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The Effects of TikTok Use on College Student Learning

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Abstract

TikTok is an app that allows someone to make dancing or lifestyle videos, and it has become increasingly popular the past couple of years, especially with college students. But does that mean that this app poses a challenge to college students paying attention in class and getting their schoolwork done? One hundred and eleven college students between the ages of 18 and 28 from colleges such as Bridgewater State University and UMass Amherst participated in an online survey of 85 questions relating to emerging adulthood and topics such as anxiety, social media, relationships, stress, and more topics that are similar. The results showed that the more time participants spent on TikTok each day, the more they became distracted on TikTok when they were trying to pay attention in class and complete schoolwork. Similar results occurred when looking at losing track of time on TikTok and becoming distracted on TikTok when they were trying to pay attention in class and complete schoolwork. The more that someone found themselves going on TikTok each day, the more they lost track of time on TikTok. These findings show that TikTok can impact college students' abilities to be able to pay attention in class and get their schoolwork done, so students have the possibility of doing worse in a class if they have and use the app TikTok.

The Effects of TikTok Use on College Student Learning

TikTok has become an increasingly popular app for people of many different ages to use. Users can create whatever types of videos they want on this app and post it for anyone to see, despite a large majority of posts being people dancing to music. This app has attracted college students who are in the stage of emerging adulthood. College students enjoy having fun and this app allows them to do just that. They can dance around to the top-rated songs and then gain followers from their posts. But along with having fun, college students still have to be able to focus on their schoolwork, and distractions have the ability to pose a big challenge to getting schoolwork done. TikTok can captivate anyone who is using the app and can cause something like an addiction, where you do not want to get off the app. The more time per week that people spend on social media, the more they become addicted to social media (Ciplak, 2020). How much time do students actually spend on TikTok and what impact does that have on college students paying attention in class and getting their schoolwork done? By finding answers to this question, we can see if this app does have the ability to keep college students from paying attention and completing their schoolwork.

Receiving notifications on our phones, can have an impact on our attentiveness (Stothart, Mitchum, & Yehnert, 2015). For this study, the researchers were trying to see what happens to attentiveness when you do not answer a phone notification instantly. The participants in this study included 212 undergraduates who were taking classes in psychology. Participants were put into three different groups: received a call, received a text message, and did not receive a notification. Participants then filled out a survey so they could share what they thought and also evaluate their phone usage behavior. The participants in the call group and text message group had a larger chance of making a mistake compared to the group that did not receive any notifications at all, but the largest opportunity for making a mistake was with the call group. The results show that we need to accept that phones can serve as distractions, including when we hear a notification but do not touch our phone.

Even having your phone near you when you are trying to complete a challenging task can pose as a distraction. A group of researchers explored whether a cell phone could pose as a distraction when completing different tasks (Thornton, Faires, Robbins, & Rollins, 2014). This study consisted of two different studies, the second replicating what was found in the first study. In the first study, participants consisted of 54 undergraduate students who performed a series of timed tasks, tests, and then filled out two questionnaires. They found that in the more taxing task, the participants who had the cell phone on their table did worse than the participants who had the notebook on their table; but in the less taxing task, there was no difference between either having the phone or notebook. For the more challenging test, they found that the participants who had the phone on their table completed less than those who had the notebook on their table; and there was once again no difference between them in the less challenging test. The second study had different participants complete the same timed tasks, tests, and two questionnaires that were used in the first study. Once again, on the more taxing task, participants who had their phones did worse than those who did not have their phones, whereas in the less taxing task, there was no difference between having a phone out or not. This shows us that even just knowing that your phone is near you can cause enough of a distraction to impact your performance on tasks that are more challenging as opposed to more simple tasks. Besides just knowing that your phone is near you, actually using your phone can also pose as a distraction when completing certain tasks.

In looking at the effect in which phones have on young adults who are healthy, while they are being active, researchers have found that using their phone changed the way that the healthy adults did activities involving movement (Bovonsunthonchai, Ariyaudomkit, Susilo, Sangiamwong, Puchaphan, Chandee, & Richards, 2020). There were 25 healthy young adult participants, ages 18 through 25, gathered from a university. There were six different conditions and six trials for every condition where the participants were walking and using their phone in different ways. They found that participants made the biggest steps and strides without having a task on their phone. The participants' confidence in walking was the highest without phone use, while listening to music was close behind. While walking, the conditions that showed the least amount of confidence were watching videos and sending texts. This affects people's protection because their attention is not fully focused on the active task they are doing. This shows that the amount one is distracted by their phone while doing an active task, depends on what the task is, but certain tasks could become more challenging when using a phone. Because phones can distract us from completing different tasks, there is a possibility that they can also impact student learning.

Kuznekoff and Titsworth (2013) thought that classroom learning is something that needs attention focused on what is being taught or lectured, and if students are using their phones during class, then they will not take notes very well. This study consisted of 47 students from a university between the ages of 18 and 22. There were three different groups in which students were randomly placed that determined which participants could use their phone and how they used their phone. Participants had to watch a lecture recording and take notes while watching, and then prepare as if they had a test following the lecture. They found that participants who were exposed to increased phone distractions scored more poorly on the test following the distractions and took less detailed notes. This study demonstrates that not only are phones themselves distractions, using or being distracted by a phone can lead to decreased learning and negative learning outcomes.

Stemming from the idea that a phone can pose as a distraction and learning can be influenced by using a phone, what about social media causing a distraction? Spence, Beasley, Gravenkemper, Hoefler, Ngo, Ortiz, and Campisi (2020) looked at the effect that social media, specifically Instagram, has on retaining information taught to students in college. The participants included 45 undergraduate students between the ages of 18 and 24, and they were each divided into three different groups: no Instagram, Instagram during listening, and Instagram after listening. Participants were required to listen to a story and take a quiz, and then listen to a second story and take another quiz. The researchers found that the participants who heard a story while scrolling through Instagram were less likely to retain information heard in the story, since they performed worse on the quiz compared to those who did not scroll through Instagram while listening to the story. This study provides evidence that not only phone usage, but social media can impact attention and learning.

While there is evidence that the social media app Instagram could cause learning distractions, less is known about other social media apps, especially TikTok. There are only a few research studies that have been done on the app TikTok, and none of them have investigated its potential for distraction as it relates to student learning. We know that from other research that our phones can distract us with a notification even if we do not look at the notification (Stothart, Mitchum, & Yehnert, 2015), the proximity of our phone plays a role in being able to complete a task (Thornton, Faires, Robbins, & Rollins, 2014), using a phone while completing certain tasks can be a challenge (Bovonsunthonchai, Ariyaudomkit, Susilo, Sangiamwong, Puchaphan, Chandee, & Richards, 2020), trying to pay attention while texting or posting on a phone can influence students' grades (Kuznekoff & Titsworth, 2013), and that students find it very easy to pay more attention to their social media accounts than what is actually being taught right in front of them (Spence, Beasley, Gravenkemper, Hoefler, Ngo, Ortiz, & Campisi, 2020). This research provides evidence of phones and social media as a distraction, however little research has been done to investigate how using a specific app like TikTok, which is increasingly popular for students, could distract or negatively impact learning outcomes. In my study, I investigated that impact, and specifically whether TikTok can negatively impact college student's learning and schoolwork.

To investigate this topic, I asked students questions on a survey concerning TikTok and their schoolwork. I wanted to see how long students spend on TikTok each day, how often they lose track of time on TikTok each day, whether they create posts or just scroll through other people's posts, and if they find themselves getting distracted on TikTok when they are supposed to be completing schoolwork and paying attention in class. Does TikTok keep them from getting assignments finished? Does it cause them to not pay attention in class as often as they would without using the app? TikTok has become increasingly popular, and since college students tend to go on social media apps a lot, there is a likely chance that they spend a lot of time on TikTok. Finding answers to these questions will help us gain a better understanding of how much of an impact TikTok has on college students' ability to learn and complete their schoolwork and could therefore potentially provide a partial explanation as to why some students' grades have dropped or why they are not paying attention in class.

Method

Participants

Participants were college students from Bridgewater State University and UMass Amherst. This sample serves to represent the population of emerging

adults who are in college in the United States. The participants in this study included 16 males (14.4%), 89 females (80.2%), with 3 who identify as both male and female (2.7%), 2 who identify as neither male nor female (1.8%), and 1 in the other category (.9%) for a total of 111 participants. They ranged from 18 to 28, with a mean age of 20.81 (*SD* = 1.957). Eleven participants were freshman (10%), 27 were sophomores (24.5%), 40 were juniors (36.4%), 30 were seniors (27.3%), and 2 were in the other category (1.8%). There were 9 African American participants (8.1%), 3 Asian American participants (2.7%), 92 European American participants (82.9%), 3 Hispanic or Latino participants (2.7%), and 4 in the category of other (3.6%). Out of these participants, 20 participants felt they had reached adulthood (18%), 6 participants felt they had not reached adulthood (5.4%), and 85 participants felt in some ways they have reached adulthood and in other ways they have not (76.6%).

Procedure

To recruit participants, I posted a link to the survey on my snapchat story, and I also sent it to some friends at UMass Amherst and had them send it to their friends who met the requirements. Along with the link to the survey, I introduced myself saying that I am a psychology student conducting research for my Research Methods class about emerging adulthood, and it would really help me out if they were to fill out the survey. I explained that to be considered an emerging adult, you must be between the ages of 18 and 29, and that if you do not fit those requirements then you cannot participate in the study. I then went on to explain that emerging adulthood is a time where it is taking us longer to feel like an adult, and it is a time for identity exploration involving thinking about who we are and what our commitments and interests are. Participants saw the snapchat post I made with the introduction about myself and then clicked on the link that was attached to the post. Participants might have also received an email with the introduction about myself from either me or someone who goes to UMass Amherst and then clicked on the link through that email. That link took them to an online survey where they read the consent form, agreed to the consent form, and then they answered the 85 questions that my classmates and I wrote. At the very end they were given a debriefing form and thanked for their participation.

Measures

Amount of Time Spent on TikTok. This variable lets me know how much time each participant spends on TikTok each day, if any time at all, and is only measured through one question. It is measured by asking, "How much time do you spend on TikTok each day?", with the options consisting of: I do not use TikTok, 0-1 hours, 2-3 hours, 4-5 hours, 6-7 hours, or more than 7 hours. Higher scores indicate more hours/time spent on TikTok.

Losing Track of Time on TikTok. This variable indicates how often someone finds themselves losing track of time whenever they are using the app TikTok, and it is only measured through one question. It is measured by asking, "In general, how often do you find yourself losing track of time when you are on TikTok?", with the responses being a seven-point Likert scale, 1 indicating never, 4 indicating once in a while, and 7 indicating always. Higher scores indicate that students find themselves losing track of time on TikTok more often.

Interaction with TikTok. This variable looks at how participants use the app TikTok and if they create posts or scroll through posts, and it is only measured through one question. It is measured by asking, "Do you create TikTok posts or just scroll through other people's posts?", with the responses being a five-point Likert scale, 1 indicating only create, 3 indicating an equal mix of both, and 5 indicating only scroll. Higher scores indicate that students mostly just scroll through other people's posts on TikTok, while lower

scores indicate that students mostly just create posts on TikTok.

Paying Attention in Class. This variable looks at whether participants have trouble paying attention in class due to being on TikTok, and it is only measured through one question. It is measured by asking the participants to respond to the statement, "I find myself getting distracted on TikTok when I am supposed to be paying attention in class", with the responses being a five-point Likert scale, 1 indicating never, 2 indicating rarely, 3 indicating occasionally, 4 indicating sometimes, and 5 indicating almost always. Higher scores indicate that students have more trouble paying attention in class because they are on TikTok.

Completing Schoolwork. These variable measures whether participants are able to get schoolwork done due to being on TikTok, and it is only measured through one question. It is measured by asking the participants to respond to the statement, "I find myself getting distracted on TikTok when I am supposed to be completing my schoolwork", with the responses being a five-point Likert scale, 1 indicating never, 2 indicating rarely, 3 indicating occasionally, 4 indicating sometimes, and 5 indicating almost always. Higher scores indicate that students spend more of their time distracted on TikTok when they are supposed to be getting schoolwork done.

Results

I began by running a series of tests that looked at the relationship between different demographic variables and paying attention in class. I first ran a few correlations that revealed there was a negative correlation between age and paying attention in class, (r = - .183, p = .185), but this relationship was not significant, meaning that there was no relationship between participant's age and being able to pay attention in class due to being distracted by TikTok. There was also a negative correlation between self-esteem and paying attention in class, (r = - .053, p = .586), but this relationship was not significant, meaning that there was no relationship between a participant's level of self-esteem and being able to pay attention in class due to being distracted by TikTok. Based on these findings, there does not seem to be any relationship between either age or self-esteem in relation to paying attention in class.

I then ran some other tests that looked at the relationship between demographic categorical variables and the amount of time spent on TikTok each day. The results of a one way between groups ANOVA revealed that there was no main effect of race/ethnicity on amount of time spent on TikTok each day, F (4, 106) = .789, p = .535. Another one way between groups ANOVA test revealed that there was no main effect of year in college on how much time they spent on TikTok each day, F (4, 105) = .796, p = .530. My last one way between groups ANOVA test revealed that there was no main effect of adulthood status and time spent on TikTok each day, F (2, 108) = 2.337, p = .102. I also ran an independent-samples t-test to see if gender played a role on amount of time spent on TikTok and found that women scored higher on time spent on TikTok each day (M = 2.40, SD = 1.019) than men (M = 1.88, SD = .957), but this difference was not significant, t (103) = 1.930, p = .056. Since there is no difference between how much people use TikTok based on their gender, race, year in college, or adulthood status, I then went on to look for other relationships between other variables using a bivariate Pearson correlation test.

I chose to see if interaction with TikTok had a relationship with any of my other variables. There were no significant relationships between interaction with TikTok and these other variables. This means that whether they created TikTok posts, just scrolled through other people's

posts, or did a mix of both had no relationship with time spent on TikTok (r = - .185, p = .072), losing track of time on TikTok (r = - .115, p = .264), paying attention in class, (r = - .108, p = .296), or completing schoolwork (r = - .103, p = .317).

After seeing that interaction with TikTok did not have a relationship with any of my other variables, I decided to run more correlation tests involving time spent on TikTok each day. There was a significantly positive correlation between time spent on TikTok and paying attention in class, (r = .389, p < .001), and completing schoolwork, (r = .611, p < .001). On top of those results, I also found that there was a significantly positive correlation between paying attention in class and completing schoolwork, (r = .658, p < .001). All these significant positive correlations indicate a high level of consistency with the more participants spent time on TikTok each day, the more they were distracted in class and distracted from completing their schoolwork.

Since I had significant results from the last correlation tests that I ran involving the amount of time spent on TikTok each day, I decided to run more correlations to see if there were any relationships involving losing track of time on TikTok as well. There was a significantly positive correlation between time spent on TikTok and losing track of time on TikTok, (r = .702, p < .001), paying attention in class, (r = .470, p < .001), and completing schoolwork, (r = .663, p < .001). These significant positive correlations all indicate that the more participants use TikTok every day, the more distracted they become in different aspects of their lives such as paying attention in class, completing their schoolwork, and losing track of time on TikTok.

Discussion

My research tried to answer the question as to whether the app TikTok affects the learning ability of college students. I found, based on the results of the online survey, the more time that participants spent on TikTok each day, the more likely they were to become distracted on TikTok when they were supposed to be paying attention in class, and when they were supposed to be completing schoolwork. Along with the variable of time spent on TikTok each day, losing track of time also had an influence on my other variables. The more participants felt they lost track of time on TikTok, the more likely they were to become distracted on TikTok when they were supposed to be paying attention in class, and when they were supposed to be completing their schoolwork. Another interesting finding was that the more time participants spent using TikTok each day, the more likely they were to lose track of time while on TikTok. It is important to also note that time spent on TikTok each day did not have any differences between years in college, so it did not matter what year in college someone was because they all spent around the same amount of time on TikTok each day.

My results show that college students in emerging adulthood are more likely to lose track of time on TikTok the more they use the app throughout the day. This then could negatively impact how these college students are able to pay attention in class and complete their schoolwork. These findings are consistent across race/ethnicity, gender, year in college, and feeling of adulthood status. This indicates that these findings are likely to be universal within emerging adults in college. One important thing to note though, is that most participants in this study were female, so more studies should be done to look at a more equal number of males and females to note any differences or changes in results.

According to the study conducted by Stothart, Mitchum, and Yehnert (2015), our phones can pose a distraction with a notification even if we try to ignore the notification. Anyone can receive notifications from TikTok when someone they are following either posts a new video or does a livestream on the app. This could potentially contribute to how often participants go on TikTok each day. The more notifications they receive, the more likely they would be to click on the app and use it, therefore affecting variables such as amount of time spent on TikTok each day, losing track of time on TikTok, paying attention in class, and completing schoolwork. However, there is also a way to turn off notifications from the app, so it is possible that these types of notifications from TikTok might not play a role in any of the variables that were used in my study. Future researchers could look at how notifications impact time spent on TikTok and their impact on distracting students.

Thornton, Faires, Robbins, and Rollins (2014) studied how the proximity of our phone plays a role in being able to complete a task. Seeing how much influence just using the app during classes or when completing schoolwork has, I think we could infer that like this specific study, if someone has their phone out on their desk or table when in a class and they see a notification about a TikTok post, they will want to pick up their phone and look at the new post. Whereas if their phone is not near them or out on their desk or table, they might do better in class because they will not see the notification and be tempted to open the app. This could be looked at by future researchers to see what kind of an impact phone proximity has on students during class, especially if they are to receive notifications from TikTok.

Another study conducted by Bovonsunthonchai, Ariyaudomkit, Susilo, Sangiamwong, Puchaphan, Chandee, and Richards (2020) found that using a phone while someone is trying to complete certain tasks can be distracting. My findings were similar: when students were spending time on TikTok, they were often using the app at inappropriate times, such as when they were supposed to be paying attention in class and completing their schoolwork. This can be detrimental to students' grades because they are not actively learning and doing their assigned work in the class.

A study by Kuznekoff and Titsworth (2013) found that trying to pay attention while texting or posting on a phone can influence students' grades. This goes along with my research, as I found that students were constantly becoming distracted on TikTok when they should have been paying attention in class and completing schoolwork. If students do not pay attention in class or do the work that is assigned to them, they will most likely get a worse grade than if they were to truly put in their full attention to the class. This ends up affecting students' grades in a negative way, just like this specific study found where texting and posting on a phone has negative influences on students' grades and note taking.

Spence, Beasley, Gravenkemper, Hoefler, Ngo, Ortiz, and Campisi (2020) found that students find it easy to pay more attention to their social media accounts than what is being taught right in front of them. This directly relates to my study since a lot of participants recorded on the online survey that they would use TikTok in class and when completing schoolwork. Students are more likely to look at social media, especially TikTok, instead of listening to their professors, which in turn impacts their ability to comprehend the latest information that is being taught to them.

These results show us that there is a clear pattern where the more participants use TikTok, the more they become distracted from various parts of their lives. This includes when they are in class, when they are completing

schoolwork, and just losing track of time throughout their day. If students have their phone near them, then they are more likely to go on social media accounts, and TikTok is one of the social media accounts that has become immensely popular. The more time that a college student spends on TikTok, the more they will lose track of time and then that impacts what they are able to complete for their classes. This could in turn cause them to get worse grades than if they were to not go on TikTok as often or at all because they would not have the distraction from the app. It does not matter what year students are in, so if professors have one class full of sophomores and another class full of seniors, both classes will use around the same amount of time on TikTok each day. Professors should find diverse ways to keep their students engaged, so that way if a student sees a notification from TikTok, they will not want to look at their phone because they are engaged with what is being taught. College students also need to become more aware of this issue by monitoring their usage of this app and limiting the amount of time that they spend using TikTok.

For future studies, researchers should investigate the differences between taking online or in-person classes. It is possible that students taking online classes are more likely to become distracted using their phones compared to those taking in-person classes. Taking classes online on platforms such as Zoom provides an easy opportunity for students to use their phone without their professor seeing since the audio is usually muted and they can just hide their phone from their laptop camera. When students are in person, it is a lot harder to hide their phone from their professor, let alone listen to the audio coming from TikTok. It is important to consider that some of the people who participated in my study might be attending in-person classes, while a lot of people are still attending online classes, which is why it is important for future research to look at the different impacts TikTok has on in-person classes and online classes.

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About the Author

Audrey Mekler is a junior double majoring in Elementary Education and Psychology. Her research project was completed in the spring of 2021 under the mentorship of **Dr. Joseph Schwab** (Psychology) through her Research Methods II class on conducting research. Audrey plans to pursue her Master's degree in Elementary Education after she graduates, and may also further pursue a career in psychology, as well.