

**The Psychological and Social Consequences of TikTok Addiction  
Among Youth in Karachi**

**Javed Hussain**

Assistant Professor, Govt. Superior Commerce College Karachi.  
[javedhussainnajakam@gmail.com](mailto:javedhussainnajakam@gmail.com)

**Mohammed Omer Rafique (Corresponding Author)**

Assistant Professor, Faculty of Management Sciences, SZABIST University, Karach.  
[omerrafiq1@gmail.com](mailto:omerrafiq1@gmail.com)

**Abid Gill**

Lecturer, Ziauddin University. [abid.gill@zu.edu.pk](mailto:abid.gill@zu.edu.pk)

**Ailyab Naveed**

Lecturer, Ziauddin University. [Ailyab.naveed@zu.edu.pk](mailto:Ailyab.naveed@zu.edu.pk)

**Abstract**

Youth nowadays had been using TikTok frequently and had becoming a psychological and social victim of it. TikTok, one of the most popular social media platforms had adverse social and cognitive effects but still the youth don't refrain to use the application. This study focused to find out the social and cognitive factors of using TikTok on the youth of Karachi. To study the hypothesis, three independent variables for social factors and three independent variables for cognitive factors had been examined. The population of this study had been 250 respondents which were examined via online survey through close ended questionnaire. Reliability of the variables had been checked through cronbach's alpha and linear regression had been applied to find out the cause and effect of independent and dependent variables. The finding of the study concluded that youth of Karachi has been addicted to make and view the short video clips on TikTok and this frequent usage and addiction had been positively affecting the users socially as well as psychologically. Moreover, it had been concluded that social acceptance cravers or depressed individuals are mostly the users of the application. TikTok had also been developing a sense of inferiority complex upon receiving sarcastic comments from the viewers. Users don't refrain to expose themselves to danger just to get fame, while people also agreed that some users make unethical content for this purpose. Furthermore, some respondents agreed that some people had been using TikTok as a source of promotion and they do market their products as the application has been providing them easy access to target massive audience towards the business and also it provides an access to diverse cultures. Every individual should be aware of the negative consequences that TikTok has been causing and in order to create awareness among the society such sessions should be conducted

in which individuals should be informed of the adverse effects and they should be provided counseling so that they should spare their leisure time in some healthy activities instead of adopting a society followed trend. The sessions and counseling could be delivered via seminars, workshops, conferences where target individuals could be reached out easily.

**Keywords:** TikTok, Social, Cognitive, Depression, Inferiority Complex, Confidence, Unethical Content, Social Isolation, Income

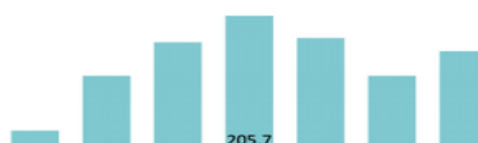
### Introduction

In the digital era of 21<sup>st</sup> century, as technology is rapidly growing on one hand and so on the other hand people are more relying, depending and getting addicted to the social media day by day. People prefer to spare time more on social media even in the social gatherings while some of them are utilizing it as a source of income. Social media has a great effect on the life of every single person as it is providing ease and comfort but it also has some psychological and physical negative impacts. Children, youngsters, adults and even old ones are habituated to lots of social media applications and among them TikTok is one of the most famous and addicted application now a days.

Yu1 (2019) stated that TikTok was introduced in 2016 in the month of September and by the year 2018 it has 150 million daily online users from China only. In 2019, it has become the most downloaded application on the apple store and has reached 500 million plus users throughout the world. TikTok targets vertical reading and is a leading forum for concise videos. Meola (2020) defined TikTok as a forum for making concise video clips for about 15 seconds which runs in continuation unless the user selects to make a new one. It also has a feature to make clips of 60 seconds and to add music, filters, stickers and other modifying options like cropping and add-ons etc. to it.

Gennaro stated that in the year 2018 TikTok was merged with another short clips maker application named as musical.ly According to Mohsin (2020) by the start of the year 2020 TikTok has reached about 800 million users globally, out of them 150 million are the users of Douyin, a Chinese version of the TikTok. It is also enthusiastically famous in Asian countries namely Malaysia, Indonesia, Thailand, Japan, Vietnam and Cambodia. Comparative to Instagram which took six years and also Facebook which took four years, TikTok took only three years to beat the popularity among the mentioned countries (elaborated in figure 1).

**TikTok Downloads**  
Global downloads per quarter, in millions



Saroshe (2016) stated that currently TikTok is resulting various types of contentions among both of the sexes. For example feeling of inadequacy and predominance complex and complex of good looks. TikTok addictions are influencing those individuals who are propelled by TikTok recordings and individuals making those recordings. It might result in depression and complexities among youth. According to Chen (2017) upon focusing on the improvement of TikTok at the current stage, the crowd of TikTok is principally youngsters matured between 20-29 years of age. Consequently, TikTok's generally restricted situating makes its piece of the overall industry moderately low. Numerous clients in this age bunch don't have a standard kind of revenue, and it is hard to make a generally considerable benefit.

TikTok is frequently used by majority of the people all around the world and Pakistani youth is also a frequent, active and addicted user of it. Thus it has some positive and lots of adverse effects which could badly affect one's physical as well as psychological health and life. This study aims at investigating the positive and negative factors which are effecting the youth of Pakistan in either way. Davis (2018) stated by the mid of the year 2016, Douyin (a Chinese version of TikTok) was introduced as A.me. The CEO of Douyin was working as a technical director in a news aggregator organization named as Jinri Toutiao, that organization financed it numerous times and so it gained enthusiastic popularity and overcome the other two most famous concise video applications named Kuaishou and Meipai on iOS and further focused the android users. Comparative to Kuaishou, Douyin had expanded its market in the most sophisticated consumers of China. By March to December 2017 it expanded ten times more after teaming up with famous TV shows and celebrity named Kris Wu. Then it entered global market with a new name "TikTok" and showed a massive positive response globally specially in the market of Japan and Thailand. Chen, Adams and Dea (2017) said that TikTok was introduced globally by September 2017.

Alfred Adler avoided reductionism for his hypothetical methodology as he named it as Individual Psychology. Though it is a misconception that only individual is the focal point of his theory. He accentuated that people ought to be viewed as a solidarity or overall contrary to comprehending them as an assortment of parts (e.g., Freud). A combination of psychological, fundamental points of view, existential humanistic and a comprehensive phenomenological, and teleological way to deal with working individuals is Adlerian theory. It highlights the role of anecdotal, dynamic and

structure-giving human psychology in building up the factors of realities that an individual is aware of and to which they respond. Further he stated that people fantasize their own methods of reviewing by making, creating or narratizing them. People are not controlled by the heredity or their surroundings instead they are imaginative, proactive, meaning-production creatures, being able to pick and to be liable for their decisions (Adler, 1956; Carlson, Watts and Maniacci, 2006; Mosak and Maniacci, 1999; Watts, 1999; Watts and Shulman, 2003; Watts and Eckstein 2009). According to Feist and Feist (2008), Adler (1964) by his musings and composing had given a comprehensive, profound and confounded description of an individual's personality. As indicated by him, an individual is brought into the world with a sensation of mediocrity and a state of reliance on others. Thus a sense of participation or social interest is natural in a person. Adler's theory is compactly characterized as under:

1. Making progression toward progress or predominance is the strength of a person's conduct.
2. Abstract impression of an individual makes their character and disposition.
3. A person's character is bound together and self-predictable.
4. Social interest unmistakably characterizes the interest and exercises of a person.
5. Way of life is created by the self-steady character of a person.
6. The imaginative force of an individual edges his way of life.

Hou (2018) stated that analysis on the TikTok is relatively less than other topics as it is new to the market so the paper will be definitely the source of some strong citations which will be helpful. Hermann (2019) explained the participation of an individual or role of an individual to contribute to the social media as "fear of missing out". The study aims to find out the factors which are affecting the youth of Karachi socially cognitively. The main focus of the researcher would be to examine the cognitive and social effects of TikTok on the youth of Karachi

This study comprises 5 chapters including abstract, table of contents and references. The first chapter is Introduction, where we have defined the overview of the study, a brief history, a theory related to the topic, significance of the study, objectives and problem statement, also definitions of the important terminologies has been discussed and at the end of the chapter hypothesis has been mentioned. Chapter 2 is the Review of the Literature, here the topic is discussed briefly. Chapter 3 is Research Methodology, here the data collection method, sampling technique, sample size and applied statistical test has been discussed and the research model have been developed in the end of the chapter. Chapter 4 is the Results, in this chapter, all the finding and interpretations has been discussed and hypothesis assessment summary has been mentioned in the end. Chapter 5 is Discussions, Conclusions, Policy Implications and Future Research.

## Literature Review

### 2.1 Definitions

#### 2.1.1 Psychological Health

Conceptual definition: According to World Health Organization (2010), it is a condition of omission of depression, anxiety and stress and other problems related to it.

Operational definition: Baune (2008) cited that psychological health is portrayed by continuous sequence of wellbeing related conditions going from sound states to sick conditions.

### **2.1.2 Youth**

Operational definition: World Health Organization (2019) defined youth as people lying in the age group of 15-24 years are considered as youth.

Conceptual definition: Collins dictionary (2021) stated the definition of youth as the state of juvenile and less experienced.

### **2.1.3 Social Effect**

Operational definition: Johnson (2017) stated that the influence of people's activities, organizations or association on the surrounding. It very well might be the aftereffect of an action, task, program or strategy and the effect can be purposeful or inadvertent, just as both positive or negative.

Conceptual definition: According to the definition mentioned in business impact (2019) social effect is a notable diversification that is conveyed due to the societal provocation.

### **2.1.4 TikTok**

McGarrigle (2020) cited TikTok to assume as a Karaoke of the digital age as it is a web based media stage for making, sharing and finding short music recordings. Geysler (2021) stated TikTok is a short-structure, video-sharing application that permits clients to make and share 15-second recordings, on any point.

## **2.2 TikTok**

The fusion of benefits of product uniqueness and positioning is TikTok (Chen, 2017). According to Jia (2017) music is the fundamental feature of the TikTok that makes it unique from other concise clip applications. The examination of massive information can suggest the substance that clients are keen on as indicated by their inclinations, and the video time is generally 15 seconds which builds clients' tenacity using client divided time. Chen, Adams and Dea (2017) stated a smartphone can turn into a versatile studio by TikTok as the application possess consumer ease , eye-getting embellishments making it possible for everyone to utilize and enjoy it without any problem. Through the mix of man-made reasoning and picture catching innovation, video creation is streamlined and exhibitions are upgraded. TikTok's embellishments incorporate shaking and shuddering with hip-bounce and electronic music, hair kicking the bucket, 3D stickers and props. Likewise, makers can take their ability to the following level and open a universe of unlimited prospects by taking advantage of a monstrous music library.

Reviewing the article by Cuofano (2020) the reason behind the accomplishment of TikTok is the way the application is planned. the accessibility of a few sorts of foundation music, challenges, dance recordings, enchantment stunts and amusing recordings that interest the adolescents to associate with the application are the primary features that makes TikTok unique in relation to other media applications. The subsequent one is that this application requires less measure of time to make a video, 15 seconds which is a benefit for the clients as this calculate fit the user's quick way of life which makes TikTok entirely unexpected from other contending applications. Different design of the application also adds support in its expansion and growth. The

strategy is to utilize enormous information using massive data. Also they have utilized huge information examination to comprehend the preferring of the clients so they can propose different substance to them which is simple for the clients to choose what they like (HouLiqian, 2018).

Fannin (2019) cited TikTok has arisen to match competitors like Netflix, Youtube, Snapchat and Facebook with one billion plus downloads in 150 business sectors globally and 75 languages in just two years. On the application, custom made recordings feature everything from parody to lip adjusts to professional canine care tips that clients make and offer on their telephones. The sketchy, ridiculous, quick substance has snared youthful crowds around the planet. Promotions and offering virtual merchandise like emoticons and stickers to fans is the adopted way of the application to earn. A simple to-utilize interface joining click-bait news and diversion with incredible AI to decisively coordinate with clients as opposed to suggest content dependent on their review propensities and "preferences" have energized the application's prosperity. Sehl (2020) stated TikTok to be a microminiature variant of youtube as it considers itself as the "station for short-structure versatile recordings. The ensuing one is that this application requires less proportion of time to make a video, 15 seconds which is an advantage for the customers as this compute fit the client's speedy lifestyle which makes TikTok completely startling from other fighting applications. Diverse plan of the application additionally adds support in its development and development. The methodology is to use huge data utilizing enormous information. The length of the recording lies in the range of 5 to 60 seconds. Users can approach to an enormous music library and a variety of filters and effects.

### **2.3 Cognitive Effects of TikTok**

Matyszczyk (2009) cited parents are mostly unaware that numerous teenagers spend sleepless nights which lead to bad effects on them for instance disposition swings, attention diversion, dispersion of sleep and weight gain leading to obesity. A report by O'Keeffe and Clarke Pearson (2011) published in American Academy of Pediatrics showed that use of social media periphrastically builds up psychological wellbeing of a youngster as it decreases social desolation and loneliness by boosting up the bond among friends or by increasing friend circle through adding new friends. According to the research study by Lin et al. (2013), 564 Taiwanese medical caretakers faces poor physical work and observation due to emotional exhaustion which was the consequence of irresistible internet utilization. Ho, Zhang, Tsang, Toh, Pan & Lu (2014) concluded psychological problems; depression and anxiety noticeable in the irresistible utilizers of internet. While on the other hand Greenfield (2014) and Twenge (2006) concluded that self and communal development is badly affected by excess use of social media as youngster are more engaged in it. Brand, Young, Laier, Wolfling & Potenza (2016) stated the negative intellectual states which influence the psychological and actual capacities and choices as a consequence of sporadically wild internet usage.

Lin, Sidani, Shensa, Radovic, Miller and Colditz (2016) investigated 1787 adults in US who were addicted to social media and concluded social media to be the major cause of depression among them. According to Primack, Shensa, Escobar-Viera, Barrett, Sidani and Colditz (2017) in order to reduce troublesome feelings the impatient users

bound to utilize distinctive online media platforms. Particularly, such users adapt various procedures e.g. high commitment in friendly media use. Currently researchers have begun to explore the precursors and outcomes of urgent utilization of various types of new media in contrast with the huge assemblage of existing writing on overwhelming utilization behavior which includes virtual games (Hsiao, 2017; James, Lowry, Wallace & Warkentin, 2017; Lin, Tsai, Chen & Koo, 2013; Quinones & Griffiths, 2017; Turel, Serenko & Bontis, 2008). Twenge and Campbell (2018) cited that teenagers lying in the age bracket of 14-17 years and uses social media more than 7 hours a day faces depression and found to be under the treatment and medication due to behavioral and cognitive issues comparative to the teenagers who used it for only one hour a day. Long range interpersonal communication gives the capacity to teenagers to relate to different clients with normal interests however it additionally centers a difference with different clients. This examination is common in all teen ages, however via online media it becomes in a limited way more unknown. Studies have tracked down that the inspiration for utilizing networks among gatherings of youngsters who utilize web-based media is to address seen weaknesses inside themselves beside time passing, fun and information chasing, relational/intuitive pursuits and to diminish maddening feelings the energetic customers bound to utilize specific online media stages.

Barker (2019) said that since identity plays a role in young people's growth, social media provides this without the need for direct contact. Social networking provides the ability for teens to identify with other users with common interests, but it also focuses a contrast with other users. This comparison is prevalent in all teenage generations, but on social media it becomes to a certain degree more anonymous. Studies have found that the motivation for using networks among groups of young people who use social media is to address perceived vulnerabilities within themselves aside from time passing, fun and knowledge seeking, interpersonal/interactive searches and to decrease irksome sentiments the eager clients bound to use particular online media stages. Especially, such clients adjust different strategies for example high responsibility in agreeable media use. Presently specialists have started to investigate the antecedents and results of pressing use of different kinds of new media interestingly with the tremendous array of existing composition on overpowering use conduct which incorporates virtual games Butt (2019) discussed the psychological effects by stating self-admiration as one of the common factor in which a person doesn't even refrain from psychotic acts believing to appear themselves appealing. Further she said self-harming in another common cognitive factor in which a user cuts or dance in front of passing trains or buses with a close miss. Another factor discussed by her is depression, describing as the consequence of not achieving the desired fame which might be expanded to genuine psychological wellness issues. Lastly, social acceptance craving is also another common cognitive factor. Dittman (2019) stated trending challenges on TikTok are encouraging risky adopting behaviors like eye bleach challenge. According to Roberts and Davids (2019) youthful grown-ups and undergrads explicitly show a restricted limit with regards to self-guideline and an expanded danger of helplessness to peer pressure. While trying to interface with their own character, (i.e., values, likes/detests, yearnings) it tends to be not difficult to become mixed up in making changes to find a place with

others. A new report depicts that this may come from the intrinsic human longing to interface, alongside an extreme "dread of passing up a great opportunity", or FOMO. Susanna (2020) stated the cognitive effects of TikTok in one of the article, the tactic of TikTok is to captivate the user so they'll get captured for hours. Thus resulting in difficulty in arranging, centering, or considering whatever isn't TikTok just to get fame and becoming a web sensation. Monroe (2020) concluded the cognitive impact of social media results in irregular sleeping behavior causing depression, risk taking behavior, drug addiction with a decrease in emotional skills. Further it was discussed that facebook usage leads to eating disorders while a sense of inferiority complex and low self-esteem might be developed in teenagers due to comparing oneself with modified filtered pictures. Another report portrays that this may come from the inborn human aching to interface, close by a limit "fear of leaving behind an extraordinary chance". Koetsier (2020) cited upon discussing the science behind the social media with Dr. Julie Albright, she argued that modern social media applications have addicting features alike gambling. Also it is directly affecting the brain as the attention period is decreasing and people are being less attentive. Noe (2020) stated TikTok as a root cause for disseminating and impacting norms and thoughts adversely as due to the addictive nature it is hard to oppose and simultaneously a risk to psychological well-being of teenagers. By propelling eating less carbs and weight decrease, similarly as when changes, TikTok is supporting risky weight disgrace, which is the second most essential sort of isolation after sexual direction. Weight shame can fabricate body frustration, a principle peril factor in the headway of dietary issues. TikTok uncovered tweens/youths with making brains to weight decrease messages persistently. As of now, posterity, everything being equal, can see these destructive messages and chronicles. Youngsters as well as adults are being prone to depression, anxiety, social isolation and lots and lots of physical fitness issues due to extreme usage of the social media and applications like TikTok.

Ojha (2020) shared some adverse psychological impacts on youth. Stated to promote depression upon not getting desired views on the shared content which effect their mind adversely. Also it is promoting looks obsession among teenagers as one consistently seek to work upon the looks to gain attention of the followers. It is also affecting the focusing skills in children as it consumes the time and prevents one from concentrating on any other task. Psychological effects of web-based media brings about sporadic dozing conduct causing wretchedness, hazard taking conduct, chronic drug use with a decline in enthusiastic abilities. Further it was examined that Facebook utilization prompts dietary problems while a feeling of feeling of inadequacy and low confidence may be created in youngsters because of contrasting oneself and altered sifted pictures. The application seems to romanticize dietary issues and derisive comments toward other body types. It generally twirls around a banality self-insight, which is a dangerous course for young customers to hurt their confidence and prosperity at an especially energetic age. The application uncovers the lifestyle of how we will overall laud explicit style. Rasmussen, Punyanunt-Carter, LaFreniere, Norman & Kimball (2020) found that individuals infrequently post unfiltered content that portrays any sort of difficulty. Thusly, many feel that they need to satisfy certain inconceivable norms of excellence,

wellness, or potentially monetary status. Undergrads are seriously impacted by such substance in their media-driven world, and this pressing factor can produce unfortunate burdensome considerations, and even lead to genuine mental concerns like dietary problems. Mundell (2020) reported in one news article that Dr. Elia Abi-Jaoude, a psychiatrist stated in order to lower down the adverse effects of social media on the youth's relationship, educational grades, sleep and psychological health, teachers, parents and doctors should work upon it collaboratively. Dr. Jaoude the mates discovered some investigations across various researches citing as follows:

- The rate of suicidal attempts or thoughts were noted to be increased twice during 2008 and 2015 and highest with the most noteworthy increase among young ladies, reported in one of the study in U.S.
- Another research cited that individuals lying in age group from 10 to 18 noted to be overdose, noticeably the girls.

Basu (2020) stated about the research investigation cited in JAMA Psychiatry which concluded that teenagers are prone to cognitive health problems like aggression, isolation, depression and anxiety as they uses social media for more than three hours every day. According to the study 6600 US citizens lying in the age group of 12-15 years were studied to find out the time period they spend on social media every day and to check if there are being prone to any cognitive health issues. The results concluded correlation between the time spend on social media along higher rate of cognitive health issues. Basu further explained that according to the study, social media utilization effects in two ways: inside (discouragement and nervousness, for instance) and remotely (forceful conduct or introverted conduct). The last were basically nonexistent among adolescents who revealed that they didn't utilize web-based media. Manley (2020) said that about 41% of TikTok's 800 million month to month clients are between the ages of 16-24. This age bunch is as of now at an increased danger of dietary issues and to urge them to abstain from food further is can be impeding to their drawn out mental and actual wellbeing. By advancing eating fewer carbs and weight reduction, just as when changes, TikTok is sustaining hazardous weight shame, which is the second most basic kind of segregation after sexual orientation. Weight disgrace can build body disappointment, a main danger factor in the advancement of dietary issues. TikTok uncovered tweens/youngsters with creating minds to weight reduction messages continually. At present, offspring of all ages can see these hurtful messages and recordings. TikTok accounts #dailyweightlosstips has 560 million perspectives and #weightloss change (fat fear fuel) has 28 million. Large numbers of these watchers are watching the recordings, looking at themselves, which may lead them to participate in unfortunate practices, for example, skipping suppers, utilizing trend slims down, drinking home-made weight reduction inventions, drinking diet teas or exorbitantly working out. Our teenagers don't know about the wellbeing chances related with these activities. Dietary enhancements, similar to teas and powders, are related with genuine wellbeing dangers and results including organ disappointment, testicular malignant growth, respiratory failure, stroke and even passing.

J. (2020) shared some disadvantages of using TikTok on cognitive wellbeing of the user.

1. TikTok has been one of the causes to develop digital overload: Advanced overburden is essentially the taking in of an excess of data in excessively shy of a period. Kwik depicts us as "suffocating in data. Removing a taste of water from a firehose."

2. Digital distraction individuals who routinely shuffle a few floods of substance don't focus, remember, or deal with their errands just as the individuals who center around each thing in turn. these interruptions invade our lives to a particularly incredible degree and have concocted FOMO and FOBO as the appropriate responses.

3. Digital Dementia: Digital Dementia is a term begat by neuroscientist Manfred Spitzer to portray the abuse of advanced innovation bringing about the breakdown of our psychological capacities. At the point when our gadgets do all our speculation for us, it bodes well that our minds will debilitate.

4. Digital Depression: Jim Kwik considers Digital Depression a correlation issue. At the point when somebody goes through hours daily perpetually looking through the "profoundly curated, exceptionally sifted, feature trailer" of another person's life and afterward thinks about themselves to what they see, they may feel like they're sufficiently not.

#### **2.4 Social Effects of TikTok**

Williams (2018) stated positive effect of TikTok by highlighting the charity collection campaign where a holiday-themed expanded reality (AR) channels with the hashtag #CreateforaCause was posted and \$2 will be achieved upon sharing that video. Big names like Ashley Benson, Khloe Kardashian, Nick Jonas, Vanessa Hudgens, Nina Dobrev and Serayah who joined with this application to bring issues to light for the mission. Along with the rise it has brought a line of issues. TikTok was fined \$5.7 million by the U.S. Government Trade Commission for neglecting to get parental assent prior to collect the personal information like names, email ids and individual data about individuals younger than 13 years. The application was banned in India for spreading cultural degradation among youth. Asher (2019) cited TikTok to be the mischief of digital era as the youth don't refrain to create inappropriate content just to achieve some fame. The youth is not only exceeding the ethical limits but they are wasting time too. Other than this, TikTok is advancing same sex connections or 'gayism' and people do get influenced by their environment. Barik (2019) stated that TikTok was resulting in exposure to pornography, group hate, life threatening problems, objectification of women, affecting psychological health of the users, exposing kids to sexual predators so it was proscribed in India back in April 2019. One ought to submit 30 mins or set a timetable can assist with diminishing time spent on the application. The subsequent stage proposed is to developing interest and to invest more energy in pastimes as it is fundamental for mental thriving of a person. In any case whether it is developing, running, forming, or playing music, finding a strong outlet licenses you to clear your mind and reset. The last system is putting to the side exertion to help out people. Put to the side opportunity to sit and talk or go to parties. We were made for neighborhood TikTok without assistance from any other individual doesn't cut it. Having social

correspondences and going to gatherings can help hold you back from feeling separated, which oftentimes prompts sorrow and strain.

Christopher (2019) an episode became visible in India's southern state where a man supposedly live-streamed his scorn discourse against a specific local area (the Dalits) simply a day prior killing an individual from this oppressed position. Butt (2019) stated regardless the purpose of the application is to socialize, people are socially isolating themselves as they prioritize the on screen individuals more other than their friends or relatives, additionally it is promoting nudity and is becoming a source of harassment and blackmailing. Parkin (2019) stated that Google and Apple stores were ordained by Indian government in 2019 to remove TikTok from the online stores as the application was becoming a platform to share nudity and pornography. It was already banned in Bangladesh and was penalized a huge fine in the US for collecting children's information unlawfully. Dittman (2019) suggested some precautionary measures that will help to keep the content safe, while if there will be no correct protection settings, the predators are observing and can share the content with others including: do not use hash tags with pictures as it allows and helps to search pictures easily, don't post identity details as it helps the predators to identify, go through the privacy settings of the accounts once every three months, do not add the unknown or strangers. Rai (2019) stated that Arpita Chaudhary, a recently enlisted police constable in India's western Gujarat state, addressed the cost as she was suspended from her work after her 15 seconds video clip went viral in which she tuned in the Bollywood song in the background of the jail in her civilian uniform and had danced during the duty hours. In one viral TikTok present set on a high-voltage film melody, five weapon using officials of a police SWAT group getting back from an experience in the focal territory of Uttar Pradesh are shown swaggering across a field in sluggish movement, activity film style. Their boss opens his weapon's security catch and imagine discharge at imperceptible trouble makers. The SWAT group featuring in the TikTok video was moved out of the locale. "We don't authorize amateurish showcase of weapons and bizarre personifying of police, the Uttar Pradesh police said in a statement. In another TikTok video shot in the southern city of Hyderabad, two physiotherapy understudies re-institute heartfelt film scenes inside an administration medical clinic and in another, four safety officers dance about in the medical clinic's crisis ward.

Moyosore (2020) said TikTok is providing a platform to everybody to openly communicate their actual selves either they belong to minority or people group from LGBTQ+. Hayne (2020) stated that trending videos are one of the primary reasons these application sway adolescents consistently forcing heaps of clients to follow the trend and upload more and more videos. It provides a platform to convey the ideas by expressing oneself. Soni (2020) argued that TikTok is providing a platform to express the hidden talent but the happening trends is also promoting pornography. Movie recordings are one of the essential reasons these application influence youths reliably constraining piles of customers to follow the pattern and transfer an ever increasing number of recordings. It gives a stage to pass on the thoughts by communicating Gupta (2020) cited that immature individuals are impacted by the on-going local trends more when there is an absence of guidelines and as soon as the local trends move to

worldwide a bigger opportunities for negative impact is available. Considering the observation 650 Thai young ladies and young men were interviewed, matured 16 to 25, 85% of had negative encounters with TikTok use. 90%, had been drawn nearer with tormenting or sexual offers and 50% reported to receive nudity. Despite the fact that TikTok offers an announcing alternative most clients won't report because of an absence of information on the detailing framework thus complaining the absence or no place to vent or report these occurrences. Social isolation is another critic of TikTok as its expanding trend is resulting to make the individuals socially isolated. The case expresses that when youths loose interest in academics they tend to "flaunt" through applications like TikTok.

According to Schrader (2020) a video portraying genuine dread assaults against Israeli residents focusing Palestinian kids, celebrated the violence and motivated martyrdom, was posted on TikTok due to which lots of criticism was faced by the application. Though, later it was deleted by the application expressing that it abused their terms. M (2020) stated that TikTok is being misused as a platform to spread persecution, considering UK, USA and India. It is being used to convey tacky and hostile comments against individuals they dislike. This depicts bogus portrayal as well as makes you think about the effects of lack of regard on a client or a specific local area. Further In an article published in BBC culture Galer (2020) stated TikTok turned to be a conspicuous field for hostile to Trump fights that really prompted genuine outcomes; TikTokers have been credited for having probably some part in the helpless turnout at President Trump's Tulsa re-appointment rally in June and they likewise constrained his mission to reset the Trump application's evaluating after TikTokers savaged it with terrible surveys.

Kobel (2020) cited that a 15 years old girl with 30 million followers, CharliD'Amelio from Connecticut has showed up in a Super Bowl business and had the chance to hit the dance floor with Jennifer Lopez in a TikTok. But it has negative impacts as well including adverse effects on school, work and different exercises, wastage of time etc. Snavelly (2020) suggested some points to balance the time usage on TikTok with your life. The first point suggested is to restrict the time of using of TikTok. Though it is not difficult to invest energy with your smartphone and to fade the afternoon however it's pivotal to define limits to diminish the measure of time spent via web-based media. One should commit 30 mins or set a schedule can help to decrease time spent on the application. The next step suggested is to building up interest and to spend more time in hobbies as it is essential for psychological prosperity of an individual. Regardless whether it is cultivating, running, composing, or playing music, tracking down a solid outlet permits you to clear your brain and reset. The last strategy is setting aside effort to cooperate with individuals. Put to the side chance to sit and talk or go to parties. We were made for local area and TikTok without help from anyone else doesn't cut it. Having social communications and going to parties can help keep you from feeling disengaged, which frequently prompts despondency and tension. Ojha (2020) suggested some adverse effects of using TikTok which are impacting social life of youth. As focused and stated it is promoting violent content, which attracts the children to copy it and could result in life-threatening after effects as attention seekers don't

refrain to perform such acts in order to gain familiarity or to be famous. Minors are being exhibited through an obvious and inappropriate content via TikTok. Rate of deaths and crime is increasing as many cases have been reported. TikTok is destroying the social life as the user kept busy in preparing the content.

Bose (2020) reported that a shocking video was posted by a user Faizal Siddiqui the content comprises the promotion of violence and acid assaults on ladies. The National Commission for Women (NCW) has documented a grievance against TikToker. Magsino (2020) cited that two secondary school seniors could be considered acting to be a stopgap human generator, adding censorious slurs and generalized dark qualities to their "equation." On Twitter, where the video was reposted, clients immediately got down on the post, reaching the understudies' secondary school and prospective school. The secondary school immediately reported that the understudies were not, at this point selected there. One of the understudies took to her Instagram story to apologize, noticing that "blacks are people as well, made according to God." Siddiqui (2021) stated 11 assault cases detailed in Pakistan consistently with more than 22,000 assault cases answered to police the nation over the most recent six years, as per official measurements. These applications assume a violently significant part in the ascent of assault and inappropriate behavior cases in our general public. Our general public is as of now going through the disasters of fanaticism, this web-based media applications are adding salt to wound. Maguire and Biondi (2020) cited that during the pandemic, TikTok has urged a rotate to design by enlisting set up influencers to join the application and aiding extravagance brands dispatch TikTok records, joint efforts and missions. Gucci, Balmain and most as of late Balenciaga have dispatched TikTok accounts this year; others have supported TikTok influencer content. At the point when the organization dispatched a TikTok for Business administration to help brands produce content in June, it was a turning point for design associations, says Kristina Karassoulis, who oversees extravagance brand associations at the organization.

Williams (2020) found out that 3/4 of Generation Z said TikTok has assisted them with finding out about friendly equity and governmental issues, while a similar number said the social video application assists them with remaining current on the news, per overview results that Reach3 Insights imparted to Mobile Marketer. Social activism posts on TikTok have encouraged 54% of Gen Zers to take part in conversations with loved ones, 44% to sign petitions and 32% to instruct themselves about something they saw on the application. Practically all (94%) of Gen Z said TikTok has created significant activity for the Black Lives Matter development, while a comparable rate (96%) use TikTok for the sake of entertainment recordings. 76% of Gen Z said brands "have an obligation help have an effect on the planet," standing out from 66% of individuals ages 25 and up who are not interested in friendly equity articulations and "endeavors to help made by brands," the investigation found.

Jeffries (2020) said that from the point of view of brands, wandering into the universe of TikTok can be an obscure area. For most brands, it's not something they've at any point thought of, but rather this insane ascent in ubiquity implies that it's significant and fitting for brands to have a presence on the stage. The most ideal approach to do this, for brands who are new to the TikTok game, can be to capitalize on makers on TikTok.

These makers are aces at creating viral substance that will acquire gigantic impression numbers and put your image before quite possibly the most energizing, financially dynamic crowds. A marked mission with an influencer can be probably the most ideal approaches to dunk your toe into the universe of TikTok and permit the guardian to steer a piece with regards to the substance creation. For some brands, they don't have the foggiest idea where to begin with regards to making TikTok content, so working with an influencer is an extraordinary method to battle this. Allaire (2020) said that TikTok's impact was especially clear yesterday. The application's clients guarantee to have assumed a part in the low participation at President Trump's mission rally in Tulsa, Oklahoma. As per the New York Times, many TikTok clients and K-pop fans who in the past have likewise overwhelmed the #WhiteLivesMatterhashtag on Twitter urged each other to document the greater part 1,000,000 ticket demands for the convention, driving coordinators to figure its 19,000 seat limit would be sold out. As a general rule, just around 6,200 Trump allies appeared, a negligible part of the setting's ability.

Sarwari (2020) cited a report by The Wall Street Journal battles that youngsters are rushing to TikTok to communicate their political perspectives, advance their #1 competitors, and respond to political news. While this has all the earmarks of being something worth being thankful for at face esteem, some in the field of law and governmental issues are worried that, as has occurred with Facebook and Twitter, TikTok could be utilized to spread bogus data in front of the official political decision. Nicholas Beauchamp, an associate educator of political theory at Northeastern, says that however the stage doesn't appear to be characteristically appropriate for political substance, it very well may be defenseless to the spread of falsehood. Kotala (2020) discussed about the research in which analysts from the University of Central Florida and the University of Maryland collaborated to perceive what children needed to say about "more peculiar risk" and how it very well may be dealt with all the more adequately through plan. The kids, ages 8 to 11, were approached to overhaul TikTok in a way that would help protect them on the web while as yet being interesting to their age group. The study tracked down that small kids don't regularly perceive risks when they are drawing in with others via web-based media, for example, experiencing sexual stalkers or giving a lot of individual data that could prompt kids being attracted away and taken for illegal exploitation. Also, if the kids experience a dilemma, they would like to ask man-made consciousness frameworks for guidance, as opposed to having their folks have direct command over their online media collaborations. While the youngsters recognized there are some terrible individuals on the web, they were more worried about protection and freedom. Under two situations, each gathering selected a plan that had AI help rather a plan that enabled guardians to look after or control a kid's movement.

Maclean (2021) argued that TikTok is immersed with "ordinary" individuals, as opposed to the rich and renowned, who condemn their bodies and urge others to take part in patterns that sustain hurtful excellence norms. A ton of these patterns are intrinsically hazardous. Beside the way that they urge young ladies to put their bodies under a microscope for a pattern or the opportunity to "become a web sensation," these patterns bring about fat-disgracing and the propagation of Eurocentric and bigoted

excellence guidelines. One of these famous patterns on the application included clients flaunting side profiles. Albeit the pattern didn't head out to be inalienably poisonous, the remark segments got loaded up with harassing about facial structures quite on larger estimated individuals. Sarpong (2020) said that notwithstanding TikTok's tenacious updates of its local area rules, it presently can't seem to be effective in editing fat-disgracing and pointless issues. The absence of activity is perhaps the most prominent attributes of TikTok. The application appears to romanticize dietary issues and disdainful remarks toward other body types. It to a great extent spins around a cliché self-perception, which is a hazardous route for youthful clients to harm their self-assurance and wellbeing at a particularly youthful age. The application uncovers the way of life of how we will in general extol specific style. Past patterns on the application have made a significant issue in which clients enjoy generalizations and separation. The "How's My Form" pattern prompted ridiculing ethnic minorities, which are wrongly depicted as "innocuous jokes." Point-of-view (POV) recordings are additionally famous strings, where clients act and clarify what they are doing through names. Albeit many are innocuous, various recordings rotate around damaging circumstances like assault, grabbing or tormenting. Indeed, these brutal activities are standardized, empowered and surprisingly romanticized. The individuals who went to the application for its positive and entertaining substance are left offended at the absence of affectability, obtrusive obliviousness and derisive expectations toward various gatherings of individuals on TikTok.

According to a research published in (*The Pornification and Juxtaposition Of TikTok Videos*, 2020) ludicrous year there has been a developing underground development known as "TikTok pornography gatherings" which are discovered online in places like subreddits. In these gatherings, they duplicate TikTok's of youngsters who have posted a hypersexualized video and make their own pornified two part harmony where they compare a nondescript video of themselves jerking off and discharging in the video. Once more, this video isn't presented on TikTok, yet in more covered up (yet accessible) zones online as TikTok recordings posted can be downloaded and shared away from the application. We affirmed the presence of these subreddits, and really saw the recordings contained in these extremely upsetting gatherings. It ought to likewise be noticed that the little youngsters aren't very taking an interest in these pornography gatherings, but instead their recordings, which they have frequently posted guiltlessly, have been seized without their insight and afterward pornified. These compared recordings are then presented on these subreddits to permit other to explicitly externalize them while they jerk off. Once more, albeit these recordings are situated in more secret territories on the web, they are accessible and recognizable to a TikTok client who has no clue about that this has occurred. Given this reality, these transformed recordings could get public or even utilized with the end goal of sextortion. Breen (2021) stated about the blackout challenge that got viral on the challenge. The challenge accepters had to choke themselves until they lose their consciousness and woke up later. On March 22, 12-year-old Joshua Haileyesus was discovered "short of breath" on the washroom floor by his twin sibling in the wake of partaking in the Blackout Challenge, which he found on TikTok. His twin sibling discovered him and endeavored to revive

him, as per the pledge drive site. Joshua was intubated and in a coma for 19 days before he passed on Saturday. "Unbeknownst to his folks, Joshua had been playing this hazardous game totally ignorant of the dangers implied," the family composed. In research from Proper Gaanda (2020) it was found that TikTok has been reprimanded for a ton of things during its ascent to the top. One of the best on-going complaints individuals raise is that it dirties minds and empowers harmful conduct. A great deal of Pakistanis trust TikTok is wild. Furthermore, they have valid justification to think so. There have been reports of lethal mishaps and surprisingly an assault case including the individuals who utilize the application. A 17 year old purportedly shot himself coincidentally while recording a short clasp on TikTok utilizing his dad's gun. A young lady was assaulted by three men whom she met on this application. Romaisa Khan, a youthful TikTok star in Pakistan, has said that the application has been tremendously useful while conversing with Al Jazeera. As per her, the stage has assisted her with breaking into a demonstrating and media outlet that is almost difficult to enter. In view of the opportunity, openness, and independence TikTok offers, Romaisa currently gets offers from global brands.

### **2.5 Incidents reported in Pakistan**

Staff (2019) reported in one of the news articles published in dawn news about one TikTok star, Hareem Shah, she tweeted her experience as a guest of an inauguration ceremony of Dubai Oasis Mall where she was badly abused verbally as well as physically by lots of Pakistani men. Ali (2020) reported the death of a 13 yrs old boy in one of the news articles in samaa news, the incident was reported in Karachi Pakistan, where a boy after making a video with his friends on Lyari expressway was hit by a Suzuki Hi Roof Van and died on the spot. Hussain (2020) discussed in the article published in Dawn news about the PTA ban lifted on TikTok against unethical content. According to the details mentioned in the article PTA had issued final warning to the application with substantial time limit to respond with the guidelines for establishing an efficient "unlawful online content" proactive moderation process. However, TikTok failed to comply with the provided guidelines and after that it was decided to ban it in Pakistan. Furthermore it was stated in the article that according to TikTok they had deleted massive number of clips which were violating the threshold set to upload the videos and Pakistan ranked to be the top five among them. Geo News (2020) reported an accidental death of a 20 years old security guard of a processing plant in the area of Gulshan-e-Maymar, while he was trying to film a clip with his fellow. He stacked a few slugs into his firearm prior to pointing the barrel towards his chest, his friend warned him but he incidentally shot himself and lost his life. The expired was obviously just having a great time for making his video turn into a web sensation. Ary news (2020) cited a drowning case of a teenager Hussain, who was making a video with three friends at the Narowal canal side. According to the friends his foot slipped in the canal. The body was recovered 6 days later the incident.

According to Mehmood (2020) one of the TikToker a resident of Liaquatabad Town reported to receive threats, her mother filed a complaint and three harassers were then arrested following the complaint. As per the SHO, the said blamed likewise live in a similar area and they may be badgering the young lady due to their predispositions

against TikTok. Another incident highlighted by Mehmood (2020) was regarding a student of tenth grade Marvi Khiliji from Pir Jo Goth, Sindh who set her home ablaze when her father wouldn't back her TikTok video. As per her debilitated dad, Abdul Aziz, Marvi requested that he money a displaying video for her TikTok. He guaranteed that she requested Rs. 200,000 from him for the reason. At the point when he declined, she blew up and put a match to the house. Supposedly, an ice chest and a clothes washer were likewise annihilated during the blast.

Rafiq (2020) posted the succumbed experience of savages and bullying of a Pakistani TikTok star Minahil Malik, when her private pictures and recordings were shared by her boyfriend on the web. Falah (2020) cited that a young lady in Pakistan's city of Lahore, was supposedly assaulted by three men including a 'companion', whom she met through the mainstream video-sharing application, TikTok, nearby media sources provided details regarding July 13. The young lady enlisted an objection at Millat Park police headquarters in Lahore. Upon her protest, police disclosed to her that lawful move will be made in the wake of directing a clinical trial of the girl. In her police objection, the young lady expressed that she become a close acquaintance with a man, distinguished as Shiraz, through TikTok. She likewise educated the police that she began conversing with the man 20 days before the episode, and later met him in the Samanabad territory upon his request. She added that Shiraz requested that she sit in his vehicle, where two men were additionally sitting waiting. The young lady guaranteed that she was assaulted by every one of the three men on gunpoint inside the vehicle.

A death incident reported in the area of Ibrahim Hyderi by geo news (2021) where two friends were making a video with a loaded gun. The trigger was pulled by mistake by one of them as reported by police. News18 (2021) cited about the incident happened in the Shah Khalid, where a 18 year TikToker, Hamza Naveed, was hit by a train while he was getting ready to shoot a video on the railway track. Hamza died on the spot as confirmed by the cops. Ali (2021) stated four TikTok users (3 men and 1 lady) were shot dead in morning in Karachi Garden area near Anklesaria Hospital. According to the details mentioned the men were killed outside the car while the lady was killed inside the car. As per the cops the murder seems to be the consequence of some personal grudges. Staff (2021) cited in one of the article about the viral video of sexual harassment of a TikToker Zoi hashmi recently the Pakistani TikToker has at long last ended her quiet on the matter. She stated: *"This misfortune is from four years prior, that I have overlooked and I need you (fans) to disregard this as well, push ahead and uphold me. I need you folks to regard and adore me the manner in which you did (prior to finding I'm an assault survivor). Backing me and God help the individuals who attempted to insult me. I trust the evidence speak for itself with Allah."* According to Siddiqui (2021) on January 14 a trans woman TikTok star Rimal Ali, posted a thanking video to law authorities upon guiding and helping her out as she had been assaulted, her hairs were cut off and her eyebrows were shaved off in addition she dreaded her life.

### 3. Research Methodology

#### 3.1 Target Population

The target population of this study had been the youth only i.e. age group ranging from 15 years to 24 years however the area was restricted to Karachi. They had been studied via close ended 5 point Likert scale questionnaires to analyze the hypothesis. Kiran and Sharma (2020) collected the data by using 5-point Likert scale.

### **3.2 Sample size and Sampling technique**

#### **3.2.1 Sample Size**

250 respondents had been selected as a sample size for this study. Swathi and Devakumar (2020) had selected a sample of 430 respondents for their study.

#### **3.2.2 Sampling Technique**

Convenient sampling technique had been used to analyze the individuals who were conveniently accessible via online surveys.

### **3.3 Data Collection Tool**

Kiran and Sharma (2020) collected the data effectively by using 5-point likert scale close ended questionnaire. They designed the questionnaire into two parts: the first part confirmed if the respondent uses TikTok or not, if confirmed then only the form proceeded to the second part which was divided into further two parts. The first part contained demographic details like age, sex, the total period of application usage and in the second part the questions related to the variable were mentioned. To collect the data for this study the researcher had constructed a questionnaire with two parts, first part was for TikTok users and the other was for the one who were just familiar with the application.

### **3.4 Data Analysis**

The results had been examined via different statistical tools. Variables had been tested through cronchbach's alpha to ensure the reliability. Swathi and Devakumar (2020) used cronchbach's alpha to check reliability and consistency and ensured that the value should be greater than 0.7. SPSS 22.0 version had been used to calculate various tests. To analyze the descriptive data, frequency distribution, to compare variables correlation and finally to test hypothesis ANOVA had been used.

Level of significance  $\alpha$  set as 95%

Level of Error =  $1 - \alpha = 1 - 0.95 = 0.05 = 5\%$

That is be used to accept the hypotheses.

### **3.6 Limitations**

This investigation has been restricted to the age gathering of youth and had highlight about couple of components which were responsible to create the social and cognitive effects among the youth. Besides, one of the shortcoming may be the respondents in this examination had a place with Karachi as it were. More likely comprehend the reasons and factors, respondents from different pieces of the country and other than youth ought to likewise be thought of. There is still a ton to find and talk about and the result of the examination could be more acceptable and critical if different analysts find them by additional investigation through expanding the number of elements and by looking over the people of all ages from various urban communities of the country.

### **3.7 Research Model**

This investigation discovers the cognitive and social effects of TikTok on the youth. Along these lines, the fundamental regression model would be:

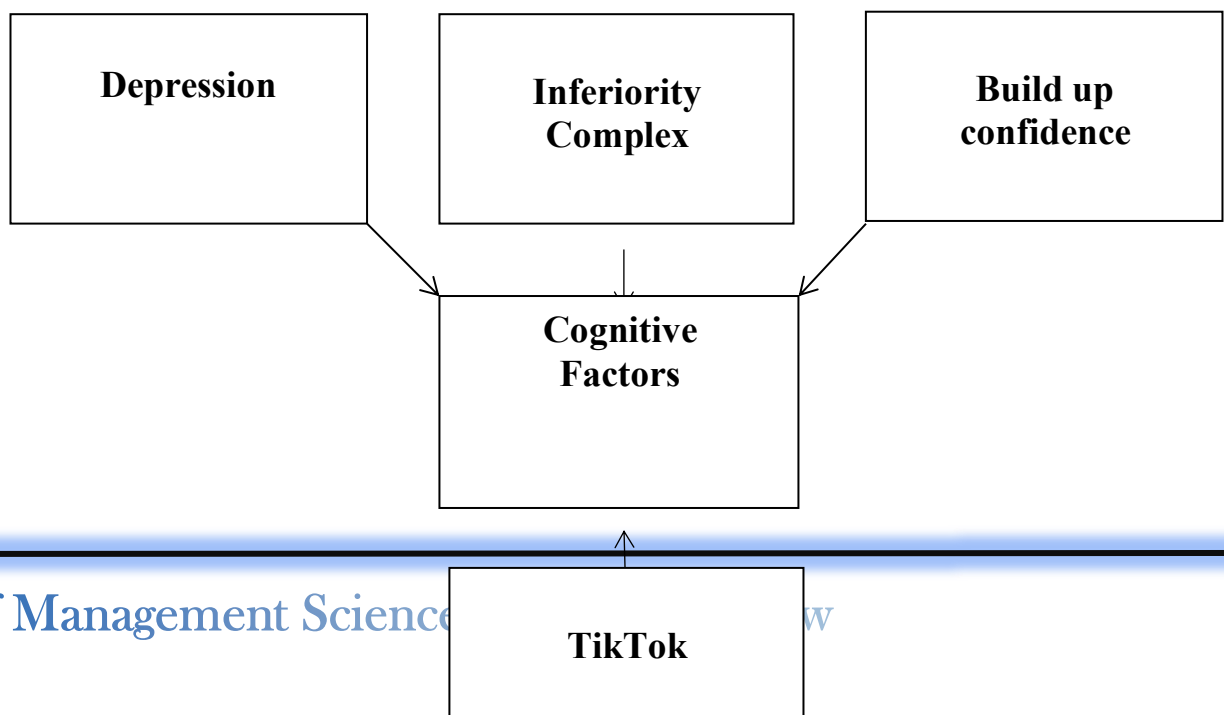
$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \mu$$

Since the point of this investigation was to discover the cognitive and social effects of TikTok on the youth. So the components influencing would be shortened in the regression model of the examination as:

| Variables         | Abbreviation |
|-------------------|--------------|
| TikTok            | T            |
| Cognitive effects | C            |
| Social effects    | S            |

Considering the above information, the regression model of the study would be composed as:

Exploration model of the investigation is developed underneath:



**Chapter 4: Results**

**4.1 Frequency Distribution**

**Table 1**

**Gender**

|            | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Valid Male | 117       | 46.8    | 46.8          | 46.8               |
| Female     | 133       | 53.2    | 53.2          | 100.0              |
| Total      | 250       | 100.0   | 100.0         |                    |

It clearly showed that 250 respondents had participated in this study, out of which 133 respondents were female and 117 were male. If we look for the percentage ratio of the

female and male then it could be concluded as 46.8% of the population of this study were females while 53.2% males had participated in this study.

**Table 2**

**Age**

|             | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------|-----------|---------|---------------|--------------------|
| Valid 15-18 | 57        | 22.8    | 22.8          | 22.8               |
| 19-21       | 92        | 36.8    | 36.8          | 59.6               |
| 22-25       | 101       | 40.4    | 40.4          | 100.0              |
| Total       | 250       | 100.0   | 100.0         |                    |

According to the table, 101 respondents belonged to the age group ranging in between 22-25, 92 respondents lied in the age group of 19-21 and 57 respondents were from the age bracket of 15-18.

**Table 3**

**Edu Work**

|                      | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Valid Matriculation  | 56        | 22.4    | 22.4          | 22.4               |
| Intermediate         | 31        | 12.4    | 12.4          | 34.8               |
| University Student   | 98        | 39.2    | 39.2          | 74                 |
| House Wife           | 50        | 20      | 20            | 94                 |
| Working/Entrepreneur | 15        | 6       | 6             | 100.0              |
| Total                | 250       | 100.0   | 100.0         |                    |

56 people who were lying in the age group of matriculation, 31 people were the student. Whereas, 98 respondents who lied in the age bracket of 19-21 were the university students. Out of 50 respondents of the age group 22-25, 15 were house wives and 24 were the working individuals.

**Table 4**

**T Usage**

|           | Frequency | Percent | Valid Percent | Cumulative Percent |
|-----------|-----------|---------|---------------|--------------------|
| Valid Yes | 220       | 88      | 88            | 88                 |
| No        | 30        | 12      | 12            | 100.0              |
| Total     | 250       | 100.0   | 100.0         |                    |

According to the table, 220 respondents (88% of the population) were the TikTok users while 30 respondents (12% population) don't use TikTok but were aware of the application.

**Table 5**

**Time Period**

|                   | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------------|-----------|---------|---------------|--------------------|
| 1 Year            | 90        | 36.0    | 36.0          | 34.0               |
| 2 Years           | 60        | 24.0    | 24.0          | 60.0               |
| Valid 3 Years     | 54        | 21.6    | 21.6          | 81.6               |
| More than 3 years | 46        | 18.4    | 18.4          | 100.0              |
| Total             | 250       | 100.0   | 100.0         |                    |

There were total of 90 respondents who were using the application from 1 year. Furthermore, 60 people were using it from 2 years, 54 individuals were using it from 3 years and there were 46 respondents who were using it from more than 3 years. Hence, 60% of the total population of this study has been using TikTok from 2 years

**Table 6**

**View Use**

|              | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| User         | 64        | 25.6    | 25.6          | 25.6               |
| Valid Viewer | 186       | 74.4    | 74.4          | 100.0              |
| Total        | 250       | 100.0   | 100.0         |                    |

It clearly showed that out of 384 respondents, 186 respondents used the application just to seek entertainment and hadn't any contribution to the application. While 64 respondents had chosen to update their accounts by making video clips.

**Table 7**

**Genre**

|                            | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------------|-----------|---------|---------------|--------------------|
| Comedy                     | 106       | 42.4    | 42.4          | 42.4               |
| Exemplary                  | 3         | 1.2     | 1.2           | 43.4               |
| Valid Romance OR Melodrama | 107       | 42.8    | 42.8          | 86.2               |
| Promoting                  | 34        | 13.6    | 13.6          | 100.0              |
| Total                      | 250       | 100.0   | 100.0         |                    |

Out of 250 viewers 106 people preferred to watch comedy content on the application, 107 respondents view melodrama or romantic content, 34 of the people watch promotional content while only 3 individuals go for the exemplary content. Moreover, out of 104 users,

**4.2 Reliability and validity of Model: Interpretation of Reliability test and ANOVA**

Each variable was individually tested and then overall reliability of all the variables were tested by using the cronchbach’s alpha in order to find out that the collected data was reliable for further analysis or not.

**Table 8  
Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .597             | 2          |

According to the table, the reliability of the cognitive factors of this research study was found to be 0.570.

**Table 9  
Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .570             | 2          |

Moreover, the reliability of social factors was concluded to be 0.597.

**Table 10  
Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .742             | 3          |

The value of cronchbach’s alpha for overall reliability was 0.742. Hence, all the values in this research were greater than 0.5 so the data was reliable for further analysis.

**Table 11  
Model Summary**

| Model | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1     | .468 <sup>a</sup> | .219     | .215              | .61398                     |

a. Predictors: (Constant), S, C

The table 9 summarized the model fitness which can be explained by the value of R, which is 0.468 (i.e. 46.8%).

**Table 12  
ANOVA<sup>a</sup>**

| Model |            | Sum of Squares | Df  | Mean Square | F      | Sig.              |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1     | Regression | 40.210         | 2   | 20.105      | 53.332 | .000 <sup>b</sup> |
|       | Residual   | 143.628        | 381 | .377        |        |                   |
|       | Total      | 183.838        | 383 |             |        |                   |

- a. Dependent Variable: T
- b. Predictors: (Constant), S, C

Table 10 showed the result of ANOVA test. The value of the value of significance is 0.00 which is less than 0.05 so it is concluded that the model is significant and reliable.

**Table 13**  
**Coefficients<sup>a</sup>**

| Model        | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
|              | B                           | Std. Error | Beta                      |       |      |
| 1 (Constant) | .801                        | .153       |                           | 5.236 | .000 |
| C            | .263                        | .085       | .198                      | 3.081 | .002 |
| S            | .419                        | .088       | .306                      | 4.775 | .000 |

- a. Dependent Variable: T

According to the result of reliability and ANOVA the study had been processed further and regression model had been applied. The regression model of the study would be as follows:

$$T = \beta_0 + \beta_1 S + \beta_2 C$$

The result of the regression model is mentioned in table 11. The values of the beta coefficients of all the variables were positive and the value of significance of all the variables were less than 0.05 showing the significant positive effect. Hence, the model for the cognitive and social impact of TikTok on youth would be:

$$T = 0.801 + 0.419 S + 0.263 C$$

Summarizing the regression equation mentioned above as the value of beta coefficient of social factor was found to be 0.419 with the significance value 0.000, concluding to had a significant positive effect on TikTok. Therefore, it has been accepted that the usage of TikTok created social factors among the youth. While on the other hand, cognitive factors also showed significant positive effect as the value of beta coefficient of the variable was 0.263 with 0.002 significance value. Hence, it has been also proved that frequent use of TikTok created cognitive issues in youth of Karachi.

#### 4.3 Variables Assessment Summary

**Table 14**

| Variables | Summary   | Beta  | Sig. Value | T Value | Empirical Results |
|-----------|---|-------|------------|---------|-------------------|
| S         | The results of the study concluded that depression is caused due to binge watching among users. | 0.419 | 0.000      | 4.775   | Positive effect   |

|   |   |       |       |       |                 |
|---|---|-------|-------|-------|-----------------|
| C | It had been clearly concluded that sense of dependency is developed in the viewers due to extreme binge watching. | 0.263 | 0.002 | 3.081 | Positive effect |
|---|---|-------|-------|-------|-----------------|

**4.4 Hypothesis Assessment**

According to the above table, it had been clearly proved that all the variables were creating significant positive impact and were responsible to impact the viewers psychologically while use of TikTok had also been creating social factors. Hence the hypothesis had been accepted.

**4.5 Discussion**

Youth of Karachi had been using TikTok frequently and had becoming a psychological and social victim of it. TikTok had adverse social and cognitive effects but still the youth don't refrain to use the application. We had conducted this study to find out what factors were responsible to create social and cognitive effects and also to analyze that user of the application were more prone to which one of them. We had selected 3 independent variables for social factor namely; income, social isolation, unethical content and for cognitive we had chosen depression, inferiority complex and confidence to examine which factor had been responsible to cause the most effect on youth. 384 users from Karachi were examined via close ended questionnaire through online google forms and it was concluded that 69.5% females (i.e. 267) and 30.5% males (i.e. 117) had participated in this research study. Moreover, descriptive statistics concluded that out of 384 respondents there were 198 individuals who lied in the age bracket of 19-21, 99 respondents belonged to the age group of 22-25 and finally 87 people were the teenagers (i.e. they belonged to the age group 15-18). After that working experience or educational background of the respondents were examined and it was summarized that out of 87 individuals who were lying in the age group of 15-18, there were 31 respondents who were the students of intermediate while 56 were the students of matric. Moreover 198 respondents were university students, 75 were house wives and 24 were the working individuals.

Furthermore, we had examined the frequency for application usage and found that 320 respondents were the TikTok users while there were only 64 individuals who don't use the application but were aware of the application. Then time duration of the individuals' usage was calculated and it was found that 31% of the research sample had been using the application from one year, 51% respondents had been using the application from two years, only 9.4% of the population of this study had been using is from three years while

just 8.6% of the population had been the user of TikTok for more than three years. After that it was found that only 104 respondents were there who had chosen to update their profile by frequently uploading the videos while 280 people use the application only to seek the entertainment. Moreover, we had probed the content respondents wish to view or upload and found that from 104 people who makes the video on TikTok, 80 individuals had chosen comedy content while 24 respondents had chosen melodrama

or romantic genre. On the other hand, the respondents who just watch the videos on the application, out of them there were 179 individuals who preferred to watch comedy content, 70 people view melodrama or romantic content, there were 28 respondents who use the application to watch promotional content and only 3 people watch exemplary content on the application.

After descriptive studies we had used cronchbach's alpha to examine the reliability of the variables individually and then collectively all the variables were tested before proceeding towards the further statistical analysis. Individual reliability of the variable cognitive factors was found to be 0.570 and for social factors it was 0.597, after that overall reliability was 0.742 hence all of the values were greater than 0.5 so the study was found to be reliable for further process. We had utilized regression analysis and it was concluded that model was significant and reliable. Further it was summarized that use of TikTok had been positively affecting the youth of Karachi, socially as well as psychologically as beta value for both the variables was positive and significant value was less than 0.005. It had been accepted by the respondents that addiction of TikTok had been creating serious trouble for the users and some of them had lost their lives as well. Some people agreed that TikTok has been running as a source of income for them as they have been promoting their business to the target audience easily. While some people accepted that the users and viewers of TikTok could be depressed people as they seek pleasure from the usage of the application and to decrease their anxiety and depression. Hence, majority of the population of this study accepted that TikTok has been spreading social and cognitive effects among users, hence the hypothesis has been accepted and proved to be correct.

### 5.1 Conclusion

The study concluded that individuals from Karachi, specifically youth are fond of viewing or making short video clips during their leisure time though it had been creating lots and lots of social and cognitive effects among them other than this people do not refrain to use the application. The results of the study clearly showed that all the variables had a great social and cognitive influence on the youth. Elaborating the results further, TikTok has been mostly used by the attention seekers or social acceptance cravers or might be by the depressed people who seek for the mental pleasure. It is also one of the major cause of developing inferiority complex among users as they receive the negative or sarcastic comments by the viewers, bashing from the audience would result in the damage of the cognitive health of the user. While on the other hand the social effects of TikTok had also been responsible to effect the users badly. Addiction of TikTok had been resulting in an increase in the number of accidents, people don't refrain to expose themselves to danger, they create unethical content and then make it a trend in order to get fame. Moreover, some respondents agree that some people had been using TikTok as a promotional application and they do market their products as the application has been providing them easy access to target massive audience towards the business and also it provides an access to diverse cultures.

The findings and conclusion of this study analyzed that people had been frequently using TikTok and are prone to social and cognitive effects but still they don't refrain to use the application. TikTok had been spreading negative effects everywhere, it had not

only social and cognitive effects but it had been affecting the individuals physically as well. People have lost their precious lives while some of them have been going through serious mental issues due to inferiority complex, depression, bullying and anxiety etc.

### 5.2 Future Findings

Every individual should be aware of the negative consequences that TikTok has been causing and in order to create awareness among the society such sessions should be conducted in which individuals should be informed of the adverse effects and they should be provided counseling so that they should spare their leisure time in some healthy activities instead of adopting a society followed trend. The sessions and counseling could be delivered via seminars, workshops, conferences where target individuals could be reached out easily. Majority of the users of TikTok has been noted to be the youth or young generation so awareness sessions should be arranged in schools, colleges and universities and even at working places so that maximum individuals could be counseled at a time.

### References

- Adler, A. (1956). *The individual psychology of Alfred Adler*. H. I. Ansbacher & R. R. Ansbacher (Eds.). Harper Torchbooks.
- Adler, A. (1964). *Social interest: A challenge to mankind*. Capricorn Books.
- Ali, I. (2021). Four TikTokers shot dead in Karachi. DAWN. <https://www.dawn.com/news/1605076>
- Ali, S. S. (2019). 13-year-old aspiring TikToker killed in accident near Lyari Expressway. Samaa News. <https://www.samaa.tv/news/pakistan/2020/10/karachi-tiktoker-accident-lyari/>
- Allaire, C. (2020). How TikTok went from dance videos to meaningful activism. Vogue. <https://www.vogue.com/article/tiktok-activism-president-trump-rally>
- ARY News. (2020). TikTok craze causes yet another death in Pakistan. <https://arynews.tv/en/TikTok-craze-another-death-pakistan/>
- Asher, M. (2019). Social division: TikTok side effects. <https://www.picss.se/2019/04/24/social-division-tik-tok-side-effects/>
- Barik, S. (2019). Why they want TikTok banned in India. MediaNama. <https://www.medianama.com/2019/07/223-why-they-want-TikTok-banned-in-india/>
- Barker, V. P. (2009). Older adolescents' motivations for social network site use. *Cyberpsychology, Behavior, and Social Networking*.
- Basu, T. (2020). Teens are anxious and depressed after three hours a day on social media. MIT Technology Review. <https://www.technologyreview.com/2019/09/11/133096/teens-are-anxious-and-depressed-after-three-hours-a-day-on-social-media/>
- Baune, B. (2008). Psychological health determinants. In Springer reference.
- Bose, R. (2020). TikTok is full of videos that promote acid attack and sexual abuse. App ban is still not the answer. News18. <https://www.news18.com/news/buzz/banning-acid-attack-video-from-TikTok-is-a-start-but-gender-violence-is-common-trope-on-social-media-2626811.html>

- Brand, M., Young, K. S., Laier, C., Wölfling, K., & Potenza, M. N. (2016). Integrating psychological and neurobiological considerations regarding the development and maintenance of specific Internet-use disorders. *Neuroscience & Biobehavioral Reviews*, 71, 252–266. <https://doi.org/10.1016/j.neubiorev.2016.08.033>
- Breen, K. (2021). Boy dies after trying TikTok “blackout challenge.” TODAY. <https://www.today.com/parents/boy-dies-after-trying-TikTok-blackout-challenge-t215253>
- Business+Impact at Michigan Ross. (2019). What is social impact? <https://businessimpact.umich.edu/about/what-is-social-impact/>
- Butt, A. R. (2019). TikTok – An emerging life threat. PhoneWorld. <https://www.phoneworld.com.pk/TikTok-an-emerging-life-threat/>
- Carlson, J., Watts, R. E., & Maniaci, M. (2006). Adlerian therapy: Theory and practice. American Psychological Association.
- Chen, L. (2017). Development and research of TikTok application. *Henan News Press*, 7(8), 59–76.
- Chen, M., Adams, B., & Dea, I. (2017). TikTok, a global music video platform and social network, launches in Indonesia. PR Newswire. [https://en.prnasia.com/releases/apac/Tik\\_Tok\\_a\\_Global\\_Music\\_Video\\_Platform\\_and\\_Social\\_Network\\_Launches\\_in\\_Indonesia-187963.shtml](https://en.prnasia.com/releases/apac/Tik_Tok_a_Global_Music_Video_Platform_and_Social_Network_Launches_in_Indonesia-187963.shtml)
- Christopher, N. (2019). TikTok is fuelling India’s deadly hate speech epidemic. *Wired UK*. <https://www.wired.co.uk/article/TikTok-india-hate-speech-caste>
- Collins English Dictionary. (2021). Youth definition. <https://www.collinsdictionary.com>
- Cuofano, G. (2020). TikTok business model: The rise of creative social media powered by AI. *FourWeekMBA*. <https://fourweekmba.com/TikTok-business-model/>
- Curley, B. (2020). “Benadryl challenge” on TikTok is dangerous, experts say. *Healthline*. <https://www.healthline.com/health-news/benadryl-challenge-on-TikTok-is-dangerous-experts-say>
- Davis, K. (2018). The app that launched a thousand memes. *Sixth Tone*. <https://www.sixthtone.com/news/1001728/the-app-that-launched-a-thousand-memes>
- Dittman, S. (2020). Parent alert! Is TikTok safe for kids? Protect Young Minds. <https://www.protectyoungminds.org/2019/05/21/parent-alert-is-TikTok-safe-for-kids/>
- Falah, G. (2020). Pakistan: Lahore girl allegedly gang raped by friend she met on TikTok. *Gulf News*. <https://gulfnews.com/world/asia/pakistan/pakistan-lahore-girl-allegedly-gang-raped-by-friend-she-met-on-tiktok-two-others-1.1594983524582>
- Fannin, R. (2019). The strategy behind TikTok’s global rise. *Harvard Business Review*. <https://hbr.org/2019/09/the-strategy-behind-TikToks-global-rise>
- Feist, J., & Feist, G. (2008). Theories of personality.

- Galer, S. S. (2020). How TikTok changed the world in 2020. BBC Culture. <https://www.bbc.com/culture/article/20201216-how-TikTok-changed-the-world-in-2020>
- Gennaro, C. (n.d.). TikTok business model: The rise of creative social media powered by AI. FourWeekMBA. <https://fourweekmba.com/TikTokbusiness-model/>
- Geo News. (2020). Security guard dies while filming a TikTok video in Karachi. <https://www.geo.tv/latest/321483-security-guard-takes-his-own-life-while-filming-a-TikTok-video>
- Geo News. (2021). Karachi man shot, injured while filming TikTok video. <https://www.geo.tv/latest/329789-young-man-shot-injured-while-filming-TikTok-video>
- Geyser, W. (2021). What is TikTok? The fastest growing social media app uncovered. Influencer Marketing Hub. <https://influencermarketinghub.com/what-is-TikTok/>
- Graziani, T. (2018). How Douyin became China's top short-video app in 500 days. WalktheChat. <https://walkthechat.com>
- Greenfield, S. (2014). Mind change: How digital technologies are leaving their mark on our brains. Rider.
- Gupta, V. (2020). How TikTok is affecting youth. TechChums.
- Hayne, M. (2020). TikTok's effect on teenage culture. <https://thedispatchonline.net/11300/commentary/tik-tok-effect-on-teenage-culture/>
- Hermann, J. (2019). How TikTok is rewriting the world. The New York Times. <https://www.nytimes.com/2019/03/10/style/what-is-tik-tok.html>
- Ho, R. C. M., Zhang, M. W. B., Tsang, T. Y., Toh, A. H., Pan, F., & Lu, Y. (2014). The association between internet addiction and psychiatric co-morbidity: A meta-analysis. *BMC Psychiatry*, 14, 183. <https://doi.org/10.1186/1471-244X-14-183>
- Hou, L. (2018). Study on the perceived popularity of TikTok.
- Hussain, J. (2020). PTA bans TikTok over complaints against immoral content. Dawn. <https://www.dawn.com/news/1584123>
- J., T. (2021). Is TikTok bad for mental health? Plenty of Flak. <https://www.plentyofflak.com/is-TikTok-bad-for-mental-health/>
- James, T. L., Lowry, P. B., Wallace, L., & Warkentin, M. (2017). The effect of belongingness on obsessive-compulsive disorder in online social networks. *Journal of Management Information Systems*, 34(2), 560–596.
- Jia, N. (2017). Study on TikTok music video app popularity. New Media Press.
- Johnson, C. (2017). Social impact: What does it really mean? Build Abroad. <https://buildabroad.org/2017/03/03/social-impact/>
- Kiran, D., & Sharma, I. (2020). Empirical research on perceived popularity of TikTok in India. *International Journal of Advanced Science and Technology*, 29(8s), 236–241.
- Kobel, L. (2020). TikTok's impact on society: Is it a threat? Crossroads/Path.
- Koetsier, J. (2020). Digital crack cocaine: The science behind TikTok's success. Forbes. <https://www.forbes.com>

- Kotala, Z. (2020). Children give input on how to make TikTok safer. UCF News. <https://www.ucf.edu/news/children-give-input-make-TikTok-safer-platform-youth/>
- Lin, L. Y., Sidani, J. E., Shensa, A., et al. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety*, 33(4), 323–331. <https://doi.org/10.1002/da.22466>
- Lin, S. C., Tsai, K. W., Chen, M. W., & Koo, M. (2013). Association between fatigue and internet addiction in female hospital nurses. *Journal of Advanced Nursing*, 69, 374–383.
- M. (2020). Major advantages and disadvantages of TikTok video app. Myayan Blog. <https://www.myayan.com>
- Maclean, M. (2021). TikTok beauty trends are more toxic than we think. The Daily Targum. <https://dailytargum.com>
- Magsino, I. (2020). Teens won't stop posting racist videos and challenges on TikTok. Insider. <https://www.insider.com>
- Maguire, L., & Biondi, A. (2020). Fashion started warming up to TikTok. Vogue Business. <https://www.voguebusiness.com>
- Matyszczuk, C. (2009). Facebook entry gets office worker fired. CNET News. <http://news.cnet.com>
- McGarrigle, J. (2020). What is TikTok? Webwise. <https://www.webwise.ie>
- Mehmood, M. (2020). Girl sets her house on fire after father refused to pay for TikTok video. Lens. <https://propakistani.pk>
- Mehmood, M. (2020). Three men arrested in Karachi for harassing a TikToker. Lens. <https://propakistani.pk>
- Meola, A. (2020). TikTok marketing trends. Business Insider. <https://www.businessinsider.com>
- Mohsin, M. (2020). TikTok statistics. Oberlo. <https://www.oberlo.com>
- Monroe, J. (2020). Psychological effects of social media. Newport Academy. <https://www.newportacademy.com>
- Mosak, H. H., & Maniacci, M. (1999). A primer of Adlerian psychology. *Accelerated Development*.
- Moyosore, B. (2020). The impact of TikTok. The Wrangler Online. <https://www.thewrangleronline.com>
- Mundell, E. J. (2020). More evidence links social media use to poorer mental health in teens. HealthDay News.
- News18. (2021). Teenager killed by train in Pakistan while shooting TikTok video. <https://www.news18.com>
- Noe, U. (2020). The dark side of TikTok. Berkeley High Jacket. <https://berkeleyhighjacket.com>
- O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents and families. *Pediatrics*, 124, 800–804.
- Ojha, A. (2020). The negative impact of TikTok on youth. RexWeyler. <https://rexweyler.com>
- Parkin, B. (2019). TikTok: India bans video sharing app. The Guardian.

- Primack, B. A., et al. (2017). Use of multiple social media platforms and symptoms of depression and anxiety. *Computers in Human Behavior*, 69, 1–9. <https://doi.org/10.1016/j.chb.2016.11.013>
- ProperGaanda. (2020). Is TikTok really a poisonous trend? <https://www.propergaanda.com>
- Quinones, C., & Griffiths, M. D. (2017). The impact of daily emotional demands. *Computers in Human Behavior*, 76, 561–573.
- Rafiq, Y. (2020). Ex-boyfriend leaks pictures of TikTok star Minahil Malik. *Lens*. <https://propakistani.pk>
- Rai, S. (2019). TikTok craze is minting celebrities and ruining lives in India. *The Economic Times*. <https://economictimes.indiatimes.com>
- Rasmussen, E. E., et al. (2020). Social media use and mental well-being. *Computers in Human Behavior*, 102, 206–213. <https://doi.org/10.1016/j.chb.2019.08.019>
- Roberts, J. A., & David, M. E. (2019). Fear of missing out and social media intensity. *International Journal of Human-Computer Interaction*. <https://doi.org/10.1080/10447318.2019.1646517>
- Saroshe, S. B., & Ruchita. (2016). Selfie syndrome among professional students.
- Sarpong, A. (2020). TikToxic: The problem with TikTok. *Trojaneer*. <https://trojaneer.com>
- Sarwari, K. (2020). Young people are talking politics on TikTok. *News @ Northeastern*. <https://news.northeastern.edu>
- Schrader, B. E. (2020). Social media's bomb of hate goes TikTok. *The Jerusalem Post*. <https://www.jpost.com>
- Sehl, K. (2020). Everything brands need to know about TikTok. *Hootsuite Blog*. <https://blog.hootsuite.com>
- Siddiqui, M. A. (2021). Social evils of 2021. *Daily Times*. <https://dailytimes.com.pk>
- Siddiqui, Z. (2021). Pakistan's trans TikTok stars. *The Juggernaut*. <https://www.thejuggernaut.com>
- Snavelly, A. (2020). TikTok's impact on our time. *Liberty University Blog*. <https://www.liberty.edu>
- Soni, M. (2020). How TikTok affects young generation negatively. *News969*.
- Staff, I. (2019). TikTok star Hareem Shah harassed by mob in Dubai. *Images (Dawn)*. <https://images.dawn.com>
- Staff, L. (2021). TikToker Zoi Hashmi breaks silence on leaked rape video. *Lens*. <https://propakistani.pk>
- Susanna. (2020). The psychological effects of TikTok. <https://exploringyourmind.com>
- Swathi, G. K., & Devakumar, C. (2020). Impact of TikTok on students' academics and psychology. *Journal of Emerging Technologies and Innovative Research*, 7(3).
- Thewhitehatter. (2020). The pornification and juxtaposition of TikTok videos. <https://www.thewhitehatter.ca>
- Turel, O., Serenko, A., & Bontis, N. (2008). Blackberry addiction: Symptoms and outcomes. *AMCIS Proceedings*.
- Twenge, J. M. (2006). *Generation Me: Why we expect more from technology and less from each other*. Basic Books.

- Twenge, J. M., & Campbell, W. K. (2018). Associations between screen time and psychological well-being. *Preventive Medicine Reports*, 12, 271–283. <https://doi.org/10.1016/j.pmedr.2018.10.003>
- Wang, M., Shaheer, N., Li, S., Chen, L., & Yi, J. (2020). TikTok's rise to global markets.
- Watts, R. E. (1999). The vision of Adler: An introduction. In R. E. Watts & J. Carlson (Eds.), *Interventions and strategies in counseling and psychotherapy* (pp. 1–13). Accelerated Development.
- Watts, R. E., & Eckstein, D. (2009). Individual psychology. In *The ACA encyclopedia of counseling* (pp. 281–283). American Counseling Association.
- Watts, R. E., & Shulman, B. H. (2003). Adlerian and constructive therapies. In R. E. Watts (Ed.), *Adlerian, cognitive and constructive therapies* (pp. 9–37). Springer.
- WHO. (2010). Depression. <https://www.who.int>
- WHO. (2019). Adolescent health. <https://www.who.int>
- Williams, R. (2018). TikTok ties AR content sharing to charitable giving. *Marketing Dive*. <https://www.marketingdive.com>
- Williams, R. (2020). TikTok helps Gen Z learn about social justice issues. *Marketing Dive*. <https://www.marketingdive.com>
- Yu, J. X. (2019). Research on TikTok app based on user-centric theory. Sichuan University of Science & Engineering.
- Zitser, J. (2021). Teen test shows how TikTok promotes cosmetic surgery ads. *Insider*. <https://www.insider.com>