# FOMO- social media engagement- smartphone addiction and distraction _IEEEPaper.

Akhil Kumar Reddy Bandaru [1], Jinan Fiaidhi [1], and Vishnu Sudheer Gannamani [2]

[1]Affiliation not available
[2]Lakehead University

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**Abstract**

**Everything in this contemporary world can be exploited including a smartphone. Smartphone has both pros and cons. So, our research is focusing on the dark side of the smartphone and how it creates a potential risk to our mental health, productivity, time and academic performance. We are conducting a survey that examines the relationship between social media use and academic performance. We want to show that heavy social media usage is positively related to lower GPA i.e. Academic performance has a negative correlation to social media addiction and suggesting to them the best ways to get rid of smartphone addiction. Several mobile phone applications are available to help smartphone users to self-monitor their smartphone usage. These mobile applications may provide a means of delivering behavioral interventions to protect smartphone users from their potential problematic usage. At last, we want people to let them know the truth of how heavy smartphone usage is affecting their mental health, productivity, and safety in performing their daily tasks.**

# Fear of missing out, social media engagement, smartphone addiction, and distraction: The role of mobile applications-based intervention.

Vishnu Sudheer Gannamani
*Lakehead University*
Student ID: 1110200
vgannama@lakeheadu.ca

Akhil Kumar Reddy Bandaru
*Lakehead University*
Student ID: 1105900
abandaru@lakeheadu.ca

Dr.J.Fiaidhi (Instructor)
*Lakehead University*
jfiaidhi@lakeheadu.ca

*Abstract*—**Everything in this contemporary world can be exploited including a smartphone. Smartphone has both pros and cons. So, our research is focusing on the dark side of the smartphone and how it creates a potential risk to our mental health, productivity, time and academic performance. We are conducting a survey that examines the relationship between social media use and academic performance. We want to show that heavy social media usage is positively related to lower GPA i.e. Academic performance has a negative correlation to social media addiction and suggesting to them the best ways to get rid of smartphone addiction. Several mobile phone applications are available to help smartphone users to self-monitor their smartphone usage. These mobile applications may provide a means of delivering behavioral interventions to protect smartphone users from their potential problematic usage. At last, we want people to let them know the truth of how heavy smartphone usage is affecting their mental health, productivity, and safety in performing their daily tasks.**

*keywords*—**FOMO, Social media engagement, Smartphone addiction, distraction, GPA, social media, Dopamine, symptoms, insomnia, Nomophobia.**

## I. INTRODUCTION

Nowadays most of the younger generation and small children have addicted themselves to Social Media Engagement and Mobile Phones which is going to create a very bad impact on their valuable lives. Across the world, many scientific kinds of research and studies clearly state that over usage of Mobile Phones and Social Media Platforms like Facebook, Twitter, Instagram, etc. are going to create a very serious impact like stress, depression, and anxiety on individual's health. A Recent Study Report suggests that Fear of Missing out (FOMO) is one of the main reasons for social media addiction. The Over-usage of Smart Phones will also lead some symptoms like Distraction (Anything that prevents someone from giving full attention to something else), Compulsion (The action or state of forcing or being forced to do something), Nomophobia (The irrational fear of being without a phone or being unable to use your phone for some reason), Reliable on Smart Phones to complete basic tasks, Reduce of Mental-wellbeing. Social media engagement can be defined as the relationship formed between us and social media.

The role of mobile-based application intervention means how mobile applications are putting or creating potential dangers to our productivity, mental health, and academic performance time or in anything, the question always haunts everybody in this world "why the smartphone is important". They are many reasons

- In past days, Mobile phones were used only for talking messaging. But now this concept is changed by creating user-friendly mobile device applications in chatting, social networking, business communications, emails, browsing surfing, etc.
- The smartphone became a natural extension of an individual. Smartphones are for art beauty global interconnectivity and designed to make our lives easier.
- Availability of various applications in the field of Social media, Fun, Travel, Health, Education and Business.

We all know our life has become much easier after the arrival of smartphones. There is no difference between cavemen and us. Caveman use to carry a stick to protect himself from animals or something else. In the contemporary world, we are carrying a smartphone instead of a stick. The propelled functionalities of the cell phone have adjusted the examples of cell phone use conduct. Mobile phones have empowered us to do different assignments at the equivalent time. Cell phones have made our lives substantially more helpful. PDAs have likewise changed the way that individual's interface with one another.

## II. FEAR OF MISSING OUT

The Fear of Missing Out is also known as FOMO. The FOMO is spreading widely throughout an area or a group of

people in society. A Study Report suggests that FOMO is one of the main reasons for social media addiction. FOMO refers to the feelings of anxiety that arise from the realization that you may be missing out on rewarding experiences that others are having. There is a study that explores the relationships between FOMO, social media use, problematic social media use (PSMU) and phubbing behavior. FOMO was a positive predictor of both how frequently teenagers use several social media platforms and how many platforms they actively use. Persons who have a greater FOMO are assumed to have a greater desire to stay continually up to date of what others are doing, for example via the use of social media. FOMO originates from psychological deficits in people's competence and relatedness needs.

## III. SOCIAL MEDIA ENGAGEMENT

Social Media Engagement can be defined as something when someone interacts with social media. Anyway, nowadays a greater number of people are interacting with others with the help of many platforms like Facebook and Twitter. These Metrics are so crucial in measuring the effectiveness of our social media.

## IV. SOCIAL MEDIA ADDICTION

- One research found in the Harvard Psychology Department is showing that sharing information about ourselves we like to do through the smartphone activates the same part of the brain that is related to pleasure. The same kind of pleasure we get from getting money, eating food and while having intercourse.
- FOMO-opening our social media applications like FB, Instagram, Twitter and checking what our friends are doing and undergoing social anxiety.
- AVG study from the USA discovered that 57 percentage of women would rather give up intercourse than a smartphone for a week .

## V. LITERATURE REVIEW

I and My team had chosen many different papers in which the authors have described how heavy smartphone usage is affecting our mental health, productivity, and safety in performing their daily tasks.

Hour of sleep and consistency [2] is considered a crucial factor for physical and mental health in humans. Excessive use of smartphones can impact adolescent sleep efficiency. This paper built a measurement experiment method and first data study on the relationship between smartphone usage habits and bedtime, wake-up, and bedtime use of MI band activity tracker and Android device mobile addiction management system SAMS. They have collected and evaluated 23 first-year high school kids for 8 weeks. The findings show the smartphone's key use period, called 'centroid period' can have major effects on sleep time shortages, sleep lateness and sleep quality.

A Study [6] looks at the connection between the use of social media and academic success. To a selection of university students in Kuwait, self-administered questionnaires are. Results indicate that the heavy use of mobile social media has a favorable connection to a lower GPA. The strong linear trend indicates the lower the grades the more students use social media. Studies also indicate that participants are conscious the use of social media decreases their scores, but they tend to use them extensively regardless.

Turel et al, [7] described the term technology addiction as a kind of psychological state which will cause many symptoms like salience, withdrawal, conflict, relapse, and reinstatement.

**Story of a mother and her daughter in china:**
A few years back in China, a mother went shopping with her daughter. After they have done shopping, they are waiting for the bus to go home. The mother came to know that her bus will arrive in 15 minutes. To pass the time she had taken her smartphone out and started browsing through social media applications. After 5 minutes, she heard a huge sound and she found out that her child is missing. Later she gathered the courage to see from where this sound came. She came to know that her child was met with an accident. Unfortunately, her child died. Those 5 minutes of smartphone distraction costed a life.

**One tweet ruined her life:**
A lady named Nicole sent out a tweet " k is PQ and ka is PK " that wouldn't even make sense to most people .she woke up to thousands of emails from new people and following her on twitter. Here is what happened she is the admirer of a web series "glee" and she made a prediction on the upcoming episode next week. Which is unfortunately correct she was labeled as a spoiler. The director himself tweeted that who are you to spoil something talented people have spent months to create and she also received death threats and tweets which are extremely offensive like you don't deserve to breathe, you suck go jump off the bridge.

**Trolls ruined my life:**
A teenager claims internet trolls "ruined her life" by superimposing her face on pornographic messages that were shared on social media. Victoria, from Leeds, was told to "go kill yourself" on the Live.me streaming app and her home address was shared on Twitter as a "house to burgle".

## VI. DISCUSSIONS

**Why we get addicted to social media applications?** This question haunts everybody in this contemporary world.

An end-user said "I have tried my level best to get rid of social media applications, but I could not do it because it is

very addictive"

**Are social media applications like Facebook, Instagram, Snapchat, Twitter, etc. addictive? What is the truth?** They are designed to be addictive. These companies invested millions of dollars to read human psychology. We know that engagement with social media and our cell phones releases a chemical called dopamine (neurohormone of pleasure) in our brain.

An end-user said "I have tried my level best to get rid of social media applications, but I could not do it because it is very addictive"



Fig. 1. Dopamine hit cycle. [1].

The problem with the dopamine is that excessive stimulation of your brain that is caused by dopamine creates addiction. This is how exactly how drugs work. These companies did research on what kind of content a teenager likes, a middle-age person likes, and Oldman likes. They have analyzed the dopamine levels of people in different situations. These companies always think of one question "how to get people hooked to our app" They showed us how with negative emotions like being lonely, or bored or dissatisfied. They use them as internal triggers and get people to try their app and stay there for as long as possible.

An end-user said "Apps are free to install use" Here is the Truth! A wise man once told on the internet "If you are not paying for the product, then you are the product".

### Interesting Facts about Smartphones

- Your smartphone has more computing power than the computers used for Apollo 11 Moon Landing.
- Apple Company sold 340,000 iPhones per day in 2012.
- Mobile phones have 18 times more bacteria than toilet handles.
- In Japan, 90 percentage of mobile phones are waterproof because youngsters use them even in the shower.
- Mobile phone Radiation can cause insomnia, headaches, and confusion.
- More People in the world have mobile phones than toilets.

- The average person unlocks his or her smartphones 110 times each day.
- The average person looks at their phone 150 times a day, or once every six-and-a-half minutes every hour.

### Essential Mobile Phone Addiction Statics

- About, 45.12 percentage of the World's population owns their Mobile Phones.
- Nearly, 71 percentage of the people are sleeping next to their Mobile Phones.
- Almost, 35 percentage of people think of their Mobile Phones when they woke up
- Approximately, 44 percentage of the people the age of 18-24 have fallen asleep with their phones in their hands.
- Closely, 36 percentage of people check their phones very constantly.
- Nearly 40 percentage of people never disconnect from cell phones, even during vacation time.

### Symptoms of Smartphone Addiction

- Feeling anxious whenever you do not have your phone in your physical possession.
- Constantly checking the phone for new texts, coupled with the compulsion to respond immediately.
- Did you feel that? Your phone just vibrated, and you felt it. Yet looking at the phone, you realize it's a false alarm. Phantom cellphone vibration syndrome is real, and it's a symptom of addiction.
- You're not listening. You have no idea what the person in front of you is talking about. Why? Because you keep checking your Facebook page, tweets, and texts.
- Failing in School. Poor grades can often be blamed on using the smartphone in classes. Some apps block social media, which may help.

## VII. PROPOSED MODEL (SURVEY RESULTS)

### How Smartphones Change the Way You Think?

I and My team had surveyed how smartphone influences our productivity, academic performance, health, safety, and relationships. I always believe that smartphone has a strong negative correlation on our performance in our day to day tasks. Many of us believe in that but we still swim in. We have started our survey to know what the main cause of lower productivity and lack of sleep is and what impedes our academic performance and our ability to do our daily tasks. We have realized at that end that smartphones are the new cigarettes that everyone got addicted irrespective of gender and age category.

### Why we have conducted an online survey why not paper survey?

I and My team had started our survey journey with the paper, we have given chocolates to them whoever participated in our survey. However, we have realized that this process is very slow and time-consuming and most importantly not

efficient as collecting data from the participants and getting it to feed the computer manually which is killing our time. We are living in a world where time is everything and we felt that we are wasting a lot of paper. So, we thought of changing our implementation. I believe that information technology outfits the entire world and makes our lives easier and faster in doing tasks. We have taken advantage of social media applications like Facebook, Instagram and chatting applications like Whats-App and hike messenger to promote our on-line survey, so that it can reach a larger number of audiences and it worked well.

**What is the specialty of our survey?**

we didn't't collect any personal information like the name of the person, address, phone number, email id, etc. form the participants i.e. completely anonymous survey. We did this because we believe that the security of every participant is very important, and it can easily be exploited if it is fallen in third party members. So, we have added the comment section in our survey. Since it is an anonymous survey, we felt that participants will give their honest opinions on our survey and it worked well.

Our Survey is a total of 15 questions. We have framed questions in such a way that every question is contemporary and realistic i.e. no hypothetical questions and questions are ordered in exponentially increasing intensity of the topic and these questions could check how an individual thinks and what are his perspectives towards social media and smartphone addictions and technology. We have added images relevant to the questions so that our survey form looks more appealing. I also got very good feedback from participants for including images and adding colourful themes instead of boring appealing looks. In total, we got 100+ responses (around 34 females and around 63 males) from the participants and 28 comments. Let's have a look at data analytics on some important questions we have asked in our survey by considering gender and age category.

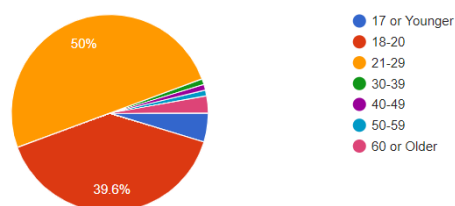Which category below includes your age?

106 responses



Fig. 2. Pie chart 1.

This is the most important question in our survey because age category is the most important parameter that differentiates opinions and perspectives on technology and social media and smartphone addiction. It is also important to consider what kind of audience is in our survey. From the Fig. , we can

observe that participants lying between age category between 21-19 have the highest proportion of 50 percentage when compared to other age category and next highest age category is between 18-20 with the proportion of 39.6 percentage and followed by age group of 17 or younger (4.7 percentage) and participants in remaining age category have the least proportion of 0.9 percentage.

Approximately how many hours do you spend daily by using your smartphone apps? (social, messaging, games, etc.)
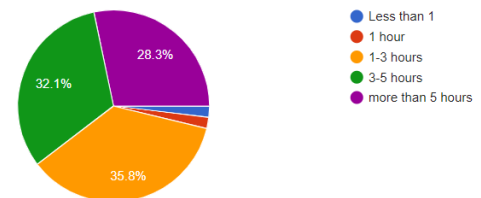
106 responses



Fig. 3. Pie chart 2.

This is a straightforward question we have asked audiences to have a look at how much do they spend daily using smartphone apps and participants at least can have a bit of thinking about how much time they are wasting on their smartphone usage and how it killing their productivity and performance. We can observe from Fig. 3, 32 percentage of participants spend 3-5 hours on their smartphones which are the highest proportion compared to others. The next highest proportion (35 percentage) people claimed that they spend around 1-3 hours and followed by 30 participants accounting 28.3 percentage claimed that they spend more than 5 hours. I believe that these participants are too honest in their opinion. Because in this contemporary world smartphone has now become the first thing that people look at when they wake up in the morning and the last thing that they look at before going to sleep and remaining participants claimed that they spend less than 1 hours and 1 hour which is reasonable because this opinion was given by the category of 60 or older. It shows their difference between the current generation and the previous generation.

What do you visit a social-media website for? (You can select more than one option)
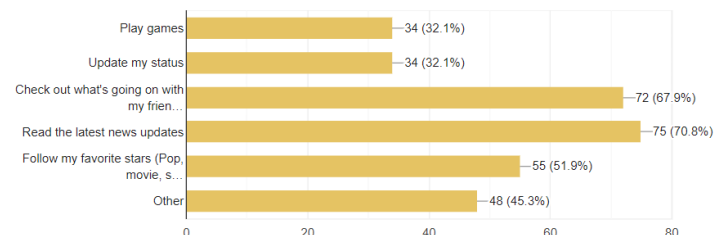
106 responses



Fig. 4. Pie chart 3.

There must be a reason for everything. We have asked people in our survey why you visit social media applications. From Fig. 4, most of them claimed we use social media websites to read the latest news updates with the highest percentage of 70.8 percentage, which shows us how are people are excited about things happening in the current world. Participants of a total of 72 claimed that they visit to check out what's going with my friends with the highest percentage of 67.9 percentage. Here FOMO comes into place. I might feel these participants are going through nervous feelings about what my friends are doing and how they are missing out. The remaining statistics say that 51.9 percentage of people visit to follow their favorite stars and 32.1 percentage of people visit to play games and update their posts on social media and 48 percentage of people claimed they visit for other purposes.
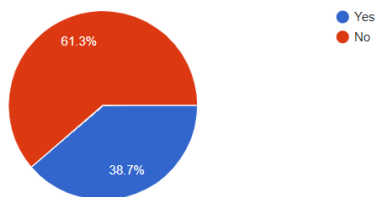


Fig. 5. Pie chart 4.

We have this above question to consider how social media or smartphone is affecting our patience level. We are living in this contemporary when time is everything and everyone craves less time complexity in everything, but everyone is failing to recognize that we are running out of patience which is a very important skill to go ahead in life. From Fig. 5, 61.3 percentage of people claimed that they won't get angry or frustrated when social networking sites go down or unavailable which is unrealistic. We have also considered that most of the participants will not give honest answers because they want to project themselves in this world in a good way. Around 38.7 percentage of people claimed yes. I believe that this percentage of participants has given their honest opinion.
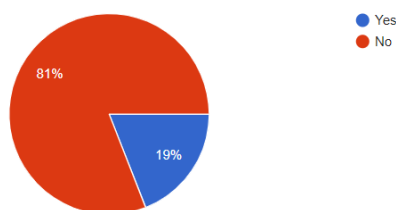


Fig. 6. Pie chart 5.

We have asked this question about how people want to interact. What is there interests whether they like to interact in person or online i.e real-world or virtual world.shockingly from Fig. 6, 81 percentage of people claimed that they prefer to interact people with face to face rather this virtual interaction which also reasonable because these participants considered safety, reliability, credibility issues. Whereas 19 percentage of people said yes. I still believe that most of the participants have not given an honest answer to this question.
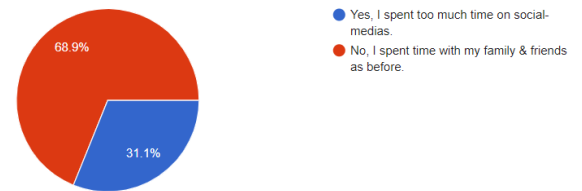


Fig. 7. Pie chart 6.

I believe this is the most important question we have asked the audience because I and my team are most interested in how social media usage or smartphone usage affects relationships. From Fig. 7, shockingly we can observe that 68.9 percentage of people claimed that they were not spending time with their family and friends as before which I believe is unrealistic whereas 31.1 percentage of people say yes. Social media usage has impacted our lives and we are not allocating time to their family members and friends as before. I strongly believe that social media usage has impacted relationships in a very bad way.
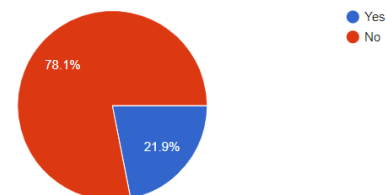


Fig. 8. Pie chart 7.

Studying, working or just socializing might become complex activities if they are carried out with smartphones. Mobile applications are putting or creating potential dangers to our safety. From the given data we can observe that most people claimed that they won't text or surf while driving or any other activities that require focused attention and concentration. Recent researches claim that the most important ingredients to succeed in life and differentiates you

and others is "focused attention and concentration". Whereas from Fig. 8, 21.9 percentage of people claim that yes, we are texting while driving and using smartphones while doing activities that required focused attention and concentration. We can understand the intention of the above question with the help of the following data.

Do you think social media applications are designed to addictive?
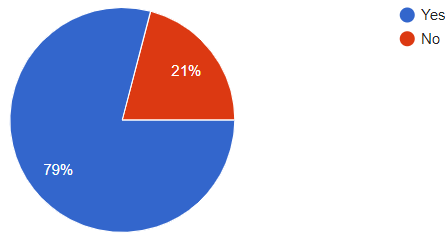
105 responses



Fig. 9. Pie chart 8.

Are social media applications like Facebook, Instagram, Snapchat, Twitter, etc. addictive? This question is buzzing around the world. What is the truth? They are designed to be addictive. These companies invested millions of dollars to read human psychology. These companies did research on what kind of content a teenager likes, a middle-age person likes, and Oldman likes. They have analyzed the dopamine levels of people in different situations. These companies always think of one question "how to get people hooked to our app" They showed us how with negative emotions like being lonely, or bored or dissatisfied. They use them as internal triggers and get people to try their app and stay there for as long as possible. From the above data, we can observe from Fig. 9, that 80 percentage of people believe that social media applications are designed to be addictive whereas remaining people believe that it is not.

Do you think Academic performance has a negative correlation to social media addiction?
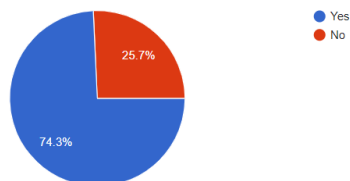
105 responses



Fig. 10. Pie chart 9.

This is also a buzzing question around students. Using social media is a different issue and how it impacts our academic performance is another issue. This study examined the relationship between social media use and academic performance. Many studies have including my team research also examined the relationship between social media use and academic performance. Results show that heavy mobile social media usage is positively related to a lower GPA. The strong linear relationship suggests the more students use social media the lower their grades will be. From the given data, we can observe from Fig. 10 that around 75 percentage of people said yes whereas the remaining 25 percentage of people said no. It means by considering the heavy proportion people know the truth that social media addiction has a negative correlation to their academic performance.

While you are preparing for your exams. You know that you don't have sufficient time to study, you are continuously getting notifications from social media apps what you will do?

104 responses



Fig. 11. Pie chart 10.

We have taken a situation like a person is preparing for his exams. He doesn't have time to study and he is getting continuous notifications to form WhatsApp, Instagram, Facebook, etc. we have asked participants to choose one answer. This is a too realistic situation everyone has gone through. We have asked this question to check how a person considers which is important studies or enjoyment. From Fig. 11, we can observe that most of them around 60 percentage of people claim that they will switch off the phone and get back to study. Whereas 23 percentage of people claim they will answer to those notifications and they will decide to study later. The least percentage of people claim they will completely give up their exam and they will stick to their phone .12.5 percentage of people didn't't want to answer the question.

**Here are some of the things it can help**

- NO texting while driving. Make this as a RULE! This is not only for you but also for the benefit and safety of others. If you need to text, do it before or after you drive. Risking your life just to give a quick response is beyond foolish.
- No phone in the bathroom. Consider the vast amounts of germs crawling on your phone. You may wash your hands, but it defeats the purpose as soon as you start handling that now dirty, germ-riddled phone
- When you step up to the counter to either order or check-out, put the phone down and take care of business. There are customers behind you, and they don't want to hear whatever. This is especially true in the Express Lane.

- When going to bed, no more falling into sleep while staring at your screen. I know its fun to tweet and keep up with high school friends on Facebook but we're trying to overcome an addiction here. Turn the phone off before falling asleep.
- If you're on a date, come to a mutual agreement that you each will only check your phones every 90 minutes, at the same time and for 5 minutes max.

### Smartphones Monitoring Software Apps

- Nowadays we have a lot of Smart Phones Monitoring Software Applications and it is very important to ensure the safety of ourselves towards the Smart Phones.
- Few things like Smart Phones, Social Media Applications, and the Internet ruins the life of the people into dangerous and into illegal activities. Few tools work on Smart Phones that help us to spy on social media activities, messages, browsing history and the locations that are related to real-time scenarios.
- There are various Smartphones Monitoring Software Applications.
- **mSpy:** It monitors text messages, WhatsApp, calls, location, etc. always.
- **Spyzie:** It monitors other's call history, browsing history, Social Apps, media files and GPS Location.
- **Highster Mobile:** It is used to track messages and other activities on iPhone/Android devices. It Secretly Monitors Smart Phones remotely and virtually.
- **FlexiSPY:** It usually provides the solutions to track and monitor Smart Phones activities both audio and video easily.
- **PhoneSheriff:** It was specially designed for text messages monitoring and helps in location tracking.
- **Mobile Spy Agent:** This Software monitors the activities and movements of the children.
- **Spyera:** It is mostly used by parents to spy on their children. It can even intercept calls and snoop on kids.
- **Screen Time Parental Control:** It is used to analyze the screen time spent by the kids and can also set time limits for kids to use their devices.
- **Norton Family Premier:** This App helps the family to explore the web safely and also helps the kids to manage the time wisely between the studies and net browsing.

## VIII. CONCLUSION

We found out that heavy smartphone usage is affecting our lives in the following way.

### Multitasking doesn't work:
Multitasking simply doesn't work and what we think is multitasking is only task-switching. As we switch rapidly from one task to another, we lose focus on both, our productivity suffers, and we limit our chances of getting fully in the zone where all magic resides.

### It leads to mistakes and mediocrity:
We make many mistakes when switching tasks causing almost 40 percentage loss in productivity if critical thinking is required. And its little wonder that we feel exhausted and disoriented after doing two tasks at the same time.

### It causes stress and pain:
This repeated switching from task to task leads to anxiety as we need to make lots of decisions. So, when you stop your focus on a task to answer a call or email. You are then faced with making a decision, no matter how small is that? This decision overload takes its toll on us as it raises our heart rate and moves us from the restful-relaxed mode to the fight-or-flight mode. We become impulsive and start making bad decisions. This, in turn, raises levels of the stress hormone cortisol in the brain, which in turn can lead to serious stress and depression.

### It can lead to addiction:
Whenever we stop our focus on the project on hand and look at how many likes we have Instagram, for example, we feel this sense of accomplishment this creates a dopamine addiction feedback loop .so our brains are being rewarded for losing focus and getting distracted.

### It can lead to memory loss:
When doing two things at the same time and both need our focus, then, in reality, we are acting a bit as a drunk would .we feel that we're taking in what is being said but in reality, we can't remember much or apply the knowledge learned.

### We feel disconnected and miss out on life and relationships:
When doing two things at the same time, we are simply missing out on the beauty that life has to offer us. We don't notice our surroundings or our environment. It's like we are missing in action in our own lives. Our eyes are open and yet nothing is being registered in our brains. How can we see that majestic oak trees in front of us, the seagulls flying in perfect unison above or the clouds forming artistically like painting on canvas while taking a walk and texting?

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