022). In fact, several studies report steep escalations of clinically significant levels of mental distress in the general population both during and after the COVID-19 pandemic (Pierce et al., 2020; Twenge & Joiner, 2020). A review by Xiong et al. (2020) critically documents elevated psychological distress at clinically relevant levels among

34.43 - 38% amongst the public (with younger age as a risk factor (≤40 years)) in countries such as China, Italy, the US, Spain, Iran, Nepal, Turkey and Denmark during the pandemic. Despite rising levels of mental health conditions worldwide, less than 30% of those suffering from MHCs seek out and receive professional help (Henderson, Evans-Lacko, & Thomicroft, 2013). Previous research identifying the reasons behind this low percentage is abundant. The most commonly endorsed barriers to psychological treatment and help-seeking are: financial limitations due to high cost of health services, lack of health insurance, self-stigma from fear of negative judgment and feelings of shame, embarrassment, fear of being labeled as 'crazy', as well as social stigma that could jeopardize one's family reputation, cultural barriers including negative attitudes towards help-seeking, and low knowledge of MHCs and MHC symptoms (Martinez, Co, Lau & Brown, 2020; Shi, Shen, Wang & Hall, 2020; Velasco, Cruz, Billings, Jimenez & Rowe, 2020). The knowledge required to identify mental illnesses, and how to access mental health services is referred to as "mental health literacy" (Kelly, Jorm, & Wright, 2007). Kelly, Jorm, & Wright (2007) revealed that mental health literacy among young adults in particular is the lowest, as young adult participants failed to identify and recognize methods of help-seeking and basic symptoms of mental health conditions. This mental health epidemic must be addressed as MHCs negatively impact and disable quality of life, productivity, and community contribution amongst those suffering (World Health Organization, 2023). Low mental health literacy combined with self- and social-stigma, leads many (young) adults searching for information without guidance or supervision, primarily on the Internet (Rahal et al., 2018). The convenience and abundance of online resources enables Internet users to research symptoms, and seek instantaneous diagnoses from anywhere (Torous et al., 2021).

The COVID-19 pandemic ignited a global mental health crisis, while simultaneously triggering a notable shift towards receiving mental health information and interventions in a digital format, via the Internet (Kinoshita et al., 2022). In response to restrictions on in-person interactions coupled with the promotion of social distancing, various healthcare services including therapy sessions, medical consultations and diagnostic assessments swiftly migrated to digital platforms (Kinoshita et al., 2022). According to data from Google Trends, within the United States, keyword searches for "Telemedicine," which denotes the provision of medical care online, peaked in March 2020 amidst the height of the pandemic (see Figure 1 below).

Figure 1



Search Trends for 'Telemedicine' from May 2019 - May 2024

Note. The figure shows the year-on-year change in Google search trends for the term 'Telemedicine' in the United States. There is a notable peak during the week of March 22nd - 28th, 2020, reflecting an increasing interest in digital health technologies among the general public during the COVID-19 pandemic. Figure created using the search function on GoogleTrends. (https://trends.google.com/trends/explore?date=today%205-y&geo=US&q=Telemedicine&hl=en).

* *The note reflects an improvement in the data collection system of GoogleTrends applied from 01/01/22 onward.*

Importantly, these keyword searches have sustained a frequency of over 5 times higher per month than pre-pandemic levels, emphasizing the need for investigation into this new avenue of digital healthcare technologies (GoogleTrends, 2024). This recent transition has notably broadened the scope of mental health intervention, counseling, diagnostics, and support services by bolstering ease of access and decreasing response time (Kinoshita et al., 2022). In summary, the enduring repercussions of the COVID-19 pandemic on global mental health persist in subsequent years, indicating a unique situation necessitating urgent attention. This development prompts critical examinations of the ramifications and regulatory imperatives surrounding the dissemination of regulated and unregulated mental health information via various digital health technologies including social media.

2.1.2. Internet usage and digital health-seeking behavior on social media platforms

Young adults are being thrust into a very vulnerable target population with regards to mental health and mental illness information online. The first signs of mental illness often arise in young adults; in fact, suicide remains the fourth leading cause of death among 15 - 29 year olds worldwide (Global Health Data Exchange, 2019; World Health Organization, 2023). Additionally, young adults today are pigeonholed into a unique situation experiencing unprecedented levels of unregulated Internet access resulting from increased access to smartphones, and other technologies. Previous research demonstrates that adolescents and young adults report frequently using the Internet as a resource to supplement professional advice on various health-related topics, with significant numbers of adolescents naming the Internet a reliable, trusted source of information (Ettel et al., 2012, as cited in Basch, Donelle, Fera, & Jaime, 2022). The role of the Internet and by extension, social media, emerges as a focal point in

shaping the emotional and cognitive landscape of today's youth within this newly cultivated environment. Among the global population, daily smartphone use and access to the Internet has reached extremely high rates (>40%) (Montag et al., 2018, as cited in Lozano-Blasco, Robres, & Sánchez, 2022). In a national report on UK Internet users conducted by Online Nation in May of 2023, the average adult Internet user spends on average 3 hours and 41 minutes online per day, with 18 - 24 year olds bolstering an uncontestedly high daily average of 4 hours and 36 minutes on the Internet (Online Nation, 2023). Nearly 48% of teenagers surveyed in the UK state that being online positively influences their mental health, citing benefits with schoolwork/homework, creating and maintaining friendships, and finding useful information about personal issues (such as mental health) (Online Nation, 2023). Additionally, a company in the USA, DataReportal, reports that the Internet penetration rate in the United States stands at 97.1% at the beginning of 2024, with around 70.1% of the total online population (239.0 million individuals) engaging in daily social media use (Kemp & Data Reportal, 2024).

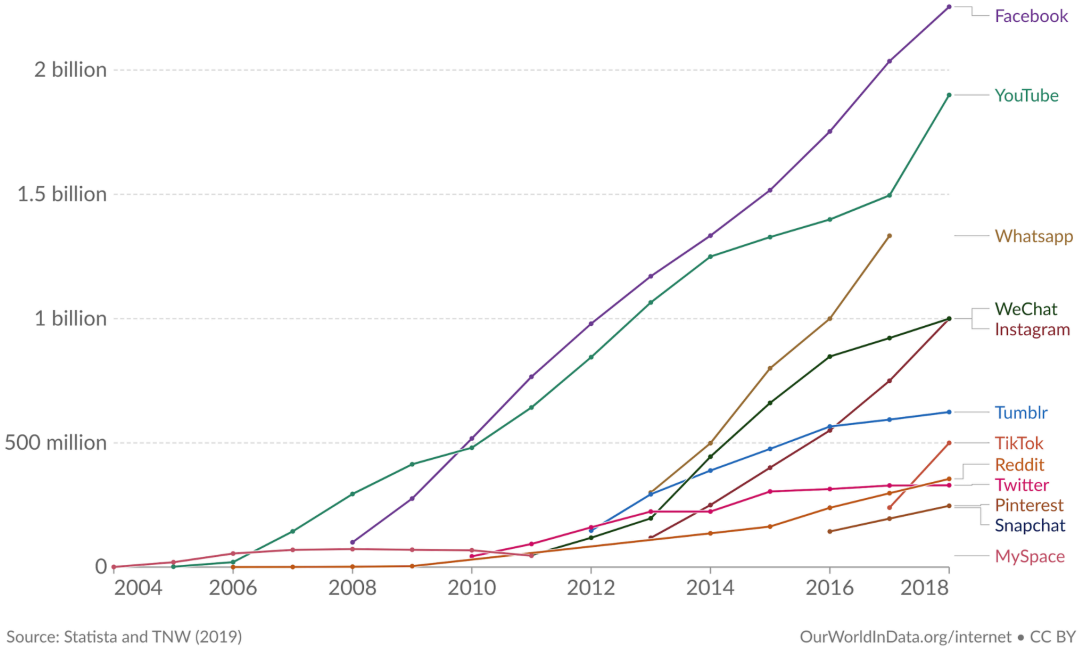
Numerous studies report high rates of Internet addiction behaviors among young adults, with rates ranging from 2 - 51% depending on the study and country examined (Lozano-Blasco, Robres, & Sánchez, 2022). Internet addictive behaviors refer to compulsive usage of social media platforms, video games, online shopping, gambling, in such a way that it impacts users quality of life (Poon, Chen, & Wong, 2018, as cited in Lozano-Blasco, Robres, & Sánchez, 2022). Most young adults are spending a majority of their time on social media networking platforms, as 18 - 24 year old TikTok and Snapchat frequenters in the UK, report average usages of 55 - 58 minutes per day (Online Nation, 2023).

In the past decade, social media has experienced an unparalleled evolution that must be critically examined in order to properly contextualize this study. The phrase "social media"

denotes the diverse Internet platforms that allow individuals to engage and interact with others through verbal and visual methods of communication (Carr & Hayes, 2015). For the average Internet user, social media has expanded from a simple way to connect into an essential facet of everyday life with various complex and multidimensional uses. Whether it be Facebook, Pinterest, Snapchat, Instagram, YouTube, WhatsApp etc, the growing popularity and utility of these social media platforms (SMPs) has solidified their longevity and marked their permanent imprint on society. Notably, the number of and time spent on SMPs has exponentially grown in the last two decades since the creation of the first social media site MySpace, as seen in Figure 2 (Ortiz-Ospina, 2019).

Figure 2

Number of People in the United States Using Social Media Platforms, 2004 - 2018



Note. Figure 2 illustrates a graph of estimated monthly active users (MAUs) across various social media platforms (SMPs) from 2004 - 2018. Snapchat measures MAUs that have logged in during the past 30 days. There is an exponential increase in SMP usage over time. Figure taken from OurWorldInData; Source: Statista and TNW (2019). Ortiz-Ospina, 2019)

A subsequent study of social network users by generation revealed that Gen Z's Internet use (individuals born between 1997 and 2012 with a current age range of 11 - 27 years old) has increased from 17.8% in 2018, to 24.6% in 2023 (eMarketer, 2022). Indeed, in 2022, the United States constituted ⅓ of global mobile Internet users and hosted the third-largest social media audience worldwide, following only China and India (Dixon, 2024). The US also harbors a formidable cohort of over 302 million social media users, with a staggering social networking penetration rate of over 91% (Dixon, 2024). In fact, SMP usage has culminated to a point that recent reviews and meta-analysis have confirmed the pooled global prevalence of social media addiction (defined as the excessive use of SMPs affecting one's daily functioning, mental health, and interpersonal relationships) as 31% among collectivist countries, 14% for individualist countries, and 18.4% among university students worldwide (aged 18 - 30) (Cheng, Lau, Chan, & Luk, 2021; Salari et al., 2023). One study 53.6% of the world's population uses SMPs on average for 2.25 hours per day (Chaffey, 2024). Table 1 displays which SMP is most popular among young adults, as well as usage statistics.

Table 1

Type of App Usage of Young Adults

App name	Average daily duration Median*	Percentage of daily use** Median
TikTok	1 hour, 52 minutes	38.4%
YouTube	40 minutes	18.2%
Instagram	16 minutes	5.9%
Snapchat	10 minutes	3.6%
Discord	7 minutes	2.5%
Roblox	6 minutes	2.6%
Chrome	4 minutes	1.5%
Netflix	3 minutes	0.8%
Spotify	1 minute	0.6%
Facebook	1 minute	0.1%

Note. Table 1 shows the average daily duration of app usage for young adults. Most noticeably, young adults are gravitating towards video streaming SMPs like TikTok and YouTube. Table adapted from TheSocialSheperd; Original Source: Common Sense Media and University of Michigan C.S. Mott Children's Hospital. (Shepherd, 2024)

Following the rising popularity of these new digital landscapes, numerous studies have recently been published investigating the effects of social media usage on mental health. This topic has been heavily debated within peer-reviewed literature, as well as within layman social circles where the general consensus typically remains that increased social media use leads to worsening mental health. Of the prominent studies on this topic, some report general positive correlations between social media use and mental health problems primarily among young adults, (Barry et al., 2017; Keles, McCrae, & Grealish, 2020) while others do not support such dramatic proclamations, instead finding claims 'weak' and 'inconsistent' (Appel, Marker, & Gnambs, 2020; Meier & Reinecke, 2021; Valkenburg, Meier, & Beyens, 2022). Other publications maintain that the positive influence and educational quality of SMPs outweighs the potential risks (Tynes, 2007, as cited in Gray, 2018). Through social media usage, many young people find it easier to overcome social isolation, often joining SMPs to talk to others and make new friends (Gray, 2018). Most saliently, a majority of studies emphasize that quality of online behavior matters much more than quantity, reporting that quality of social media usage is a primary mediator between positive and negative effects on young adult mental health (Vogel, 2019, as cited in Torous et al., 2021). This signifies an overriding obligation of current literature to analyze the quality of young adults' interactions online as opposed to quantity; however, this has been primarily neglected in literature to date. This study aims to address this gap by conducting a critical, in-depth analysis of the quality of content consumed by young adults on social media platforms.

Against the backdrop of an increasingly digital era, scholarly discourse has begun the process of addressing the implications of this paradigm shift, particularly in young adults, away from seeking health-related information in person, or from reputable sources, to seeking

information online, frequently from social media platforms. Critically, a keystone review by Hruska and Maresova (2020) on the use of social media platforms among United States adults (n = 2002), revealed that emerging adults (18 - 29 year olds) spend around 6 hours per day on social media (~3 hours more than older adults), navigating multiple platforms simultaneously to locate goods, make purchases, share experiences, and obtain guidance/advice from others (Keles, McCrae, & Grealish, 2019; Wu et al., 2021). This has profound implications to the current situation surrounding mental health as low mental health literacy (among young adults), coupled with fear/perceived prejudices leave many people searching for answers by themselves (often online). In fact, online health information seeking (OHIS) is at an all time high (more than half of US adults report using the Internet as a primary source for health information) (National Cancer Institute, 2018, as cited in Wang, Shi, & Kong, 2021). Younger adults in particular are motivated to engage with the digital health information field often due to the time spent online, and report turning to popular social media sites for information (Bachofner, 2024). The large amount of individuals turning to social media platforms as a means of health-information seeking, has shaped the digital mental health landscape significantly. The proliferation of Internet access and increased OHIS behaviors on social media platforms has created a demand for the production and creation of mental health-related content on SMPs.

2.1.3. Health Influencers, and the current climate of online mental health content

In the wake of COVID-19, increased OHIS behaviors has also contributed to the rise of the creation of online mental health content by professionals. Mental health professionals now capitalize on various social media platforms to disseminate mental health-related content and information that would typically be confined to therapeutic or higher education settings, in order

to reach a broader audience and alleviate the burden of mental illness (Pretorious, McCashin & Coyle, 2022). Empirical investigations underscore the escalating integration of the Internet, particularly social media, into practitioner habits (Sugarman, Horvitz, Greenfield, & Busch, 2021; Taylor, Fitzsimmons-Craft, & Graham, 2020). Notably, a study conducted by Sugarman, Horvitz, Greenfield, & Busch (2021) revealed that approximately 75% of clinicians began leveraging online platforms to extend their services or disseminate pertinent information during or after the COVID-19 pandemic. Increased credibility of information gleaned from the Internet, coupled with a captive, vulnerable audience (due to social media addiction and low mental health literacy), it is reasonable that certain experts in their fields, as well as imposters, are utilizing these platforms to engage with the public on a variety of diverse topics within the field of mental health: these individuals are commonly referred to as influencers, or more specifically health influencers (Triplett et al., 2022, as cited in Pretorious, McCashin, & Coyle, 2022).

An influencer is an individual who has the power to affect the purchasing decisions, opinions, and behaviors of others due to their authority, knowledge, position, or relationship with their audience. These individuals often have a reputation of "expertise" within a specific field or topic (Geyser & Influencer Marketing Hub Team, 2024, as cited in Pretorious, McCashin & Coyle, 2022). Influencers often have a significant following on SMPs like Instagram, YouTube, Twitter, or other online channels. They create content related to a specific niche, such as fashion, beauty, lifestyle, technology, or travel, and their followers trust and value their recommendations. Brands frequently collaborate with health influencers to promote their products, services, or in this case health topics, leveraging the influencer's reach and credibility to connect with their target audience. Influencers can be categorized into specific tiers depending on their number of followers, platform used, health topics, engagement and level of influence (BenLabs Team,

2023; Engel, Gell, Heiss, & Karsay, 2024). An overarching analysis of influencer categorization has identified 4 - 5 distinct tiers: Nano-influencers, Micro-influencers, Mid-Tier influencers, Macro-influencers, and Mega-influencers. Each tier possesses unique attributes that appeal to companies and brands seeking to promote their products, services, or enhance awareness. The scope of this study is primarily concerned with mental health macro-influencers, and similarly popular artificial-intelligence-generated-bot-accounts, characterized by an average following between 100,000 to 1,000,000, encompassing widespread cross-platform engagement, a dedicated fanbase, and a reputable, trusted voice (source: (Manibo, 2021), (Ismail, 2023).

Virtual influencers can be mentalized as ‘thought leaders’ on media platforms, with the ability to alter the internal psychological environment of their audiences by engaging with followers on digital mediums via posts, comments, likes, hashtags, etc. (Conti, Gathani, Tricomi, 2022; de Veirman, Cauberghe, & Hudders, 2017, as cited in Pourkarim, Nayebzadeh, Alavain, & Hataminasab, 2023). Their reputation, popularity and credibility typically derive solely from their social media activity and the type of content they post, typically created with the intention of amassing/appealing to the interests of a specific group of people who, theoretically, become their followers and supporters (Pourkarim, Nayebzadeh, Alavain, & Hataminasab, 2023; Hu, Min, Han, & Liu, 2020, as cited in Belanche, Casaló, Flavián, & Ibáñez-Sánchez, 2021). Images, followers’ interest, use of hashtags etc all govern individual influencer popularity, where inconsistency in posts or advertisements decreases viewers’ perceptions of influencer and brand credibility (Belanche, Casaló, Flavián, & Ibáñez-Sánchez, 2021). Empirical studies report high influencer-consumer congruence as a primary mediating factor in consumer perceptions of health influencer credibility, authenticity, and increased consumer-recommendation intentions (Belanche, Casaló, Flavián, & Ibáñez-Sánchez, 2021). When an influencer aligns with the style,

values, personality or image of a follower, they will alter their own perceptions of the message to more similarly align with the implied perceptions of the influencer (Belanche, Casaló, Flavián, & Ibáñez-Sánchez, 2021). Perceived influencer expertise and similarity to the user has been named a mediating factor in whether or not audience members accept certain mental health messages on SMPs Heiss et al., 2024). These types of behaviors preferring cognitive consistency and similarity support a common, unconscious heuristic known as affinity bias: where people more strongly believe those they perceive as similar to them (Hruska & Maresova, 2020; Belanche, Casaló, Flavián, & Ibáñez-Sánchez, 2021).

Influencers represent a new category of opinion leaders, and can exert changes in the behavior of their followers on a range of topics (Belanche, Cassaló, Flavián, & Ibáñez-Sánchez, 2021). According to a pivotal article published by LinkedIn (April 18, 2024), the top 5 performing influencer categories are: Beauty and fashion, health and wellness, travel and adventure, food and cooking, and parenting and family. Empirical studies report similar preferences among influencer types, with healthcare workers such as doctors and nurses consistently ranked in the top two most popular, preferred influencer types (Aljunaid, Alshahrani IV, Terra, & Baklola, 2024). Health influencers can therefore be considered one of the most popular categories of influencers in the digital landscape to date. Health influencers should be defined as individuals with clinical-health training, truthfully disseminating information in an attempt to educate the general public on a variety of health-related topics (Oggionni, 2021). It is imperative to note however, that much of the literature, as well as health influencer accounts on popular social media platforms do not always make this distinction or reliably contain disclaimers of the boundaries of influencer advice, and are therefore deemed misleading. It is recommended to differentiate between health influencers (accredited, knowledgeable experts in

their health-related domain) from imposters (popular influencers/individuals hoping to profit through media platforms by exploiting low health literacy and virally spreading misinformation for financial gain or notoriety). The reason for this is that many unaccredited health influencers lacking the necessary qualifications, are spreading incorrect knowledge in various health fields, leading to devastating effects on national public health literacy and perceptions (Byrne, Kearney, & MacEvilly, 2017, as cited in Pourkarim, Nayebzadeh, Alavain, & Hataminasab, 2023). On the other hand, qualified and approved health experts are occupying a niche position, with the ability to dispense accurate, empirically-supported information correctly to vulnerable audiences, ultimately improving health literacy among the general population.

Health influencers are documented in many different sub-domains of the health field: diet, exercise, lifestyle habits, etc. The scope of this study will strictly center on mental health influencers (MHIs): accredited mental health professionals who use social media platforms to share mental health related information and content with the general population (Triplett et al., 2022). As previously stated, positive attitudes and increased likelihood of young people to use SMPs as a credible source of mental health information created a market for mental health influencers to produce and publish videos discussing mental health on the Internet (Sood, 2023). This allows opportunistic brands to hire MHIs for the purpose of advertising unsubstantiated forms of treatment (Little, 2023). Infact, the employment of influencers by various startups to discuss and promote health trends/topics has been shown to increase reach and engagement with the target audience (Pretorious, McCashin, & Coyle, 2022). This technique is known as influencer marketing, when a popular influencer account communicates, advertises, and promotes a brand's product (applications, counseling services, dietary supplements, etc) on their own social media accounts (Belanche, Cassaló, Flavián, & Ibáñez-Sánchez, 2021). Verified

companies and brands exploiting influencer marketing techniques reportedly undergo a discriminative evaluation process of their selected influencer to ensure they align with standard ethical guidelines; however, due to the immense number of imposters posing as MHIs on SMPs, this procedure is often ignored in current practices (Byrne, Kearney & MacEvilly, 2017).

Mental health influencer marketing is fundamentally altering general audiences' perceptions of mental health literacy. A study evaluating the role of influencer marketing in public health by Byrne, Kearney, and MacEvilly (2017) noted that 59% of participants (n = 232) followed social influencers on SMPs with 16% admitting to following dietary guidelines and food choices recommended by the health influencers they subscribed to, despite lack of influencer accreditation status. Recent research has confirmed that a significant portion of health advice online, specifically related to mental health conditions, is unsubstantiated (PlushCare Content Team, 2022). Avid social media users are actually more likely to encounter misinformation when in the process of seeking treatment advice about mental health/mental illnesses (Rutten et al., 2019 as cited in Starvaggi, Dierckman, and Lorenzo-Luaces, 2024). The balance between the propagation of misinformation and the monitoring/removal of aforementioned misinformation has become almost impossible to keep up with, to the point where exposure to misinformation is now recognized as a public health crisis (Office of the U.S. Surgeon General, 2021, as cited in Starvaggi, Dierckman, and Lorenzo-Luaces, 2024). One reason for this may be that many MHIs lack the expertise of certified psychologists and clinicians and are genuinely misinformed; however, this dictates the need for additional studies to investigate the extent young adults internalize or act on online mental health messages. This is a foundational gap in current literature that this study aims to address by assessing intention to act, as well as degree of self-diagnosis among young adults viewing mental health information

on social media platforms. In a study conducted by Tan, Rehm, Stevenson, and De Foe (2021), on individuals (n = 90) actively consuming mental health information online, 37% reported changing their strategies of illness management for obsessive-compulsive and related disorders based on misinformation encountered on the SMPs Facebook and Reddit; however, less than half reported consulting a mental health professional about said changes. Various reviews conclude that MHIs frequently generalize their experiences with mental health problems, offering minimal guidance on adequate treatment options or potential risks of pharmaceutical interventions, leading to biased and inaccurate statements readily consumed by their viewers (Harris et al., 2021 as cited in Engel, Gell, Heiss, & Karsay, 2024). Strikingly, most MHIs do not include disclaimers about the boundaries of their advice when dispensing information to their followers regardless of authentic or perceived expertise (Naslund et al., 2019; O'Reilly et al,. 2019; Pretorious 2019 & 2022).

On SMPs like Instagram, TikTok, and YouTube, most frequented by young adults, the hashtag #mentalhealth conjures millions of posts and videos containing completely unregulated content such as discussions and personal accounts of mental health conditions (Hebben, 2019). While there is unlimited potential for MHIs to contribute positively to the public health domain and mental health literacy, commercial interests, partnerships with predatory startup companies or untested pharmaceutical supplements, and lack of expertise (i.e. formal education) excessively increase negative effects, raising concerns about the sustainability of MHIs as alternative sources of health-related information (Aljunaid, Alsharhrani. IV, Terra & Baklava, 2024; Engel, Gell, Heiss, & Karsay, 2024). In a study assessing the digital health literacy of university students in Germany (n = 14,916), determining the reliability of health-related information and appropriately assessing the presence of influencer commercial interest were the greatest difficulties reported by

users in web-based information seeking (Dadaczynski et al., 2021). Furthermore, Cooper, Campbell, and Conner (2024) discovered that among young adults from the US, UK and New Zealand (n = 1,022), health influencer followers show increased distress in the forms of depression, anxiety and negative overall mood compared to non-followers suggesting that MHIs can negatively impact the relationship between healthy behaviors and mental health.

Exerting additional influence on the nature of online mental health content is the rise of artificial intelligence software robots (bots), capable of generating social media accounts, posts, news stories, videos, and even research articles that mimic legitimate studies (Himelein-Wachowiak et al., 2021). There is a critical distinction discussed here between popular influencer accounts run by authentic individuals, and popular influencer accounts created by 'bots'. Bots are automated online accounts that often pose as real human users on SMPs (Shao et al., 2018, as cited in Himelein-Wachowiak et al., 2021). One study recorded up to 66% of bots actively tweeting about COVID-19 during the pandemic (Himelein-Wachowiak et al., 2021). While some bots are harmless, many perpetuate the spread of misinformation via behaviors like excessive posting, contributing to the virtual-wildfire-like propagation of unverified content (Shao et al., 2018, as cited in Himelein-Wachowiak et al., 2021). Fine-tuned investigations into this area of research have discovered that bots now have the ability to function in coordination with one another to form "botnets" (Abokhodair, Yoo, & McDonald, 2015, as cited in Himelein-Wachowiak et al., 2021). These accounts can easily become pathological when virally disseminating the consumption and spread of misinformation among young, vulnerable social media users.

While multitudes of reviews on this topic have yet to reveal with explicit clarity whether or not MHIs contribute to or impede the health of young adults grappling with the emergence of

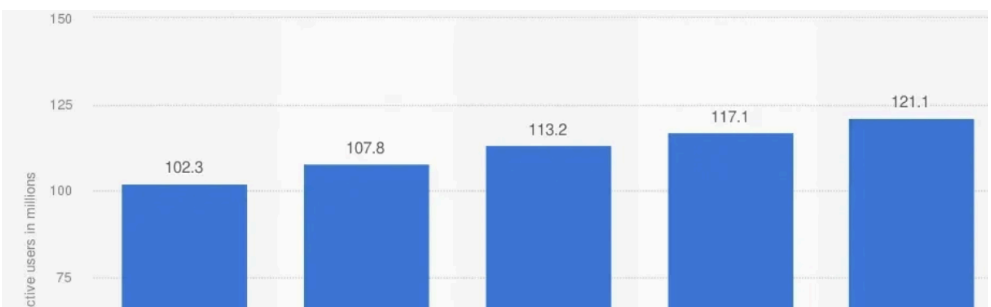
mental health issues, SMPs can and should be used as an aid to help improve mental health literacy because of widespread access, daily use, and high rates of OHIS (Engel, Gell, Heiss, & Karsay, 2024). Young adults are increasingly likely to use SMPs to acquire information on mental health and illness, as well as identifying SMPs as a trusted source of information to educate them on mental illness or pursue positive mental health strategies (Naslund et al., 2019 & O'Reilly et al., 2019 as cited in Pretorius, McCashin, & Coyle, 2022). A majority of research to date has analyzed the most widely used SMPs (Facebook, Reddit, YouTube, Instagram, etc.) in an attempt to characterize the current climate of mental health content in the last five years; however, research evaluating the SMP TikTok is notably deficient. As the disparity between individuals experiencing mental health conditions and those able to access treatment grows, the widely popular SMP TikTok is well-placed to bridge this gap effectively through online content (Hasler, 2023).

2.1.4. Digital Health-Seeking Behaviors on TikTok

TikTok has emerged as a quintessential application for both verified and unverified MHIs to swiftly reach vulnerable masses within this realm of information sharing on SMPs, undoubtedly due to its unique algorithm, expansive user base, and rapid dissemination capabilities (Bhandari & Bimo, 2022). Originally conceived as a music streaming app launched by ByteDance in 2016 China under the name Douyin, TikTok rebranded after merging with another Chinese social media service Musical.ly in 2018 (Bhandari & Bimo, 2022). The application swiftly transcended borders, gaining traction in other countries such as the United States as it transformed into a global video-sharing platform on topics ranging from popular dances to celebrity gossip to health trends to relationship advice (Bhandari & Bimo, 2022).

TikToks popularity continued to explode as it evolved away from just a music streaming app, and diversified available/accessible content, becoming a key epicenter for learning information especially after the creation of the "#TikTokTaughtMe" campaign (in positive and negative ways) (Schulz & Guynn, 2022). As the New York Times states, "[On TikTok] You can join a dare-like challenge, or participate in a dance meme, or make a joke. Or you can make fun of all of these things. TikTok assertively answers anyone's "what should I watch with a flood" (Herrman, 2019). During the height of the pandemic, TikTok usage peaked as it was named the most popular app in 2019 and 2020 (Wang, 2022). A growing need for connection, the pursuit of self-expression, and social isolation drove adolescents and young adults to TikTok during the pandemic (Sood, 2023). In 2023, TikTok users reported spending the most time on the platform per day (~1.5 hours), more than YouTube, Twitter, Instagram, Facebook, Snapchat and Reddit (Statista & Jo Dixon, 2024; & GilPress, 2023). Currently, TikTok has between 1 - 1.5 billion monthly active users worldwide with estimates to reach 2 billion by the end of 2024. (Bhandari & Bimo, 2022; Business of Apps, Revenue and Usage Statistics, 2024). An estimated number of monthly active TikTok users can be seen in the graph below (Figure 3).

Figure 3



Estimated Number of Monthly Active TikTok Users in the United States (in millions), 2023 - 2027

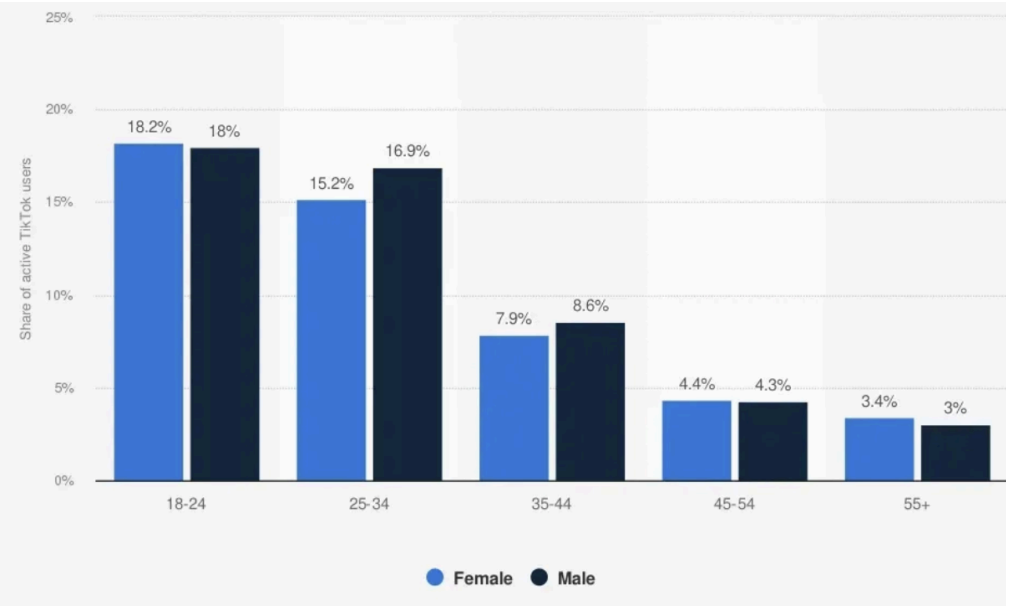
Note. Figure 3 illustrates a bar graph of monthly active users on TikTok in the United States, from 2023 - 2027. Researchers estimate that by 2027, the number of monthly active TikTok users will increase to almost 125 million. This further underscores the severity of understanding the current mental health climate on TikTok. Figure taken from eMarketer Statistics; Source: eMarketer (2023).

TikTok's unique value proposition lies in its algorithm-driven content delivery mechanism, meticulously tailored to individual preferences and past content affinities (Anderson, 2020). This platform displays particular popularity with a traditionally elusive age group ranging between 13 - 29 years (Anderson, 2020, as cited in McCashin & Murphy, 2022). Empirical data analysis from the United States reveals that 32.5% of TikTok users fall within the 10 - 19 age bracket, while 29.5% belong to the 20 - 29 age range (Clement, 2020). On a global scale, the majority of TikTok's user base is presumed to be the pre-teen demographic, a historically vulnerable age group (McCashin & Murphy, 2022). Other sources confirm that around half of all TikTok users (47.4%) are under 30 years old with the dominant age group (25% of users) ranging between 10 - 19 years old, and the second largest 20 - 29 (Howarth, 2024). Although

TikTok's global appeal is widespread amongst several age groups and diverse geographical regions, there is a clear preference within the younger demographic for both users and content creators (Shepherd, 2024; McCashin & Murphy, 2022). Figure 4 displays a bar-graph distribution of worldwide TikTok users by age and gender as of October, 2023 to emphasize the primary age-range found on the popular SMP.

Figure 4

Distribution of TikTok Users Worldwide by Age and Gender, October 2023



Note. Figure 4 displays a bar graph of active TikTok users worldwide (18 years and older), demographically separated by age and gender, in October 2023. The purpose of this graph is to highlight the popularity of TikTok among young adults within a specific age range where one is most likely to experience the onset of mental health conditions. Figure taken from Data Reportal; Source: We Are Social; DataReportal: TikTok; Kepios; Meltwater (2023).

TikTok's widespread popularity can be partially attributed to the prevalence of the algorithm and its algorithmically-driven user-centric experience (Bhandari & Bimo, 2022). TikTok's novel

elements like “stitching”, “duetting”, and posting “stories” similar to YouTube, Vine, and Instagram are only some of the features younger generations find so addicting (Bhandari & Bimo, 2022). The more the user interacts with the algorithm, the more it learns their preferences, behaviors, personality, style, humor type, aesthetic, and tailors the main “For You Page” (FYP) better (Xu, Yan, & Zhang, 2019). The FYP is what the user is presented with as the home screen upon opening the TikTok application and is where most users spend a majority of their time (Notes 3). This is very different from usage reported on other SMPs, as TikTok users “engage almost exclusively with the algorithm itself, instead of other users on the platform” (Bhandari & Bimo, 2022). Due to the structure of the TikTok FYP, actions such as commenting on videos, following others, and sending messages are less important (secondary) to algorithmically-curated content, causing a shift in focus away from normative SMP activity (Bhandari & Bimo, 2022). Research indicates audiences enjoy the use of TikTok more than other SMPs despite the departure from peer-to-peer interaction which makes up only 1% of average use on TikTok (Bhandari & Bimo, 2022).

A principal contention against the use of TikTok centers around the perils of affective capitalism, whereby the algorithm harvests remarkably precise data about users and sells it for profit to other companies (Gregory et al., 2015). Users report pinpoint accuracy among the videos that come across their FYP as it is viewed as “a curated collection [of videos] representing their inner self” (Bhandari & Bimo, 2022). The algorithmically created identity thus constructed serves to define and confine users within predefined categorization schemas, sequestering them to various sections of TikTok as it learns the users personality (e.g. BookTok, CookTok, HealthTok, PetTok, FoodTok, etc), and for the purposes of this paper, MentalHealthTok (Conrad, 2022). Researchers have begun describing this phenomenon of

acquiring and storing the behavioral imprints left by users in the digital environment as “digital phenotyping” (Focus On Tecnologia, 2024). This is critical to cultivating a proper understanding of the virtual landscape surrounding mental health on TikTok because once the algorithm learns and adapts to users’ ‘personal baseline’ of behavior, it can begin to alter, manipulate, and predict future actions and even mental health conditions with clinical accuracy (Torous et al., 2021). This characteristic of TikTok sets it apart from other SMPs, and may actively work against vulnerable users as the more they search “mental health”, the more videos they will see on their FYP about mental health, ultimately leading to negative feedback loops and the reinforcement of inaccurate, personally held beliefs and biases. Importantly, despite the inherent risk of modern and extreme data-mining, many TikTok users acknowledge and consent to this trade-off, valuing the platform’s entertainment and content over concerns about data privacy and exploitation (Bhandari & Bimo, 2022). However, it is not discussed within current literature whether or not these consenting users hold a firm and comprehensive understanding of the extent their passive data is being used within the FYP algorithm. While a majority of the platform’s most viewed content centers around various dance challenges and memes, there is also an abundance of content on #MentalHealth which has amassed billions of views (PlushCare Content Team, 2022). As of October 6 2022, the hashtag ‘#MentalHealth’, had 28 billion views (TikTok), and 17.1 million posts as of July 1, 2024 (TikTok). Campaigns such as #TikTokTaughtMe, combined with the isolation and rapid deterioration of mental health during the COVID-19 pandemic, disrupting the ability of adolescents to experience peer acceptance and identity formation via social interaction, has pushed youth to use TikTok as a source of reliable information when it comes to mental health. In fact, a study commissioned by Google found that among US individuals aged

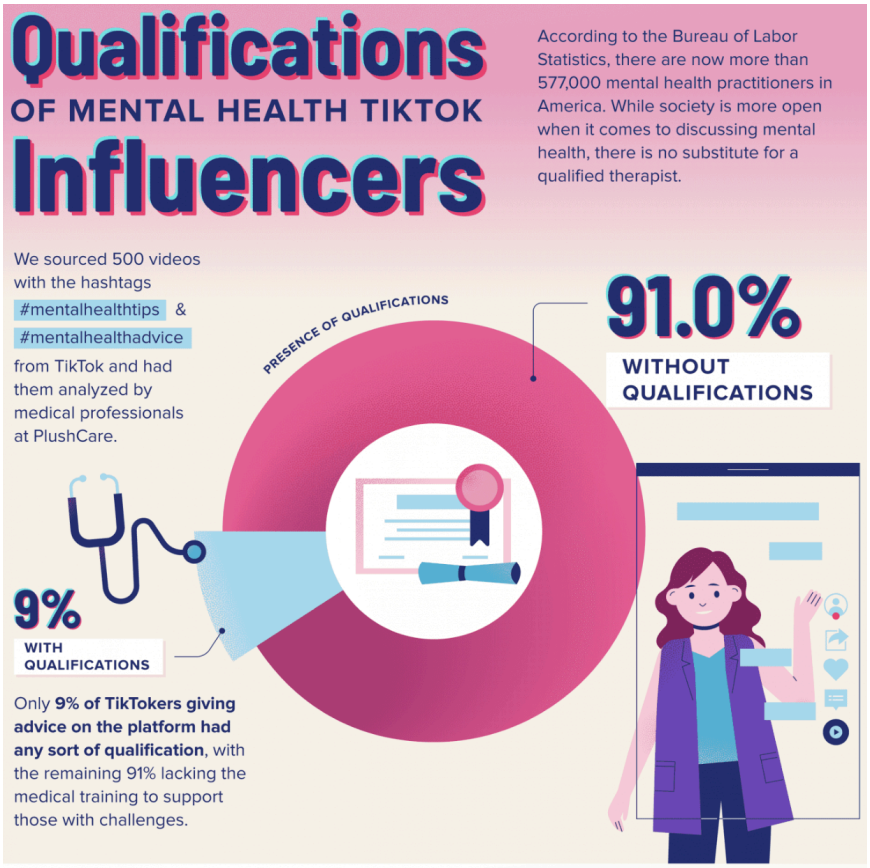
18 - 24, nearly 40% utilize TikTok as an online search engine for mental health and mental health conditions (Schulz & Guynn, 2022).

Because a majority of mental health difficulties occur in high prevalence among young people with typical onset before the age of 25, TikTok as a platform inhabits a unique position as a tool to greatly influence mental health in a positive or negative way (Pretorius, McCashin, & Coyle, 2022). Saliently, the majority of young individuals using mental health services have sought information about mental health online prior to initial consultations with a professional (Pretorius, McCashin, & Coyle, 2022). In response to the intense proliferation of mental health content on TikTok, the SMP has collaborated with various international mental health organizations to produce well-being guidelines aimed at promoting optimal messages on the platform (Canady, 2021, as cited in Basch, Donelle, Fera, & Jaime, 2022). However, according to the Psychiatric Times, only 3% of popular mental health videos on TikTok are created by credentialed mental health clinicians (Iqbal, 2023; Miodus & Jimenez, 2023, as cited in Sood, 2023). Additionally, recent studies have shown that a majority of mental health advice and information on TikTok to be misleading, unverified, and false (PlushCare Content Team, 2022). A keystone study by PlushCare analyzed 500 #MentalHealth videos on TikTok and reported that a concerningly high 83.7% of mental health advice was misleading, 31% contained inaccurate information, and 14% were considered potentially damaging to the user (some videos going as far as to suggest medication) (PlushCare Content Team, 2022). In the United States where the average individual is expected to pay around $100 - $200 per therapy session, it makes sense that more and more people are moving to online platforms for advice; however, more than 80% of content on popular mental health conditions was found to be misleading (PlushCare Content Team, 2022). This study found 100% of videos with advice on ADHD to be misleading, 94.1%

of BPD videos, 90.3% for videos about depression, and 89.6% for anxiety (PlushCare Content Team, 2022). Videos were deemed misleading if they met any of the following: containing advice that is inaccurate or damaging, encouraging self-diagnosis, or contained advice but had no disclaimer and no encouragement to confirm with a professional PlushCare Content Team, 2022). Figure 5, below, adapted from the PlushCare report, states that of the mental health influencers on TikTok, only 9% have adequate qualifications for the content they disseminate.

Figure 5

Qualifications of Mental Health Influencers on TikTok, PlushCare Content Team, 2022



Note. Figure 5 illustrates the results of the 500-TikTok-video-clip analysis conducted by PlushCare Content Team. Results revealed a shockingly low presence of educational qualifications among mental health influencers on TikTok (9%). The remaining 91% of MHIs lacked any medical or formal educational training to support the efficacy and reliability of the content discussed on their accounts. The purpose of this figure is to further underscore the lack of credentials, and elucidate one of the many reasons misinformation about mental health conditions is so prevalent on TikTok. Figure adapted from PlushCare; PlushCare Content Team (2022).

Although the increase in discussion and attentional awareness of mental disorders could ultimately have a positive effect by empowering users to seek out medical help after viewing aforementioned videos, the chances that they will end up "consuming more inaccurate content leading to self-diagnosis and unnecessary self treatment outweighs the benefits" (Hasler, 2023). For example, one video on TikTok claims if you have ever suffered from intense nightmares and often have a disorganized or messy room, you might have cPTSD (Hasler, 2023). As a result, current literature has now turned attention toward creating a true, comprehensive assessment of the extent to which audiences are internalizing the mental health information propagated on TikTok although it is relatively under researched. Several studies have argued that the significance of the media's influence on the individual relies heavily on the process of identification facilitated within the psyche of the user consuming it (Bhandari & Bimo, 202). In other words, the quality of media consumed is the heavier weighted determining factor in mental health outcomes when compared to quantity (Vogel, 2019, as cited in Torous et al., 2021). Mental health practitioners have an obligation to educate vulnerable audiences within the general public in a safe and ethical manner, and to ignore the current epidemic of misinformation surrounding mental health on TikTok would be a disservice, and risk failing the oath to be advocates for mental health (Sood, 2023).

Indeed, exposure to misinformation has become so rampant that it is now considered a public health crisis (Office of the U.S. Surgeon General, 2021, as cited in Starvaggi, Dierckman, and Lorenzo-Luaces, 2024). Social media users are at a greater risk of encountering misinformation when seeking mental health advice (common goal in health-related Internet use), which is exacerbated by repeated exposure (a key driver of internalization and belief of misinformation) (Ecker et al., 2022; Pillai & Fazio, 2021). Contextualizing the results of this data

within the low numbers of individuals who seek treatment for mental health conditions, exposes an extremely at-risk population of people suffering from mental illness exclusively relying on the mental health information they engage with on the Internet/SMPs. There is an urgent need to develop strategies promoting the immunization of vulnerable populations against misinformation propagated through social media (Wang, McKee, Torbica, & Stuckler, 2019). A notable challenge then arises within vulnerable populations having access to unregulated information, as they tend to accept and disseminate misinformation readily, particularly if it reinforces previously held beliefs, political, or religious convictions (Wang, McKee, Torbica, & Stuckler, 2019). While credibility rates among young adults vary, several predictors of believing health misinformation have been identified: lower trust in the healthcare system, lower health literacy, elusive and deficient health information, lack of misinformation checks and platform censorship etc. (Ryff et al., 2006, as cited in Valkenburg, Meier, & Beyens, 2022; Jia, Pang & Liu, 2021). While on other SMPs, there are certain safeguards in the form of required disclaimers, trigger warnings, and strict community guidelines surrounding mental health discussions, on TikTok this is not necessarily the case (Starvaggi, Dierckman, and Lorenzo-Luaces, 2024). Young adults desperate for a "quick fix to change their anxiety habits, or pull them out of their depression will not be examining these accounts so closely when deciding who to take [mental health] advice from" (Belanche, Cassaló, Flavián, & Ibáñez-Sánchez, 2021).

In fact, studies have already begun to see the harmful effects of opportunistic startup companies partnering with mental health 'influencers' on TikTok (Starvaggi, Dierckman, and Lorenzo-Luaces, 2024). For example, Cerebral, a telemedicine company popularized and promoted by MHIs on TikTok, has recently come to the attention of the public for spending millions of dollars to predatorily advertise "nonspecific symptoms as proof of diagnosis for

ADHD" in an attempt to lure people into treatment (Little, 2023). Additionally, Peak Health Global, an unverified, self-proclaimed wellness company on TikTok, promoting remote ketamine treatments for depression, is being criticized for lenient screening processes and lack of psychiatrist oversight of patient care (Sood, 2023). Furthermore, some of the content surrounding mental health on TikTok has been shown to romanticize certain mental health conditions. While very few studies have attempted to address this problem, the currently published results have revealed extremely troubling findings. Recent experts have argued that this failure to accurately represent the reality of complex medical illnesses and problems has caused young adults to present with certain conditions en masse (Giedinghagen, 2023; Hasler, 2023). The most frequently reproduced conditions are Tourette Syndrome and Dissociative Identity Disorder (DID) (Giedinghagen, 2023; Lucas, 2021; Pietkiewicz, Bańbura-Nowak, Tomalski, & Boon, 2021; Shepherd, 2024; Stokel-Walker, 2021). Studies are now addressing growing public concern for possible explanations for this form of "Mass Social Media Induced Illness" (Olvera, et al., 2021; Giedinghagen, 2023; Müller-Vahl et al., 2021). Tourette Syndrome has been viewed over 10 billion times on TikTok, amassing a huge following to help "normalize" and "spread-awareness" of the neurological condition (Giedinghagen, 2023; Hasler, 2023; Stokel-Walker, 2021). Unfortunately, content analysis has shown that most of the videos created showing 'tics' are made by individuals who have "functional, or psychogenic, disorders" caused by the individual's psychiatric state instead of brain pathology (Hasler, 2023; Olvera et al., 2021).

> "Interestingly, almost 70% of the content creators interviewed in one study admitted that they'd only developed their tics after watching TikToks featuring the same tic. This shows that consuming content on TikTok can result in people internalizing the alleged symptoms of a condition so thoroughly that they end up displaying them themselves, leading to a self-diagnosis and potential over-treatment" (Hasler, 2023).

Discussions of other explanations pursue theories of Munchausens by Internet (Feldman, 2000, as cited in Giedinghagen, 2023) or Mass Psychogenic Illness (Bartholomew & Wessely, 2002). The effects of incorrect information seem to be creating an emerging trend that researchers are starting to pick up on, which unfortunately has generalized to other mental health conditions popularly discussed on TikTok (Hasler, 2023). For example, in one study, viewers consuming content related to ADHD were led to believe that they too could have ADHD or other mental health conditions, resulting in a measurable uptick in ADHD diagnoses and a shortage of ADHD medications in the United States (Hasler, 2023). Simultaneously, as previously stated in the PlushCare study where healthcare professionals analyzed 500 videos on TikTok, 100% of the content regarding ADHD was deemed inaccurate and contained misleading information (PlushCare Content Team, 2022). We currently live in an age where access to inaccurate mental health information is omnipresent while access to appropriate and affordable medical care is rare, and it is the responsibility of accredited mental health practitioners to research and address the effects of this content on the mental health of consumers (Sood, 2023).

Analyzing the internalization of messages and intentions to act on content discussing other prevalent mental health conditions on the app (such as anxiety) remains conspicuously

deficient. This study seeks to initiate an in-depth scrutinization of this gap in the literature. Three principal goals were determined for this study: (1) to identify popular videos from well-known MHIs and accounts on TikTok, (2) to determine general consumer attitudes towards MHIs on the SMP, and (3) to determine the credibility, internalization and intention to act or change one's behavior after viewing mental health videos about anxiety. The primary objectives of the current study revolve around exploring the landscape of mental health on TikTok. Firstly, we seek to identify the prominent mental health 'influencers' and accounts that play a significant role in shaping discussions and perceptions of mental health. We aim to gain insights into the attitudes of individuals towards MHIs and the advice they provide on social media more broadly. We are particularly interested in understanding the perceived credibility of their content, and assessing whether their messages have any discernible influence on behavioral changes among the audience. A crucial aspect of our investigation involves examining how the content of these influencers contributes to shaping mental health attitudes in young adults aged 18 - 30 years. This includes evaluating the credibility of the influencer messages, its practical application, and the extent to which it is absorbed by the target demographic. Through this comprehensive exploration, we aim to contribute valuable insights into the impact of TikTok influencers on mental health perceptions and behaviors among young adults.

3. Method

3.1. Study design

This cross-sectional study assessed consumer attitudes towards TikTok with a structured online survey.

3.2. Survey questions

To assess consumer attitudes, participants were asked to answer 16 questions which can be found in Appendix 1.

3.3. Procedure

This study utilized convenience and snowball sampling methods. An online questionnaire was created in Qualtrics and distributed using a combination of social media platforms (Instagram, Facebook, Snapchat, and TikTok) using an embedded link, or using flyers posted on campus with a QR code. The questionnaire language was in English. The survey began with an opening message thanking participants for their time, and disclosing that this survey is part of a Master's Degree Thesis in Psychology. This was followed by a brief statement explaining the general purpose of the first part of the survey in examining consumer attitudes towards influencers on TikTok. Subsequently, eight demographic questions were presented before participants were asked to answer three questions about the current state of mental health to adequately assess mental state at the time of survey completion. Afterwards, social media usage and frequency was assessed with three short questions. Participants were then asked to respond to 25 general attitude statements about TikTok and health influencers using a 7-point Likert scale (this section included trust in TikTok). The survey then concluded with a debriefing statement, thanking participants again and clarifying the true objective for the experiment, as well as providing participants with a point of contact in case of distress due to survey content. The

survey was estimated to take approximately 30 minutes. The data was acquired using online survey-based interviews that were conducted through the Qualtrics Software between 15 February 2024 - 10 April 2024, and analyzed using Jamovi Cloud Version 2.4.14.0 (an open statistical software) (Qualtrics, Provo, UT).

3.4 Instruments and measures

a) Demographics

The survey contained questions about participant demographics such as age (reported in years), gender, current occupation, marital status, education, ethnicity, political views, and studying in the healthcare field, average time spent on social media (in the last 14 days), category of influencer followed, and which SMPs are most used.

b) Mental health state

The survey contained questions about mental health state to critically assess the mental health of participants at the time of data collection. There were 2 questions used to gauge current state of mind, as well as emotional state in the last 14 days.

c) Consumer attitudes towards TikTok and mental health influencers

The current survey assessed attitudes towards TikTok and mental health influencers using a 12-item questionnaire with a 7-point likert scale ranging from strongly disagree (1) to strongly agree (7). A total list of the items can be found in Appendix 1.

4. Results

4.1. Participant demographics and general attitudes

A total of 157 respondents consented to participating in the current study. The sample included 157 adults between the ages of 19 and 32; after accounting for incomplete survey responses, the resultant sample size was a total of 90 participants (age: 19 - 32, $M = 24.5$, $SD = 2.53$; 31.1% male, 66.7% female) whose data was analyzed in the current study. The sample was primarily Caucasian (62.2%), for a full overview of participants' nationalities see Appendix 2. The majority of participants were students (58.9%), with private sector employees being the second most frequent (25.6%), followed by other/unspecified (12.2%). Importantly, 46.7% of participants stated that they were employed or studying in a healthcare field, while 53.3% were not engaged in healthcare studies or careers. Regarding marital/relationship status, only 36.7% of participants reported to be married or in a relationship, while the other 63.3% were single. The most common educational degrees were Bachelor's degrees (53.3%), followed by Graduate school (35.6%), then Associate's degrees (3.3%), and High School (7.8%). A large majority of participants were either liberal (48.9%), moderate (22.2%), or apolitical (15.6%). A total of 40.0% of participants reported a history of being diagnosed with or treated for anxiety or anxiety-related disorders. 100% of participants surveyed reported using social media, with 46.7% spending between 2 - 4 hours per day on SMPs within the last 14 days, followed by 28.9% spending between 5 - 7 hours per day. A full overview of participant demographics is displayed in Appendix 2. Participants were not offered incentives to complete the survey.

Attitudes centering around trust in authority varied significantly. 50% of participants do not trust the government to make decisions that prioritize public health and wellbeing. This leaves a slim 36.7% of participants reporting some degree of trust in the government to make

these kinds of decisions. Contradictingly, a large majority of participants reported confidence that personal public health authorities, (i.e., primary care physicians), offer accurate medical advice (81.1%), and conduct scientific research objectively and with integrity (80%). Despite the variance in authoritative trust, 90% of the sample stated they would consider contacting a mental health professional for guidance, support, or assistance in improving their mental well-being. This highlights a disconnect between the publics' high likelihood to seek professional help from mental health experts, yet consistently low views in trusting authority to give verified, factual health-related information.

4.2. Mental health state

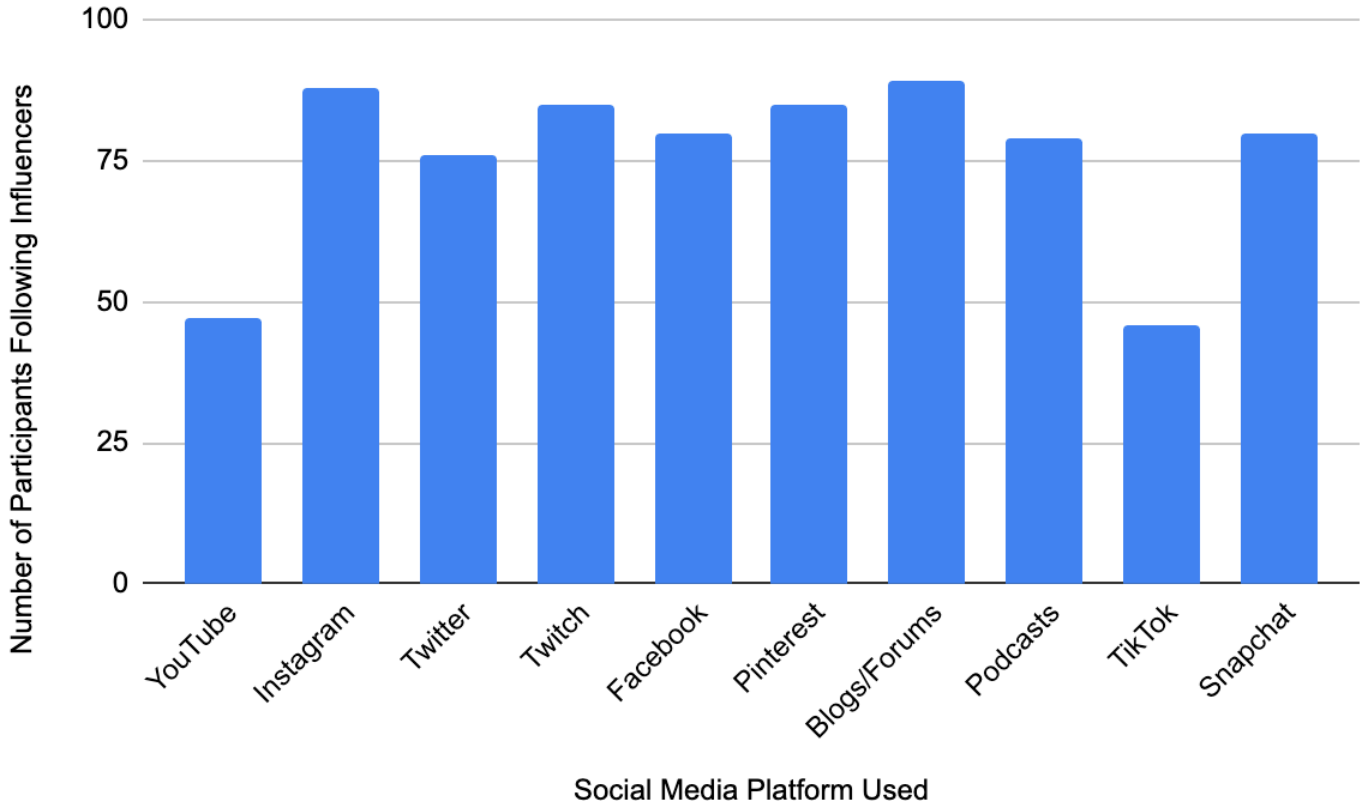
It is important to disclose the mental state of the sample during the time of data collection. In order to assess this, participants were asked 2 questions to gauge current state of mind, as well as emotional state in the last 14 days. Results reveal that of the sample, 74.5% agreed to an extent that they have overall good mental health, with around half reporting mild low mood symptoms as measured by 4 statements taken from the BDI. To break this down further, 67.7% reported little interest or pleasure in doing things on several or more than half the days over the last 14 days. Additionally, 57.8% stated feeling unable to stop or control worrying several or more than half the days. 77.8% of participants felt nervous, anxious or on edge over the last 14 days, and 60% feeling down, depressed, or anxious several or more than half of the days. It further underscores the high prevalence of mental health conditions in the general population. Saliently, 60.0% of those surveyed stated that they had never had a clinical diagnosis of anxiety, while 40.0% answered yes to a medical history of clinical anxiety.

4.3. Social media usage

Due to the nature of this study, it was crucial to assess the social media habits of the sample. In order to measure this, participants answered a series of questions about which social media platforms they follow health influencers on, and which kinds of social media influencers they primarily follow. Results are listed in Figures 6 and 7 below.

Figure 6

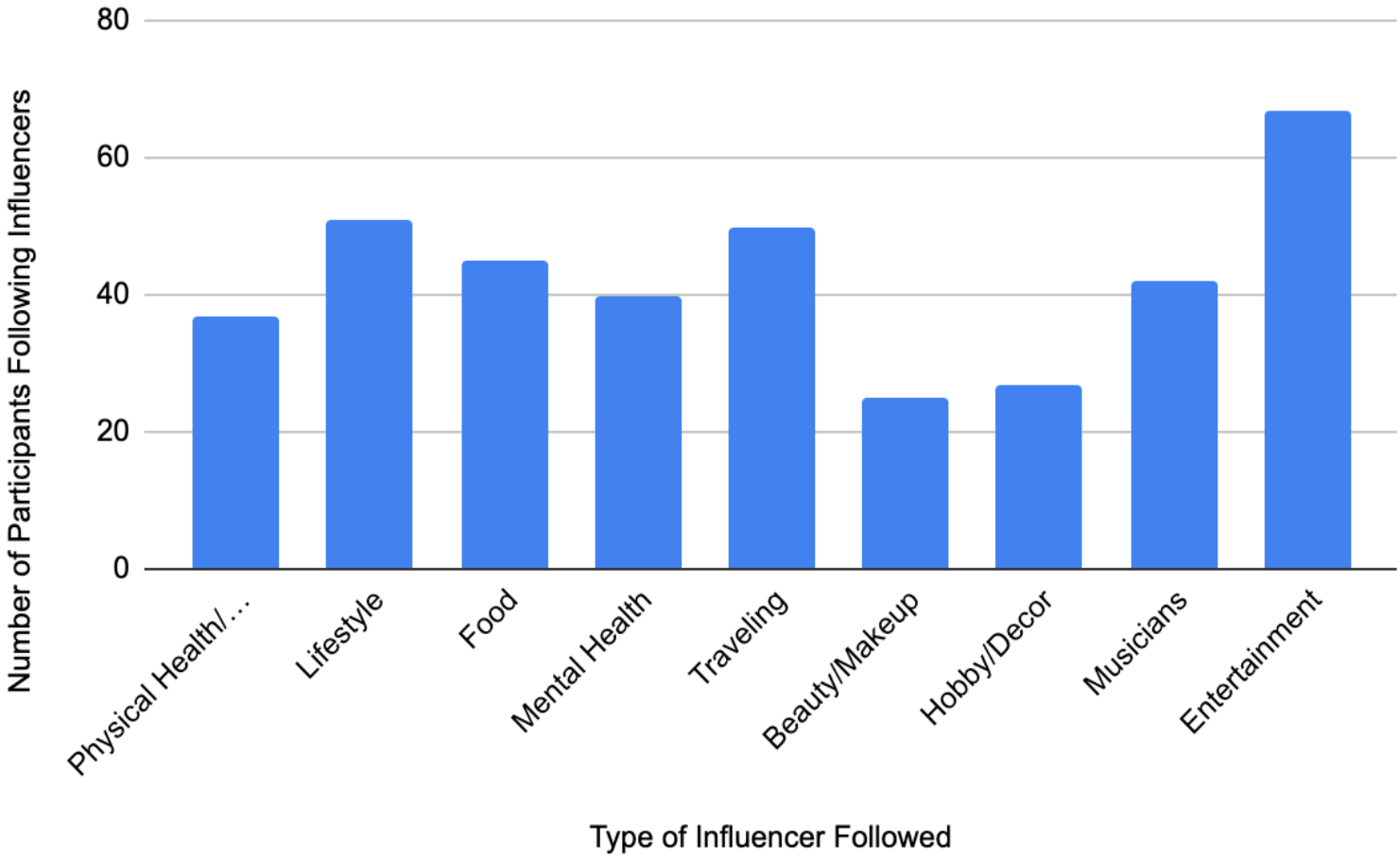
Most Commonly Used Social Media Platforms to Follow Social Media Influencers (N = 90)



Note. This figure shows the number of participants reporting following social media influencers on each platform listed (n = 90). The most popular social media platforms (SMPs) used to follow influencers in this sample are Instagram (n = 88), and Blogs/Forums (n = 89). Saliently, more than half of participants reported following social media influencers on each SMP listed in the questionnaire. This underscores the popularity of influencers on SMPs.

Figure 7

Most Popular Category of Influencers Followed (N = 90)



Note. This figure shows which type of influencer participants report following on social media platforms (n = 90). For reference, the first bar label which cannot be displayed properly states: Physical Health/Fitness influencers. The most popular categories or types of influencers followed in this sample are entertainment (n = 67), lifestyle (n = 51), and travel (n = 50). Importantly, 44.4% (n = 40) of the participants surveyed reported following mental health influencers on popular SMPs. This underscores the popularity of mental health influencers on SMPs, and highlights the gravity of this study.

4.4. Attitudes towards TikTok

Frequency-analysis of trust-related attitudes towards TikTok as a social media platform results reveal 61.1% of participants do not view TikTok as an essential tool for finding information, with 70% finding the information on TiKTok to be misleading. Only 21.1% reported some degree of trust in the accuracy of health-related information on TikTok; yet, 48.9% of consumers shockingly reported viewing TikTok as a valuable source of information. Furthermore, only 41.1% possessed a favorable opinion of TikTok, while simultaneously 44.4% reported viewing the social media platform as "overall, a good thing".

4.5. Attitudes towards health influencers

Simple frequency tests revealed that of the study sample, a majority of consumers have positive attitudes (liking) towards health influencers. Survey results illustrate that participants genuinely enjoy health influencers (64.4%), think they are pleasing (50.0%), and find their content interesting (73.3%). Additionally, 40% find content shared by health influencers on social media platforms to be beneficial for their well-being, with 44.5% reporting that health influencers have raised the standards of their own personal health habits. Initial analyses also reveal that health influencers are seen as having a positive effect on the health sector by almost half of participants (42.3%), with 24.4% remaining neutral to the statement.

Despite general positive attitudes and ideations among consumers towards liking health influencers, and enjoying the content they produce on social media platforms, almost half of participants found health influencers untrustworthy (47.7%). In fact, 87.9% of the initial sample reports high skepticism when it comes to the credibility of health-related content shared by social media influencers. In a similar vein, 42.2% find health influencers not credible, and 31.1%

consider health influencers as promoting undesirable values in society; however, researchers acknowledge that 28.9% are undecided. With over ⅓ of participants believing that health influencer content distorts society's personal, social, and cultural values, 40.1% do not hold confidence that health influencers are reliable sources to dispense health-related services and product information. Regardless of this apparent skepticism, almost half of participants agree that health influencer recommendations still hold authority over their own opinions on health services (45.6%), with 15.6% remaining neutral to the statement. 42.2% of participants feel that health influencers give relevant and current information about the health sector; however, almost 30% (28.9%) remained neutral to this statement. Some participants reported that they buy certain products endorsed by health influencers (13.3%), and encourage close friends or family members to adopt health-related habits promoted/endorsed by health influencers (13%), despite 41% feeling pressure to conform to certain health standards promoted by these influencers on social media platforms.

5. Discussion & Conclusion

The current study was dedicated to addressing a notable gap in current literature about nuances in consumer attitudes related to the content of mental health influencers on social media and the extent to which MHI content influences viewers' perceptions of their own health, and response behaviors. A cross-sectional, between-subject design requiring 90 participants to fill out an in-depth questionnaire assessing attitudes and beliefs of consumers towards health influencers has revealed several insights critical to the future development of the digital mental health sector.

5.1. Discussion of frequencies

5.1.1. Trust and perception of TikTok

The most significant findings from the current study center on how consumers view the social media platform, TikTok, as an information source. These findings underscore significant trust and credibility challenges associated with TikTok and health influencers. A large portion of users find the information on TikTok to be misleading, and trust in health-related content is particularly low. This suggests a need for increased scrutiny and validation of the information shared on this social media platform. Findings also highlight the necessity for health influencers to establish themselves as credible and reliable sources by providing transparent and evidence-based content. It is critical to note that despite 70% of participants acknowledging the awareness of prevalence of misinformation surrounding mental health on TikTok, almost half (48.9%) still view it as a valuable source of information. The popularity of TikTok as a social media platform, as well as the monthly engagement of active users indicates that the app will continue to rise in popularity. Continually, 44.4% view TikTok as overall a good thing, revealing

that despite skepticism and trust issues, users will continue to engage in similar information-seeking behaviors with the platform.

5.1.2. Attitudes towards health influencers

The research reveals a complex dynamic in public attitudes towards health influencers, characterized by a blend of enthusiasm and skepticism. A significant portion of the study's participants reported a favorable disposition towards health influencers, with 64.4% expressing enjoyment of their presence, 50% considering them pleasing, and 73.3% finding their content engaging. Furthermore, 40% of participants perceived the content shared by these influencers as beneficial for their well-being, and 44.5% acknowledged that their own health standards had improved due to the influence of these figures.

Despite these positive perceptions, there remains a prevalent undercurrent of skepticism and distrust. Nearly half of the respondents (47.7%) regarded health influencers as untrustworthy, with an overwhelming 87.9% expressing skepticism about the credibility of the content they produce. Additionally, 42.2% of participants doubted the credibility of influencers, and 31.1% criticized them for promoting undesirable societal values. A substantial 40.1% of respondents lacked confidence in influencers as reliable sources of information regarding health services and products. However, this skepticism is paradoxically accompanied by the recognition of influencers' authoritative role, as evidenced by 45.6% of participants who still consider influencer recommendations to have significant sway over their health-related decisions. This dichotomy underscores the need for strategies that enhance the transparency and credibility of health influencers, ensuring that their potential to positively impact public health is realized.

5.1.3. Mental health and trust in authority

The interplay between mental health status and trust in authority reveals a nuanced landscape in the context of digital health information. Despite a significant majority of participants (74.5%), reporting generally good mental health, nearly 78% experienced anxiety over the past two weeks, underscoring the prevalence of fluctuating mental health states among individuals who otherwise perceive themselves as well. This discrepancy is further highlighted by the fact that while 60% of respondents have never been formally diagnosed with anxiety, 40% have a clinical history, suggesting a potential gap in professional mental health care access or recognition. This complexity is mirrored in attitudes toward authority figures, where there is notable distrust in governmental health decisions, with only 36.7% expressing confidence in such decisions, contrasted with 81.1% of participants placing their trust in primary care physicians for accurate medical guidance. The contrast between these levels of trust illustrates a significant reliance on individual health professionals over broader institutional sources. Furthermore, the high willingness (90%) to seek help from mental health professionals, despite pervasive skepticism towards governmental health policies, indicates a pronounced preference for personal, professional support in managing mental health issues. These findings highlight the critical need for reinforcing trust and ensuring effective communication between mental health professionals and the public to address both systemic and individual concerns within the digital health sphere.

5.2. Academic and practical implications

The findings of this research have significant academic and practical implications for the digital mental health landscape, particularly concerning the role of health influencers on platforms like TikTok. Academically, the study underscores the urgent need to explore factors that contribute to

the credibility and trustworthiness of health-related information disseminated on social media. The observed skepticism towards TikTok as an information source highlights the importance of understanding how users evaluate and trust digital content, as well as the impact of influencer characteristics on these perceptions. Such research could inform the development of theoretical frameworks for digital health communication, providing insights into how social media influences public health attitudes and behaviors. Although there is a general distrust of information on TikTok, the platform's potential to reach and influence large audiences cannot be ignored. This calls for a deeper academic inquiry into how social media platforms can be harnessed to support effective public health messaging.

From a practical standpoint, these insights necessitate implementing strategies to enhance the credibility and reliability of health information on social media. Leveraging influencers to promote accurate health information can help bridge trust gaps between consumers and reliable health sources. Developing robust guidelines and verification processes for health-related content is essential for building user trust. This involves collaboration between health professionals, influencers, and platform developers to ensure that accurate and evidence-based information is prioritized. Establishing standards for mental health videos on TikTok is critical, requiring the cooperation of influencers to ensure content accuracy and ethical presentation.

Moreover, the research indicates a pressing need for public awareness campaigns aimed at educating users on the critical evaluation of health information online. These campaigns could focus on improving digital literacy and promoting an understanding of the importance of seeking verified health information. By increasing consumer awareness, such initiatives could empower individuals to make informed health decisions, thereby reducing the influence of misleading content. Educating consumers to critically evaluate social media content and promoting media

literacy to discern credible sources are crucial steps in this process. Providing consumers with tools and techniques to evaluate influencer credibility and encouraging engagement with multiple sources for balanced perspectives are practical strategies for navigating digital content. Integrating digital media literacy programs into educational curricula could further equip users with the skills needed to navigate the complex landscape of digital health information responsibly. Overall, the research highlights the potential of social media to act as a catalyst for positive health behaviors, provided that the content shared is reliable and trustworthy.

5.3. Limitations and directions for future research

This study provides valuable insights into the complex relationship between TikTok users and health influencers, but it is important to acknowledge its limitations. The sample size and demographic diversity were limited, which may affect the generalizability of the findings. Additionally, relying on self-reported data introduces potential biases and challenges in verifying the accuracy of participant responses. Such limitations make it difficult to capture nuanced attitudes toward digital health information and to draw comprehensive conclusions across different populations. Furthermore, the cross-sectional nature of the study restricts the ability to assess changes in attitudes over time. To address these limitations, future research should aim to include larger and more diverse samples to increase the representativeness of the findings. Longitudinal studies are necessary to track changes in trust and attitudes toward health information on social media platforms over time, providing insights into the evolving landscape of digital health communication. Expanding the scope of research to include content analysis of health-related information shared by influencers will help identify specific characteristics that influence trust and credibility. Experimental research can further test the effectiveness of

intervention strategies, such as collaborations between influencers and health professionals, in enhancing the accuracy and impact of health communications.

Given the complexity of the findings, it is crucial to investigate factors that affect trust in digital health information across various demographics and cultural contexts. Understanding the characteristics of influencers that contribute to their credibility, such as expertise, transparency, and communication style, is vital for developing effective partnerships with health organizations. These collaborations can maximize the benefits of digital health communication while minimizing misinformation risks. This study highlights the necessity for targeted interventions to enhance the reliability of health-related content on TikTok and similar platforms. Clinically, health professionals can work with influencers to disseminate accurate information and promote healthy behaviors. Preventative interventions should focus on educating consumers to critically evaluate health content, promoting digital literacy that empowers users to navigate social media content effectively. Establishing reliable guidelines for mental health videos on platforms like TikTok is essential, involving collaboration between health experts and platform developers to ensure content is vetted and accurate. Public awareness campaigns can inform consumers about the potential pitfalls of relying on social media for health information and equip them with tools to identify credible sources. Ultimately, this study underscores the importance of fostering consumer awareness and informed consumption of health information, aiming to build trust and credibility within digital health communications.

5.4. Conclusion

The research findings reveal mixed attitudes towards TikTok and health influencers, illustrating both the appeal and the prevalent trust issues associated with these platforms. Despite their

popularity, there remains significant skepticism regarding the reliability of the information shared, particularly concerning health-related content. This dichotomy underscores the necessity for consumers to engage critically with social media content, highlighting the importance of informed decision-making when encountering health information online. To leverage the potential positive impact of influencers on public health, it is imperative to maintain continued vigilance and prioritize education in social media consumption. By fostering an environment where consumers are equipped with the skills to assess the credibility of digital content, social media can transform into a powerful tool for disseminating accurate health information and promoting healthy behaviors. This approach not only empowers individuals but also enhances the overall quality and reliability of information circulating within the digital health ecosystem.

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Appendices

Appendix 1 - Consumer Attitudes Questionnaire

Pre-survey instructions

In today's digital age, social media shapes how we think about health, including mental well-being. This survey, part of a Master's Thesis in Psychology, Neuroscience, and Human Sciences at the University of Pavia, Italy, aims to understand how people view social media influencers who discuss mental health. Your input helps us grasp the impact of these influencers and fosters a better conversation about mental health online. Thank you for participating. If you agree to participate in the survey, please advance forward.

Best regards,

Riley Q Stewart

Master's Degree Candidate

University of Pavia, Italy

Participant demographics questionnaire

Please indicate the following: Gender

o Male

o Female

o Non-binary / Third Gender

o Prefer not to say

Age in years: ____

Occupation

o Student

o Private Sector Employee

o Servant

o Unemployed

o Other

Are you employed / or are you studying in the healthcare field?

o Yes

o No

Marital Status

o Married / In a relationship

o Single

Education

o High School

o Associate's Degree

o Bachelor's Degree

o Graduate School

Ethnicity

o Alaska Native / Native American

o Asian or Pacific Islander

o African American

o Caucasian

o Other

o Do not wish to say

Which best describes your political views?

o Conservative

o Liberal

o Moderate

o Apolitical / Not political

o Other

o Do not wish to say

Current state of mental health

Current State of Mind:

	Strongly disagree (1)	Disagree (2)	Somewh at disagree (3)	Neither agree nor disagree (4)	Somewh at agree (5)	Agree (6)	Strongly agree (7)
My overall health is good	o	o	o	o	o	o	o

Overall, in the last 2 weeks, how often have you experienced the following?

	Not at all	Several days	More than half of the days
Little interest or pleasure in doing things	o	o	o
Feeling down, depressed or hopeless	o	o	o
Feeling nervous, anxious or on edge	o	o	o
Not being able to stop or to control your worrying	o	o	o

Have you ever been diagnosed with or treated for Anxiety or anxiety-related symptoms?

o Yes

o No

Social media usage

Time spent on social media in the last 14 days

o < 2 hours a day

o 2 - 4 hours a day

o 5 - 7 hours a day

o > 7 hours a day

Which platforms do you follow influencers on? (Please select all that apply)

□ TikTok

□ YouTube

□ Instagram

□ Twitter

□ Twitch

□ Facebook

□ Pinterest

□ Blogs/Forums

□ Podcasts

□ Snapchat

What type of influencers do you follow? (Please select all that are relevant to you)

□ Physical Health / Fitness

□ Lifestyle

□ Food

□ Mental Health

□ Traveling

□ Beauty / Makeup

□ Hobby / Decor

□ Musicians

□ Entertainment

TikTok Statements

How much do you agree with the following statements?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
TikTok is a valuable source of information	o	o	o	o	o	o	o
I trust the information on TikTok to be accurate	o	o	o	o	o	o	o
Overall, I find information on TikTok to be misleading	o	o	o	o	o	o	o

My general opinion of TikTok is unfavorable	o	o	o	o	o	o	o
TikTok is an essential tool for finding information	o	o	o	o	o	o	o
Overall, I consider TIkTok to be a good thing	o	o	o	o	o	o	o

Influencer attitudes survey

Please indicate how much you agree with the following statements

	Strongly Disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (4)	Agree (6)	Stro Agre
Health influencers' recommend ations affect my opinions about my own health status	o	o	o	o	o	o	o
Health influencers' recommend ations affect my opinions about health services	o	o	o	o	o	o	o
Health influencers are a good source of health-relate d services, products,	o	o	o	o	o	o	o

and information							
Health influencers supply relevant and current information about the health sector	o	o	o	o	o	o	o
Health influencers provide timely information about the health sector	o	o	o	o	o	o	o
Health influencers are interesting	o	o	o	o	o	o	o
Health influencers are enjoyable	o	o	o	o	o	o	o
Health influencers are pleasing	o	o	o	o	o	o	o
Health influencers are credible	o	o	o	o	o	o	o
Health influencers are trustworthy	o	o	o	o	o	o	o
Health influencers have	o	o	o	o	o	o	o

positive effects on the health sector							
Health influencers raise the standard of my own personal health habits	o	o	o	o	o	o	o
Health influencers promote undesirable values in our society	o	o	o	o	o	o	o
Health influencers distort the values of society's personal, social, and cultural values	o	o	o	o	o	o	o
I adopt health-related habits promoted/endorsed by health influencers	o	o	o	o	o	o	o
I encourage people close to me to adopt health-related habits promoted/en	o	o	o	o	o	o	o

dorsed by health influencers							
I like to buy health-related products promoted/endorsed by health influencers	o	o	o	o	o	o	o
I encourage people close to me to buy health-related products promoted/endorsed by health influencers	o	o	o	o	o	o	o
I feel pressured to conform to certain health standards promoted by influencers on social media	o	o	o	o	o	o	o
Overall, I find the content shared by health influencers on social media beneficial for my well-being	o	o	o	o	o	o	o

I am skeptical about the credibility of health information shared by influencers on social media	o	o	o	o	o	o	o
I trust that scientific research is conducted with integrity and objectivity	o	o	o	o	o	o	o
I trust government institutions to make decisions that prioritize public well-being	o	o	o	o	o	o	o
I trust my primary healthcare provider to offer accurate medical advice	o	o	o	o	o	o	o
I would consider reaching out to a mental health professional if I need	o	o	o	o	o	o	o

support or assistance with my own mental well-being

Appendix 2 - Overview of participant demographics

Demographics of research participants

Measure	Items	Frequency	Percentage
Gender	Male	28	31.1%
	Female	60	66.7%
	Non-binary / Third Gender	1	1.1%
	Prefer Not to Say	1	1.1%
Age	Range	19 - 32	
	Mean (*M*)	24.5	N/A
	Standard Deviation (*SD*)	2.53	
Education	High School	7	7.8%
	Associate's Degree	3	3.3%
	Bachelor's Degree	48	53.3%
	Graduate School	32	35.6%
Marital Status	Married / In a relationship	33	36.7%
	Single	57	63.3%
Occupation	Student	53	58.9%
	Private Sector Employee	23	25.6%
	Servant	3	3.3%
	Unemployed	2	2.2%
	Other	9	10.0%
Ethnicity	Asian or Pacific Islander	4	4.4%
	Caucasian	56	62.2%
	Other	28	31.1%
	Do not wis to say	2	2.2%
Political Views	Conservative	3	3.3%
	Liberal	44	48.9%
	Moderate	20	22.2%
	Apolitical / Not political	14	15.6%
	Other	5	5.6%
	Do not wish to say	4	4.4%