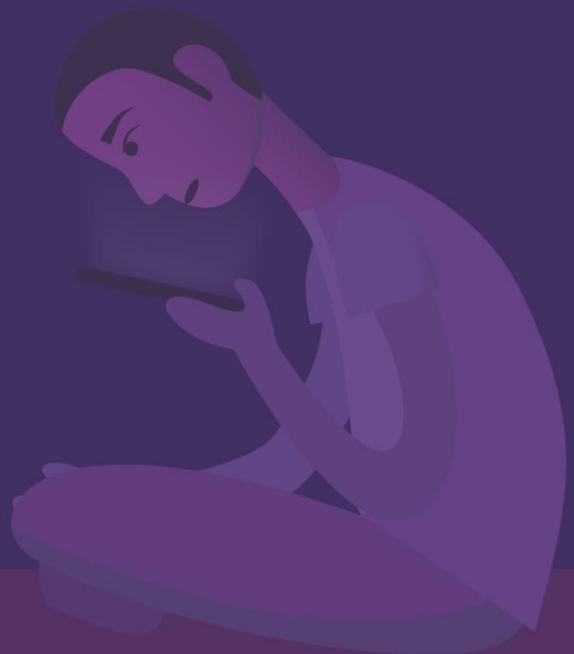


Mindfully Social

Designing in Response to Mental Health Issues
Linked to Excessive Social Media Use

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MDes, University of Alberta



**Mindfully Social:
Designing in Response to
Mental Health Issues Linked to
Excessive Social Media Use**

by

Muhammad Ali Butt

A thesis submitted in partial fulfilment of the requirements for the degree of

Master of Design

in

Visual Communication Design

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Table of Contents

Abstract.....	1
Keywords	1
Acknowledgements	2
Section 1: Introduction	3
1.1 Research Problem	4
1.2 The Scope of the Research.....	4
1.3 Research Objectives	5
1.4 Research Questions	5
1.5 Research Hypotheses.....	5
1.6 Overview of the Program of Research	6
1.7 Outline of the Dissertation.....	6
1.8 Section Summary.....	7
Section 2: Literature Review.....	8
2.1 Introduction	8
2.1.1 Expert Interviews	8
2.1.2 Participant Interviews.....	9
2.1.3 Questionnaire Survey	10
2.2 Research Data Findings	10
2.2.1 Social Media	10

2.2.2 The Impact of Social Media	13
2.2.3 The Adverse Effects of Social Media	16
2.3 Social Media and Depression	18
2.4 Social Media and Internet Addiction	23
2.5 Social Media and Cyberbullying.....	25
2.6 Social Media and Disturbed Sleep	26
2.7 Social Media and The Fear of Missing Out (FOMO)	29
2.8 Mental Health	31
2.9 Young People, Social Media Use, and Mental Health Problems	32
2.9.1 Social Media, Depression and Mental Health Problems.....	34
2.9.2 Social Media, Internet Addiction and Mental Health Problems.....	37
2.9.3 Social Media, Disturbed Sleep and Mental Health Problems	39
2.9.4 Social Media, Cyberbullying and Mental Health Problems.....	41
2.9.5 Social Media, FOMO and Mental Health Problems	42
2.10 Social Anxiety Disorder	43
2.10.1 Young People, Social Media Use and Social Anxiety	45
2.11 Existing Design Work on Mental Health and Social Anxiety	50
2.12 Section Summary.....	65
Section 3: Research Methodology, Survey, Insights, and	67
Data Analysis.....	67

3.1 Introduction	67
3.2 Conceptual Framework of Research	67
3.2.1 Independent Variable.....	67
3.2.2 Dependent Variables	68
3.2.3 Mediating Variables	68
3.2.4 Conceptual Frameworks.....	69
3.3 Research Methodology.....	70
3.3.1 Purpose of Study	70
3.4.2 Type of Investigation	71
3.4.3 Extent of Researcher Interference	71
3.4.4 Study Settings.....	72
3.4.5 Measurement & Measures	72
3.4.6 Unit of Analysis.....	72
3.4.7 Sampling Design	72
3.4.8 Time Horizon	73
3.4.9 Data Collection Method	73
3.4.10 Questionnaire Design for the Study	74
3.4.11 Data Analysis.....	75
3.5 Insights and Data Analysis of Research	75
3.5.1 Insights and Data Analysis of Social Media Importance	75

3.5.2 Insights and Data Analysis of Depression and Social Media.....	77
3.5.3 Insights and Data Analysis of Internet Addiction and Social Media.....	82
3.4.4 Insights and Data Analysis of FOMO and Social Media	87
3.5.5 Insights and Data Analysis of Disturbed Sleep and Social Media	89
3.5.6 Insights and Data Analysis of Cyberbullying and Social Media	92
3.5.7 Insights and Data Analysis of Social Anxiety and Social Media	94
3.5.8 Summary of Insights and Data Analysis	96
3.6 Hypothesis Testing	97
3.6.1 Hypothesis 1	97
3.6.2 Hypothesis 2	97
3.6.3 Hypothesis 3	98
3.7 Section Summary.....	99
Section 4: The Design Response.....	100
4.1 Visual Communication	100
4.2 Design for Action	105
4.3 The Design Response.....	108
4.3.1 Overview	108
4.3.2 The Design Process	109
4.3.3 Animation Short 1	109
4.3.4 Animation Short 2	113

4.3.5 Animation Short 3	116
4.3.6 Animation Short 4	118
4.3.7 Visual Identity	122
4.3.8 Advertisement Poster Campaign Proposal	123
4.3.10 Promotion and Communication of the Proposed Design Campaign	136
4.3.11 Design Installation Display	139
4.4 Section Summary.....	139
Section 5: Research Limitations, Recommendations and Conclusion	140
5.1 Introduction	140
5.2 Limitations of the Research.....	140
5.3 The Interviewed Experts' Recommendations.....	142
5.4 Recommendations by the Researcher	145
5.4.1 The Role of Parents and Family	146
5.4.2 The Role of Government.....	147
5.4.3 The Role of Educational Institutions	148
5.4.4 The Role of Psychologists.....	149
5.4.5 The Role of Researchers.....	150
5.4.6 The Role of Design.....	150
5.4.7 The Role of Media Networks	151
5.4.8 The Role of Social Media Networks.....	151

5.4.9 The Role of Mental Health Organizations	152
5.4.10 The Role of Users.....	153
5.4.11 Recommendations for Social Anxiety	154
5.5 Implications of the Research	154
5.5.1 Importance of the Research.....	154
5.5.2 Contribution to the Field of Counseling.....	155
5.5.3 Scope for Future Researchers	155
5.6 Summary of the Research.....	156
List of References.....	158
Appendices.....	180
Appendix 1: Thesis Design Display Installation	180
Appendix 3: Recruited Participant Interview Data	221
Appendix 4: Survey Questionnaire.....	271

List of Figures

Figure 1: Global Social Media Users.....	11
Figure 2: Daily Time Spent Using Social Media	13
Figure 3: Negative Effects of Social Media on Health	18
Figure 4: Key Factors of Depression from Social Media Use	23
Figure 5: Daily Time Spent Using the Internet	24
Figure 6: Reasons behind Disturbed Sleep Related to Social Media	28
Figure 7: Effects of Sleep Disturbances Due to Social Media Use.....	29
Figure 8: Factors That May Cause FOMO	31
Figure 9: Key Factors Contributing Towards Depression.....	35
Figure 10: Social Media Effects that Could Contribute to Mental Health Issues	37
Figure 11: Link between Social Media, Internet Addiction and Mental Health Problems .	39
Figure 12: Link between Social Media, Disturbed Sleep and Mental Health Problems.....	41
Figure 13: Link between Social Media, Cyberbullying and Mental Health Problems	42
Figure 14: Link between Social Media, FOMO and Mental Health Problems.....	43
Figure 15: Connection of Social Anxiety and Social Media Use.....	48
Figure 16: Link between Social Anxiety, Social Media and Cyberbullying.....	49
Figure 17: Connections between Social Anxiety, Social Media Use and FOMO	50
Figure 18: Screenshots from #HereForYou	51
Figure 19: Pages from Doing What Matters in Times of Stress: An Illustrated Guide	52
Figure 20: Screenshots from I Had A Black Dog, His Name Was Depression.....	54
Figure 21: Pages from Living With A Black Dog	55
Figure 22: Screenshots from Overcoming Bad Inner Voices.....	56
Figure 23: Screenshots from To This Day	57

Figure 24: Screenshots from Know When Anxiety is Talking	58
Figure 25: Screenshots from Elephant in the Transit	60
Figure 26: Screenshots from The Last Knit	61
Figure 27: Screenshots from This Actually Happens A Lot	62
Figure 28: Screenshots from 7 Types of Anxiety Disorders.....	63
Figure 29: Screenshots from In Between	64
Figure 30: Screenshots from Anxiety is the Greatest!.....	65
Figure 31: Conceptual Framework Model 1 — Independent Variable and Mental Health Issues	69
Figure 32: Conceptual Framework Model 2 — Independent variable and social anxiety ..	70
Figure 33: Research design framework	71
Figure 34: Most commonly used social media platforms	76
Figure 35: Bar Chart—Percentage of Most Viewed Social Media Posts.....	79
Figure 36: Bar Chart—Motives to Get Appreciation Through Social Media Posts.....	80
Figure 37: Bar Chart— Percentage of Respondents Who Felt Sad or Depressed on Not Getting Online Engagement.....	81
Figure 38: Bar Chart — Percentage of Daily Average Time Spent on Social Media Platforms.....	83
Figure 39: Bar Chart — Number of Social Media Platforms Active On	84
Figure 40: Bar chart — Percentage of Respondents’ Feelings on Inaccessibility of Social Media Networks	86
Figure 41: Bar Chart—Percentage of Respondents Experiencing Anxiety and Depression Due to Comparisons on Social Media	89

Figure 42: Bar Chart— Percentage of Respondents’ Sleep Affected by Use of Social Media	91
Figure 43: Bar Chart—Percentage of Respondents Who Encountered Cyberbullying on Social Media	92
Figure 44: Bar Chart – Percentage of Respondents Who Experienced Cyberbullying on Social Media Networks	93
Figure 45: Bar Chart—Percentage of Respondents Who Experienced Social Anxiety from Cyberbullying	94
Figure 46: A Palaeolithic Cave Painting in Lascaux, France	100
Figure 47: Ancient Egyptian Hieroglyphic	101
Figure 48: A Still from a Marlboro Cigarettes TV Ad from 1955	102
Figure 49: Kellogg’s Mascot Tony the Tiger’s 1953 Ad (left) and a Recent Iteration (right)	103
Figure 50: Saul Bass' Poster Design for the Film Vertigo	104
Figure 51: A Still from the Show Tom and Jerry	105
Figure 52: The Uncle Sam Recruitment Poster by James Montgomery Flagg	106
Figure 53: The Original Rosie the Riveter Prototype by J. Howard Miller	107
Figure 54: The Symbolic Use of the Fist in a Cartoon for Workers Union Rights in 1917 (left), and for Racial Justice in a Black Lives Matter protest in 2020	108
Figure 55: Storyboard for Animation Short 1	110
Figure 56: Character Variation Examples Used in Animation Short 1	110
Figure 57: The Environment Design Used in Animation Short 1	111
Figure 58: Screenshots from Animation Short 1	112
Figure 59: Storyboard for Animation Short 2	113

Figure 60: Character Examples Used in Animation Short 2	114
Figure 61: The Environment Design Used in Animation Short 2	114
Figure 62: Screenshots from Animation Short 2	115
Figure 63: Storyboard for Animation Short 3	116
Figure 64: Some Character Examples Used in Animation Short 3.....	117
Figure 65: The Environment Design Used in Animation Short 3	117
Figure 66: Screenshots from Animation Short 3	118
Figure 67: Storyboard for Animation Short 4	119
Figure 68: Some Character Poses Used in Animation Short 4	120
Figure 69: The Environment Design Used in Animation Short 4	120
Figure 70: Screenshots from Animation Short 4	121
Figure 71: The Logo for the Proposed Ad Campaign	122
Figure 72: Information for the Logo for the Proposed Ad Campaign.....	123
Figure 73: Poster Designs for the Promotion Campaign in Vertical (left) and Horizontal (right) Orientations	124
Figure 74: Proposed Print Ad for the Campaign Shown in a Newspaper	125
Figure 75: Proposed Print Ad for the Campaign Shown in a Magazine	126
Figure 76: Proposed Ads for the Campaign Displayed on Public Billboards	127
Figure 77: The Illustrations for the Proposed Ad Campaign	128
Figure 78: The Poster Design Version 1 for the Proposed Ad Campaign	129
Figure 79: The Poster Design Version 1 for the Proposed Ad Campaign	129
Figure 80: The Poster Design Version 2 Variants for the Proposed Ad Campaign	130
Figure 81: The Poster Design Version 2 for the Proposed Ad Campaign	131
Figure 82: The Poster Design Version 2 for the Proposed Ad Campaign	132

Figure 83: A Proposed Informative Poster with the Designed Character (left) and a Proposed Public Display of a Character Poster (right).....	133
Figure 84: The Designed Webpage for the Project – Desktop View	134
Figure 85: The Designed Webpage for the Project – Mobile Phone View	135
Figure 86: The Proposed Social Media Presence on Facebook	136
Figure 87: The Proposed Social Media Presence on Instagram	137
Figure 88: The Proposed Social Media Presence on Twitter	138
Figure 89: Stakeholders/Influencers of Social Media Use and Mental Health Problems ..	146
Figure 90: Stages to Overcome a Problem	153

Abstract

Mental health is a significant and widespread health issue that in many societies is still considered taboo and not taken as seriously as it should be. Mental health is vital for the personal and psychological well-being of individuals, their relationships, and their contribution to their society. Millions of people around the world are affected by mental health disorders such as depression and anxiety, but only a fraction of them receive adequate treatment or resources.

Research has indicated that excessive social media use could have a negative impact on the mental health and psychological well-being of young people, and these findings have opened numerous important areas to be researched. Research noted that social media could contribute in developing or exacerbating the negative feelings of stress, anxiety, depression, fear of missing out (FOMO) and social anxiety among its young users. Being aware of the gravity of the issue and the associated facts is the first step towards resolving it. Design can be employed as a powerful and effective tool to communicate and emphasize the importance of this issue, and to build awareness across communities on managing its detrimental effects.

Keywords

Social media, mental health, social anxiety, design, depression, anxiety, visual communication design, internet addiction, cyberbullying, FOMO, psychology, animation

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Section 1: Introduction

Communication is at the heart of human behaviour through which people establish, enhance and evolve relationships (Novak, 2019). These communications are reflective of the world they take place in and the advent, and subsequently rapid growth, of social media networks have irrefutably changed our ways of interaction. Be it the convenience or the efficiency of the medium, it has established itself as one of the most commonly used and wide-reaching forms of communication among young people. As of January 2022, there are 4.62 billion active social media users globally, this indicates that the number of users has increased around 3.1 times, from 1.48 billion users in 2012 to 4.62 billion users by 2022 (Kemp, 2022). As shown in a 2021 study by the Pew Research Center, 84% of US adults aged 18–25 actively use at least one social media platform (Auxier & Anderson, 2021).

With the easy accessibility of technology and the addictive nature of social media, young people are growing up in a world where being connected is expected. Under that pressure, they are likely to become increasingly reliant on social media channels to make their presence felt. The failure of doing so could result in self-deprecation and status anxiety for that person (Rao, 2018). Social media content often makes the viewer forget the fact that they are looking at a carefully composed and idealized image of someone's life. The person may view the latest *Facebook* posts from their friends where they are smiling radiantly at a popular vacation spot, or enjoying exquisite food at a restaurant they have wanted to visit for months. On the other hand, upon seeing their favourite celebrities all dressed up for a lavish party in their social media feed, they are tempted to look up their *Instagram* stories, their videos on *YouTube* and the latest news articles they are featured in. Throughout this consumption of media, the person may feel how uneventful their own life is in comparison. Hours of browsing later, they may end up feeling inadequate and worse not only about their self but for all the time they spent consuming social media, resulting in an unending state of anxiety.

As Cuncic (2020) stated, social networking sites have the potential to worsen mental health issues because of social comparisons and negative interactions. One of these issues, known as Anxiety, is an increasingly widespread affliction that often feeds on the 'fear of missing out' caused by excessive social media use that could eventually lead to social anxiety (Cuncic, 2020). The more technology and social media users have, the more anxious they may become. Social media has the ability to make people feel inadequate, due to the constant, and often

subconscious, comparisons that they make with others online. People feel pressured to share their lives, and many posts are made with the expectation of receiving responses and appreciation as validation. When these posts do not receive the expected 'likes' or 'comments', it can make the person feel inferior in comparison with those who receive more engagement. This could lead to feelings of worthlessness, trigger the restlessness of anxiety, or aggravate an already anxious state of mind.

The content on social media platforms relies on the power of visuals, and effectively uses images, be it static or moving, to convey their intended message. Communicating to an audience, through a medium that they use, is an effective tool. Thus, the researcher moves to examine ways as to how social media use may exacerbate mental health issues amongst young people, and what role visual communication design could play in alleviating these effects.

1.1 Research Problem

The relationship between overall social media use and mental health issues, especially social anxiety, among young people is not conclusively known and documented. Therefore, determining whether a relationship is present between the time spent on social media and social anxiety among people is relevant. The research question being proposed is whether excessive use of social media is positively linked with an increase in mental health issues, and what role design could play in providing improvement. This study explores the adverse factors resulting from excessive use of social media and their contribution in developing or aggravating mental health issues, particularly social anxiety, in a person. It then proposes a designed response to the research problem.

1.2 The Scope of the Research

This is a small-scale study of factors that are known to cause mental health issues among people who use social media regularly. As there are a wide range of factors, the researcher has attempted to narrow down and identify key factors. There are both positive and negative effects of social media, but the research is aimed at identifying and understanding the possible negative effects resulting from excessive social media use. This leads to a more nuanced understanding of the significance of the adverse effects of social media which may lead to mental health issues amongst young people, and where design can be utilised to generate improvement in regards to the issue.

1.3 Research Objectives

The researcher defines the following research objectives to be looked into for this study:

- Identify and analyze some of the key factors behind excessive social media use, using past research and the researcher's own findings from a select number of participants
- Explore how mental health issues, particularly social anxiety, may develop amongst young people through excessive social media use
- Identify some of the key factors that can improve and add to the well-being of individuals who experience mental health issues due to social media
- Propose a design-based response(s), which attempts to address this issue

1.4 Research Questions

Based on the research objectives, the researcher raised the following research questions for the study:

- What are some of the key negative factors which affect young people when using social media platforms in excess?
- What is the connection between excessive social media use and mental health issues, particularly social anxiety, amongst young people?
- How can design contribute towards alleviating the effects of social media induced mental health issues in young people?

1.5 Research Hypotheses

The researcher developed the following three hypotheses on the basis of the above research questions:

- RH1: Excessive social media use could result in multiple negative effects
- RH2: Young people using excessive social media are likely to experience mental health problems
- RH3: Social media is a factor in developing or exacerbating mental health issues, including social anxiety, among young people

1.6 Overview of the Program of Research

This study focuses on social media and mental health issues, particularly social anxiety. It then explores the link between excessive use of social media and its adverse effects and whether it is a factor causing mental health issues, including social anxiety, among young people. Past research, journals, publications, magazines, newspapers, reports and the reviews of experts and industry specialists are referred to and studied to form links in support of the hypothesis.

As part of the primary research, interviews with industry professionals in mental health, as well as registered psychiatrists were conducted and reviewed. Simultaneously, a series of interviews were conducted with a demographic of young people, in relation to their social media use and its effects on their mental state of mind. Lastly, a general survey among a sample of the public was also conducted, in regards to their social media habits, their feeling towards this use and its effect on them.

In the light of the literature review and the primary research, the key common factors and the links between the research findings were determined and the theoretical research framework was designed with independent and dependent variables and selected mediators. This allowed the researcher to review the validity of the hypothesis statements. On the basis of these results, the researcher determined how a design execution could contribute towards addressing and alleviating the issue, highlighted the areas of improvement in the research and gave future recommendations to improve studies on this subject.

1.7 Outline of the Dissertation

Section 1 includes the introduction and the summary of the dissertation topic. It also covers the overview and background history of the project.

Section 2 contains the literature review and the primary research that makes up the main existing theory of this dissertation. It covers the secondary research data collected from existing studies, journals and articles, and the primary data comprising of the expert as well as the recruited participant interviews about social media; its effects on young peoples' mental health and the factors resulting in mental health issues; and how these findings are interrelated.

Section 3 assesses the researcher's methods of data collection and its analysis. The analysis is completed on the basis of the findings of the primary data collected through the survey

questionnaire and one to one interviews, and the secondary data collected from journals, existing research, books, reports and the internet.

Section 4 discusses the design response to the researcher's findings and analysis, and how it addresses the research findings.

Section 5 concludes the dissertation findings about this research which includes hypothesis, limitations and future recommendations.

1.8 Section Summary

This section introduces the research topic, and how it deals with identifying links between excessive social media use and mental health issues, including social anxiety, based on the negative effects of social media use. It summarizes the objectives of the research and the main questions that this research sought answers to. It also discusses the research hypotheses that this study tested out, an overview and a section-wise outline of the entire project.

Section 2: Literature Review

2.1 Introduction

This section focuses on the data found from secondary and primary research, where the researcher has employed both primary (interviews and survey questionnaires) and secondary research methods (literature review of existing research). One reason for employing both qualitative and quantitative methods of research data collection, given the smaller scale of research, was to gain an improved understanding of the topic at hand and to make a stronger link between the primary and secondary data. For this purpose, the findings from the secondary and primary research are categorized under the subject being explored by the researcher, to create direct links and cross check the research findings from the two types of data.

The secondary research was conducted through studying existing research papers, journals, articles and reviews, as well as existing design work created on the subject of mental health and social media use.

The researcher used the following primary research techniques to collect first-hand and accurate data:

1. Interviews with
 - a. Industry professionals and subject area experts
 - b. Selected demographic-based recruited participants
2. Public questionnaire survey

2.1.1 Expert Interviews

As part of the primary research, the researcher spoke to six industry professionals and subject area experts about the social media habits of young people and what, if any, effects those habits have on these individuals' mental health. The researcher recognizes that bias exists everywhere, but the research study set out to find out the interviewed participant's own personal views, experiences and opinions.

Expert Interview Participants

The six individuals interviewed have been listed below in the sequence they were interviewed:

1. **Beverly Theresa**, Social Media Strategist and Consultant based in Edmonton, Canada

2. **David Grauwiler**, Executive Director of the Canadian Mental Health Association (CMHA) in Alberta, Canada
3. **Jeremiah la Follette**, Registered Professional Counsellor through the Canadian Professional Counsellors Association (CPCA)
4. **Farrel Greenspan**, Registered Psychologist with the College of Alberta Psychologists
5. **Dr. Andrew Gentile**, Registered Psychologist based in Toronto with a PhD in Clinical Psychology
6. **Chris Lefebvre**, Registered Psychologist at Life Mark Health Institute, Edmonton, Canada

Summary of Expert Interview Format

- The interviews ran from 45 minutes to 70 minutes
- The interviews were based on a series of questions
- The participants were free to speak as much or as little as they wished to in answering
- Two of the six interviews were conducted through in-person appointments
- Four interviews were completed through phone or video calls, as per the participant's wish

Further details about the participants and the interviews are documented in Appendix 2.

2.1.2 Participant Interviews

Alongside the expert interviews, a number of one-to-one interviews were also conducted with a specific demographic of individuals. For that purpose, a recruitment poster (see Appendix 3) was created that listed questions about the viewer's social media use habits. Listed below was set criteria for participation in the research study interview: the participant was to be between the ages of 18 to 35, be a current or former college or university student, and an active social media user. This demographic was chosen because students between these ages are likely to use social media as part of their day-to-day activities. The poster stated that the interview would last 40 to 60 minutes, and that the participants would receive a \$10 gift card for their participation.

Summary of Participant Interview Format

- These one-to-one interviews were held at the University of Alberta campus
- A recruitment poster was created and placed in various locations around the University of Alberta, as well as coffee shops around the city of Edmonton, Canada

- Recruitment resulted in 15 individuals between the ages of 19 to 29, 13 of the participants were current students while the other two worked as research assistants
- The participants were presented with \$10 gift cards after completion of the interviews

Further details about the participants and interview format are documented in Appendix 3.

For both categories of interviews, experts and participants, it was clearly stated in the consent form that the interview would be audio recorded for the study. These audio recordings were transcribed by the researcher and the responses were categorized by the questions asked. The responses relevant to the research study were highlighted, and then linked and compared with previous research data.

2.1.3 Questionnaire Survey

As part of the primary research, the researcher also conducted a survey to substantiate the findings of the literature review, and the interviews. The questionnaire survey, its target sample and its findings are summarized in the Section 3.

2.2 Research Data Findings

The following findings from the secondary and primary research were categorized according to the subject being explored by the researcher.

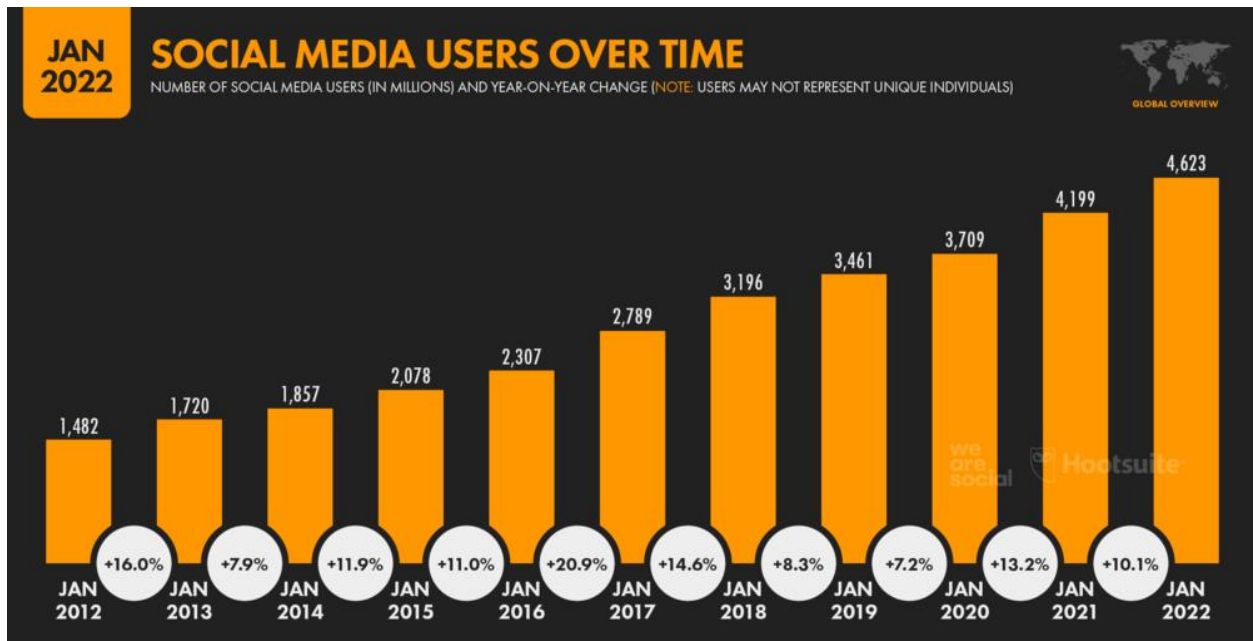
2.2.1 Social Media

One definition of social media divides it into two words to form one cohesive meaning. The ‘social’ part refers to interacting with other people by sharing information with them and receiving information from them, while the ‘media’ part refers to an instrument of communication, like the internet or television. Thus, web-based communication tools that enable people to interact with each other by both sharing and consuming information fall under the category of social media tools (Nations, 2021).

In 2004, *MySpace* was the first social media site to reach a million monthly active users. This marked the beginning of social media as an influential tool that we know today. As of January 2022, there are 4.62 billion active social media users globally (Kemp, 2022). According to Kemp, social media gained 424 million new users in the year 2021 alone, indicating a 10.1% growth within the span of a year.

On a global scale, social media users are increasing every year as seen in Figure 1. Between 2012 and 2022, the number of social media users worldwide increased from 1.48 billion to 4.62 billion people, which is a significant 3.1 times higher (Kemp, 2022).

Figure 1: Global Social Media Users



Source: Kemp (Digital 2022: Global Overview Report)

With *Facebook*, *Instagram*, *Twitter*, *Snapchat* and many other social networks, we can remain constantly connected with countless online friends and connections, even with the ones we barely know in person (Atkinson & Hardey, 2018). One positive aspect of social media tools is that they provide a platform to anyone who has a voice to put out into the world. While mainstream media like television or newspapers are largely controlled, social media has the ability to get a message across to hundreds of millions of people. Its influence is such that it has even inspired significant changes to authoritarian power dynamics, ranging from political, as seen in the 2011 revolution in Egypt, to societal, demonstrated by the power of hashtags on sites like *Twitter* for the Black Lives Matter movement.

One of the first things the researcher discussed in the expert interviews was what views the participants had regarding social media networks. Dr. Gentile, a registered psychologist, mentioned that it has become a critically important part of young people's lives, and that for many of these young people, it would be difficult to imagine living without them, in a way that

they interact with their peer groups outside of social media. Mr. La Follette stated that, from a social sciences perspective, what was meant for good has turned out to be bad with negative ramifications. He noted that despite better connections and modes of communication, it is turning out to be too much information. That ironically ends up creating more disorganization and less communication.

Mr. Grauwiler, the director of CMHA, reflected on this further as he says that as a society, we are not keeping pace with, or being able to adapt to, technological innovation as it has been moving very quickly. He gave an example of the telephone, stating that when it was invented roughly 100 years ago, it took 60 to 70 years for everyone in North America to have a phone. They had time to get used to the technology, and there were changes made to make it more adaptable, he adds. Now, however, society is immersing itself in technology that it is not readily adapting, he noted, “We think as a society that we are adapting, but we’re actually coping with technological innovation.” He also mentioned that it is not just young people hooked on this technology, but their teachers and parents are as well.

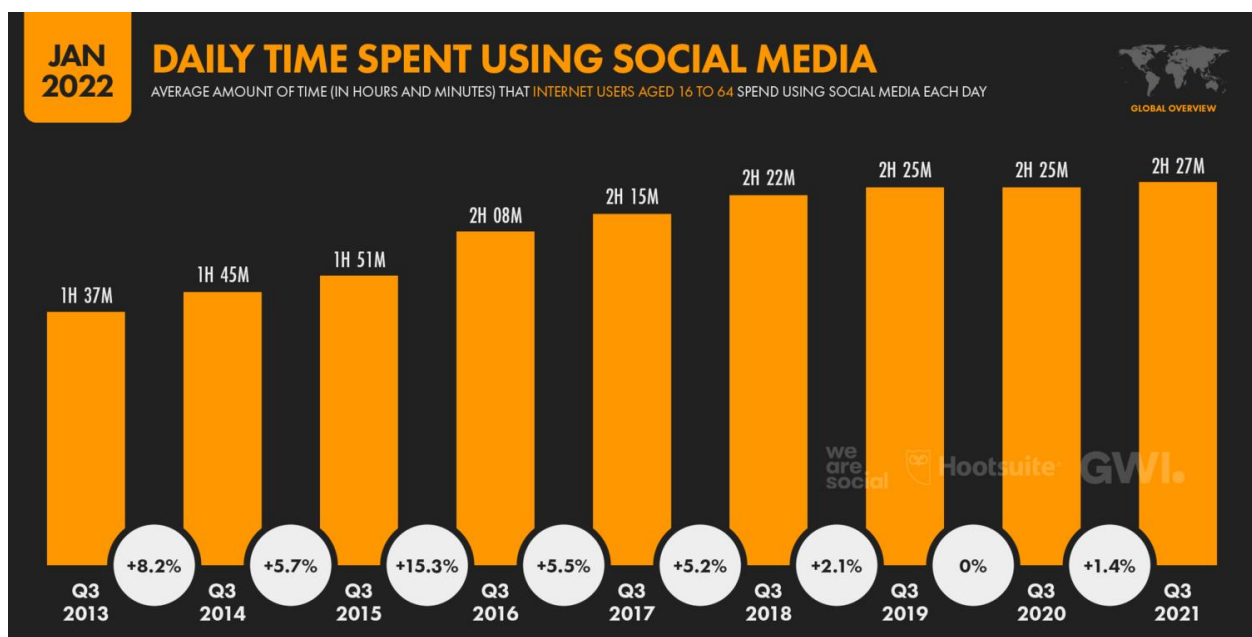
Which brings us to the interviews with the recruited participants, who, when asked about the age when they joined their first social media network, answered between the ages of 12 to 14 years, with 8 of the 15 participants naming *Facebook* as their first social media network. As to how their relationship with social media changed since then, one participant mentioned that she uses it a lot more now than she did back then, and more to pass time than to connect with people. Another respondent said that he uses it a lot more each day. “Back then I used it once a day maybe 20 to 30 minutes, but there are days now where I’m on social media for 2–3 hours. So, the time I spend has increased,” he said. One participant mentioned that she uses social media whenever she gets free time, for example when she’s waiting. “Even the way I use social media has changed. I now have instant messaging, whereas before it was just posting and liking pictures,” she says. Another respondent agrees saying that it is the first thing she does upon waking up. One of the participants mentioned that with more devices available like the iPad, smartphones, and faster internet, social media becomes a part of our lives from the moment you wake up to the moment you sleep. She also observed that many children as young as elementary students have social media access now.

2.2.2 The Impact of Social Media

As of 2022, about 62.5% of the global population, 4.95 billion people, are active internet users, of which 4.62 billion actively use social media (Kemp, 2022). Because social networks feed on the communication between people, they become more powerful as interaction grows. Youth today, from an early age, have access to the internet, and thus, social media platforms. Thus, a major part of these young people's social and emotional development happens while they are online. Smartphone use in college age demographics is high, with estimates of undergraduate smartphone owners as high as 97% (Brooks & Pomerantz, 2017). As of January 2022, in Canada, there were 38.93 million mobile connections indicating an increase of 1.6 million (4.1 percent) between 2021 and 2022 (Kemp, 2022).

According to Tankovska (2021), almost a third of the world's population is using *Facebook* with 2.6 billion monthly active users, while *Instagram* is quickly becoming a popular social media competitor site with over 1 billion users. A 2021 US study by the Pew Research Center found that 59% of *Instagram* users log in at least once a day and 71% of *Facebook* users log in daily (Auxier & Anderson, 2021). Kemp (2022) found that over the past 5 years the daily average social media use rose from 2 hours and 8 minutes in 2016 to 2 hours and 27 minutes by 2021, which is an increase of 19 minutes as seen in Figure 2.

Figure 2: Daily Time Spent Using Social Media



Source: Kemp (Digital 2022: Global Overview Report)

Shirley Cramer, Chief Executive of Royal Society for Public Health (RSPH), mentioned social media as a space in which we form and build relationships, shape self-identity, express ourselves, and get the opportunity to learn about the world (Royal Society for Public Health, n.d.). The strong impact of social media on society has pushed researchers to investigate whether it is affecting society in positive or negative ways. The findings are mixed, as there are both benefits and issues in using social media. One of the important areas of focus in the studies is to find out the effect of social media use on the users' mental health.

Existing studies found that engaging on different social media platforms benefits the users by improving their social connections, communication, and technical skills (Ito et al., 2008). According to numerous studies, *Facebook* was found to benefit individuals by improving their relations with contacts, their self-esteem, social support and general well-being (Lup, Trub, & Rosenthal, 2015; Stapleton, Luiz, & Chatwin, 2017). As Lin et al., (2016) indicated, excessive use of social media is a comparatively new phenomenon and the research involving its impacts on psychological health is in its early stages and not yet clear.

Social media assists in transforming users from compliant listeners to active producers and it makes it practical for them to stay connected (Karasu & Arıkan, 2016). Social media sites provide opportunities to the users to create an image of themselves which they desire for the world to see. Creating a profile empowers a person to choose exactly what they want to present to others. For some, this may lead to an obsession and could reflect in the levels of the person's self-esteem. On the other hand, social media can affect a person's anxiety and stress by making them feel inadequate. Extreme, problematic, and uncontrolled social media use can lead to social, personal, and educational problems for individuals (Griffiths, Kuss & Demetrovics, 2014).

According to Riehm et al. (2019), social media provides the chance to connect with people, but simultaneously brings with it associated harms. Every minute that users choose to spend on social media, they compromise on doing something that can be in-person socializing with friends, getting physical exercise or something that supports their mental health. Social media provides constant notifications and updates that push its users to repeatedly check their newsfeed. For some users, this leads to a persistent impulse to check for updates and a feeling of restlessness when they are not able to access their social media accounts. Another effect of checking these constant updates is seeing how often other users are posting, and an involuntary

assessment of how much the user themselves is posting in comparison. These comparisons may lead to them feeling inferior. The resulting worry and negative thoughts could develop chronic stress and anxiety that may turn into a mental health disorder or even exacerbate an existing one (Cuncic, 2020).

Commenting on the importance of social media networks, Mr. Greenspan, a registered psychologist, said that he does not think they are inherently important or needed, but given that everybody uses them makes them needed, as that is how people are now communicating, staying in touch and sharing information. Mr. Lefebvre shared a similar thought, as he says that whole lives and careers are built on and around social media, so one cannot really go anywhere without seeing it.

On being asked whether it is possible to function successfully without a social media account today, Dr. Gentile found that it is possible for a person to function in a healthy way without engaging in social media. Ms. Theresa, a social media strategist, stressed the prevalence of social media in today's world, noting that anything where a person is connecting with people online is considered social media, even social forums like *WhatsApp* or *Gmail*. She adds that when applying for a job, people want to know what someone is like behind the scenes, so they Google the person. If they have a polished social media presence then they might have a greater chance of getting the job over a person who does not have an account at all, she says. Even when viewing portfolios of work or getting references for a potential job hire, many employers choose to carry out all the proceedings online, rather than an in-person interaction. This often forces a person to create an online social presence, regardless of their desire to do so.

On the importance of social media networks in their lives, one of the participants noted that it is a really good way for keeping in contact with people, especially staying in touch with friends and family overseas. Another participant mentioned that social media networks have become too associated with young peoples' lives. He gave an example, saying that if someone goes to an employer, they can check up on that person's social media presence, which can work for or against them. It has become very integrated with our lives, he states. One participant also agreed with this, saying it is the best way for people to communicate nowadays, regardless of age, as compared to TV, radio or newspapers. She also mentioned that people often are on social media all day every day, and that hinders many social relations for them.

On the idea of successfully living life in today's world without having a social media account, one participant said that you must have a social media account. "I personally don't have *Twitter* or *Instagram*, and I see how limiting my social media experience is because of that fact. I sometimes feel pressured to join those social media networks because everyone around me has them," she shared.

Another participant shared that her friends who don't have social media have more meaningful and less superficial connections with their friends. She said this is because they get their friends' life updates from talking on the phone as compared to seeing a social media post, hence the bond is more genuine.

2.2.3 The Adverse Effects of Social Media

As discussed earlier, social networking sites encourage their users to develop their own customized image by providing multiple options of self-portrayal through online avatars and bios. If this results in the admiration of the user, it could enhance their psychological wellbeing (Williams, 2019). However, according to Nesi and Prinstein (2015), social media use can act as a source of stress or can develop negative self-perceptions when users receive negative feedback or become involved in negative social comparisons.

As of January 2022, in Canada alone, there were 36.89 million internet users, of which 86.5% were mobile internet users (Kemp, Digital 2022: Canada). Where previously users had to wait to get to a computer to access their social media accounts, they now carry them everywhere on a smartphone. The user is never away from their social media for a very long time. According to Song et al. (2014), time spent on electronic communication especially on social media can enhance feelings of loneliness, so more time spent on social media may contribute further to loneliness and depression.

Another negative effect linked with social media is cyberbullying. Previous research by Lenhart (2009) and Patchin & Hinduja (2006) found that there have been online expressions of offline behaviours, like bullying, group-forming, and sexual experimentation which have in turn produced problems in terms of privacy, cyberbullying and sexting. Kira E. Riehm, a researcher at the Johns Hopkins University Bloomberg School of Public Health, stated that social media may be connected with internalizing behaviour because of three reasons, mentioning that exposure to cyberbullying, poor quality sleep, or exposure to idealized self-presentations have been

associated with depressive and anxiety symptoms in other research studies (Betuel, 2019). Studies have proven that body image concerns of young girls and women using social media are higher in comparison with non-users (Tiggeman & Slater, 2013).

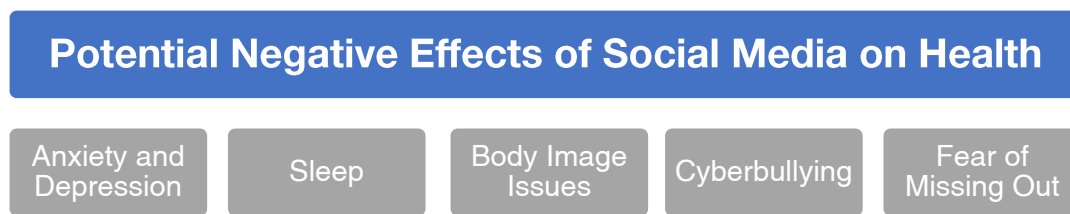
One other negative impact of social media use is the disconnect between parents and youth as parents commonly lack a full understanding of new methods of socialization which are now integral to young peoples' lives. Palfrey, Gasser & Boyd (2010) note that while some parents are proficient in using technology and are comfortable with the online venues that their children are using, there are many parents who still find it difficult to relate to their digitally proficient youngsters. Sometimes, they also lack the basic understanding that their children's online lives are an extension of their offline lives. This creates a disconnect between them, and the children refrain from discussing their problems with parents and choose to rely on online avenues for solutions, which may lead to online privacy issues (Palfrey et al., 2010).

Another phenomenon which has been amplified due to the more widespread use of social media is the Fear of Missing Out (FOMO). Dempsey et al., (2019) noted that three recent studies have found that Fear of Missing Out is linked with problematic use of social networking sites. FOMO entails the persistent desire to check the social media activities of others and assuming that others are enjoying themselves more than the person themselves. According to Wolniewicz et al. (2018), research has found that social media and problematic smartphone use is linked with an increase in FOMO. Dr. Farrel Greenspan, during the expert interviews, noted that "The pressure comes from wanting to be included and not left out, and it sometimes becomes problematic when a person feels pressured to do something they don't want to," he added.

Alonzo et al. (2019) concluded from a systematic review that young individuals who actively use social media are prone to have poor sleep quality, anxiety and depression. Dahl and Lewin (2002) stated that self-determined timings of sleeping along with the craving to remain awake, in order to participate on social media, could cause sleep problems. Adams et al. (2013) noted that to have a continuous connection with their peer and family groups on social media, students usually compromise on their sleep quality.

A research report published by the Royal Institute of Public Health & Young Health Movement mentioned anxiety and depression, sleep, body image, cyberbullying and fear of missing out as five major potential negative effects of social media (Royal Institute of Public Health, 2017).

Figure 3: Negative Effects of Social Media on Health



Source: Royal Institute of Public Health (2017)

Due to all these factors and the pressures of interaction and staying active from different platforms, social media has, more than ever before, become a major source of anxiety and stress. Depression, the fear of missing out, internet addiction, social pressures, stress, disturbed sleep, and cyberbullying are seemingly common products of excessive social media use that are leading to a larger problem referred to as the Social Media Anxiety Disorder (Hovitz, 2017). Hence, the researcher moved forward in the research to examine the links between excessive social media use and mental health issues including social anxiety, in relation to the chosen five most commonly occurring factors which were:

- Depression
- Internet Addiction
- Cyberbullying
- Disturbed Sleep
- FOMO

2.3 Social Media and Depression

The addictive nature and constant barrage of updates on social media is believed to be a factor that may generate depression in some individuals. Stapleton et al., (2017) stated that studies show that *Facebook* users feel the need to belong, connect, and be accepted, and these psychosocial needs are imperative to self-development in an evolving adult. According to numerous studies, *Facebook* can benefit individuals by improving their relations with contacts, their self-esteem, social support and general well-being (Lup, Trub, & Rosenthal, 2015; Stapleton, Luiz, & Chatwin, 2017). Many other studies show the opposite; that *Facebook* use can increase feelings of loneliness, depression, and anxiety and that negative feedback can affect

wellbeing and self-esteem (Grossman, 2018; Stapleton et al., 2017; Lup et al., 2015; Baker & Algorta, 2016).

Rachel Kazez, therapist and founder of *All Along*, stated that although it is not officially diagnosed yet it is certain that social media negatively affects self-esteem and could develop or aggravate depression and anxiety. She noted that people post the best version of themselves on social media, so when you use that as a comparison with yourself, you are comparing it to your whole self, including your fears and flaws (Hovitz, 2017). Bethune (2019) mentioned that the ‘likes’, ‘good comments’ and ‘retweets’ on social media stimulate the reward centres of the brain similarly like the effect of drugs. An individual who uses social media several times within an hour starts a continuous feedback circle where more and more content is required to be posted, in order to receive more likes and to feel as good as the individual felt initially. This compounds and adds to anxiety and depression (Hovitz, 2017).

In the expert interviews, on the topic of a relation between excessive social media use and lowered self-esteem and feelings of inferiority, Mr. Grauwiler, the executive director of the Canadian Mental Health Association, noted that being judged for their appearance on sites like *Instagram* or *Snapchat* could exacerbate pre-existing insecurities for a young person who is already uncomfortable with their appearance. He said that it may lead to comparisons which are not always healthy, and quantifying and transactionalising their life based on the numbers behind their social media accounts. Mr. Greenspan agreed as well, saying that if a person already has those feelings, then social media can impact that negatively. “If a person is depressed, they will log onto social media and see what others are doing, and being in a negative, pessimistic state of mind, anything they see is thought of negatively and comparatively from their own perspective,”.

Dr. Gentile, noted that people don’t generally post on social media about the things they feel miserable about, and usually present themselves in a favourable light. This leads viewers to misperceive how other people are living and may lead them to feel worse about themselves. Ms. Theresa believed it is not necessarily social media’s fault. “Blaming social media is not the issue or the resolution to this. A lot of people have the fear of missing out if they see someone doing something and think ‘I wish I could do that’ or they compare themselves to other people on platforms like *Instagram* because their life looks perfect on social media.”

On young people seeking validation from the evaluation of others online, Ms. Theresa noted that it is not only true for social media, but even examples like children wanting their parents to be proud of them. “The child could be the most accomplished business owner or the president but if their parents aren’t proud of them, their work doesn’t feel validated.” She added that having so many likes on social media posts can reinforce that feeling but again, it is just a tool; it depends more on how the person is using it. Mr. La Follette agreed, stating that it is the easiest to blame and not take responsibility, so the person ends up looking at someone’s life and thinking “I’m better than them” or “they’re so much better than me”. The fault thus falls on social media, and it “creates a feeding frenzy of insecurity’ for the user. Mr. Greenspan spoke on this further, adding that the goal is to move people away from these comparative validations and make them start valuing themselves. “If someone can compare their own growth and improvements in their comparisons with others, it makes a huge difference”, he noted.

On the same topic, psychologist Mr. Lefebvre, noted that a lot of the validation people get seems to be from others. “When looking at other people’s lives through social media, there’s this idea that everyone should be able to have that as well,” he mentions. “That idea is one of the main culprits as well I’d argue. This idea that “I should be happy all the time and that there’s no reason for me to not be successful.” The idea that “I should never be unhappy or unsuccessful as it’s not acceptable” is hard on the ego, he stated. This is the reason why when a person looks through their social media and views a seemingly endless stream of “happy” images, a somewhat subconscious sense of comparison is very likely to creep into their mind, fueling their low self-esteem and depressive thoughts.

Often, in an attempt to move away from these feelings of being inadequate, the person may try to imitate the popular content they are seeing online. Mr. Greenspan said that for some people, it is wanting to be like others. “The pressure comes from wanting to be included and not left out, and it sometimes becomes problematic when a person feels pressured to do something they don’t want to,” he adds. Mr. Lefebvre also mentioned the pressures these young people may be experiencing, as he mentions the pressure to appear better than how the person is actually doing. “The pressure to follow the rule of always being happy and if you’re not happy people wouldn’t like you.” At the same time, he also stated that if that person is aware of whether the post they are making is for others or themselves, it becomes a conscious decision and they can be in control of what they do next. Dr. Gentile mentioned that there are individuals who are likely to

become devastated if they don't get enough likes for a certain post. "They feel a need to maintain a consistent social media presence, whether it is due to personal pressure or something that's related to their career. In these cases, there's a lot of pressure to put out content that is received positively by others." In these cases, their depressed state or low self-esteem seem to double down on them when they fail to produce the content they desire, and they fall into passive social media use.

Dr. Gentile described this passive social media use as activity where the person is scrolling and looking at posts but never posting anything themselves. He calls it probably the most problematic and harmful use, as it does not provide the user the benefit of connecting with others, but instead gives them ample opportunities for negative self-comparison and avoidance from other important things in their lives. Dr. Gentile further shared "Being vulnerable is very important to be a healthy, fully functioning person. But it's also important to be selectively vulnerable and not necessarily healthy in all cases to broadcast personal information on the internet. With vulnerability, you put yourself out on a limb with a potential to be shot down or rejected, so it is understandable for a person to be cautious about that."

As for the recruited participants, when asked if the amount of engagement i.e., the likes, shares, and comments on their social media posts ever affects them in any way, many participants noted they used to care in the past, but they do not now. One answered that the change came from her personal life and she started to prioritize what was important. "I stopped caring about what people perceived me as, and their judgments as well. This mentality transferred to my life on social media as well," she said. One participant mentioned that she sometimes checks to see if a specific person saw her post, but she is indifferent to other kinds of engagement. Another participant observed that numbers do somewhat matter to her, as the feeling of having a post liked is a self-esteem booster. She recalled that upon receiving three likes on a post, she recognized the good feeling over it, but then began to wonder why more people didn't like that particular post like those three people did, and why. So, it started a negative cycle for her.

The next question was about how the participants feel when they don't receive a lot of comments or likes on their social media posts. One participant shared that she doesn't feel very great, as she expects some people to like her pictures. She said that it feels a lot more hurtful when it is for a picture of herself, and that sometimes makes her feel insecure. Another participant mentioned

that she deletes a post if it does not get enough likes and reminds herself to make the next post better to get more likes.

When asked if they felt that many posts on social media are made only to receive a response or appreciation, the participants' response was a unanimous yes. Many participants mentioned influencers, which are people on social media with a significant number of followers whom companies pay to promote and endorse their products in their online posts. One participant said that most influencers only post for people to like and share them. She mentioned that some of their posts about their body, food and similar content may make someone insecure. Another participant said that the feeling of getting a picture liked is getting indirect validation of being liked by a person. Another participant observed that on sites like *Instagram*, *Facebook* and *LinkedIn*, a person is directly monitoring what everyone is doing and somehow always ends up comparing themselves with them.

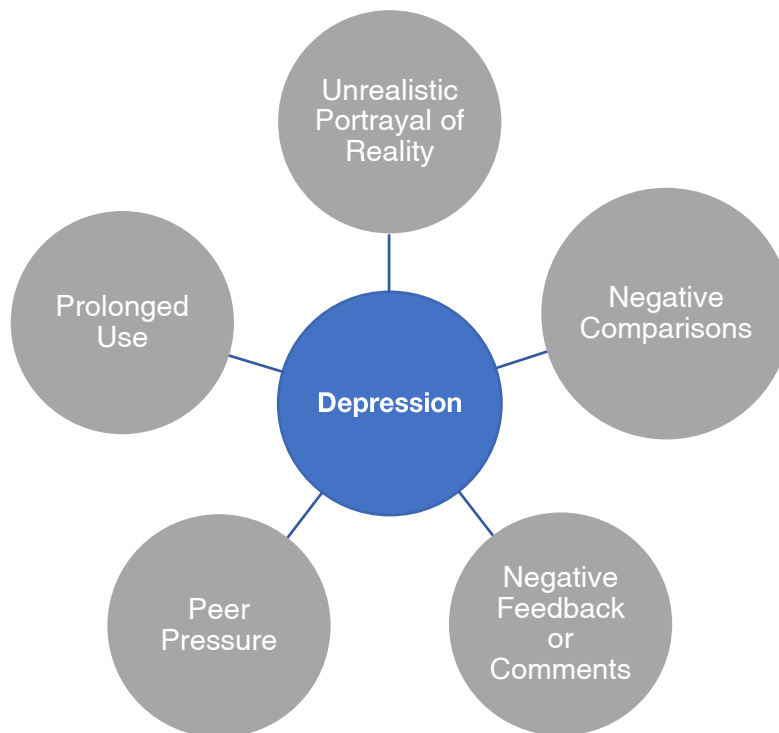
Participants were then asked if, consciously or unconsciously, they have compared their own life with someone else's life on social media. One participant said that he does it all the time, when it comes to comparisons with close friends and what they are up to. "Especially now on *LinkedIn*, I find myself doing it. Seeing other people in my program and even in other universities, to see as to where they're at in their life and what opportunities they've had. This competition and comparison mind set doesn't feel positive, and feels like you're doing it for no reason. It feels like it shouldn't matter but it does". Another participant shared that she compared herself with people based on their posts. She noted that she sometimes gets jealous of what they're doing and achieving. "I mostly envy people I actually know. It's not a very happy thing, but I sometimes stop myself from thinking very negative thoughts and remind myself that they have their own issues," she said. Another response was that this especially happens with depression when a person has people appearing all happy, achieving their dreams, and they are left thinking why their life doesn't work that way.

As noted previously, these posts show these people living their best lives, doing what they love. Upon being asked if the participants ever felt that they should only post 'positive/happy' posts on their social media, one participant agreed, saying that a lot of people try to use social media to get sympathy for themselves for insignificant things, and that is not healthy. She believed that social media should be more about the good things that happened to a person, because if a user who is sad sees sad posts on their social media feed, their mood will worsen. But she also

mentions that when a person does make happy posts, they should not be bragging about anything. One participant mentioned something different, stating that when she does not feel good, she stops herself from posting about it to look like a positive person, because she does not like the image of herself as a negative person.

Some of the factors linked to problematic social media use and depression are summarized in Figure 4 below.

Figure 4: Key Factors of Depression from Social Media Use



Source: The researcher (derived from secondary research)

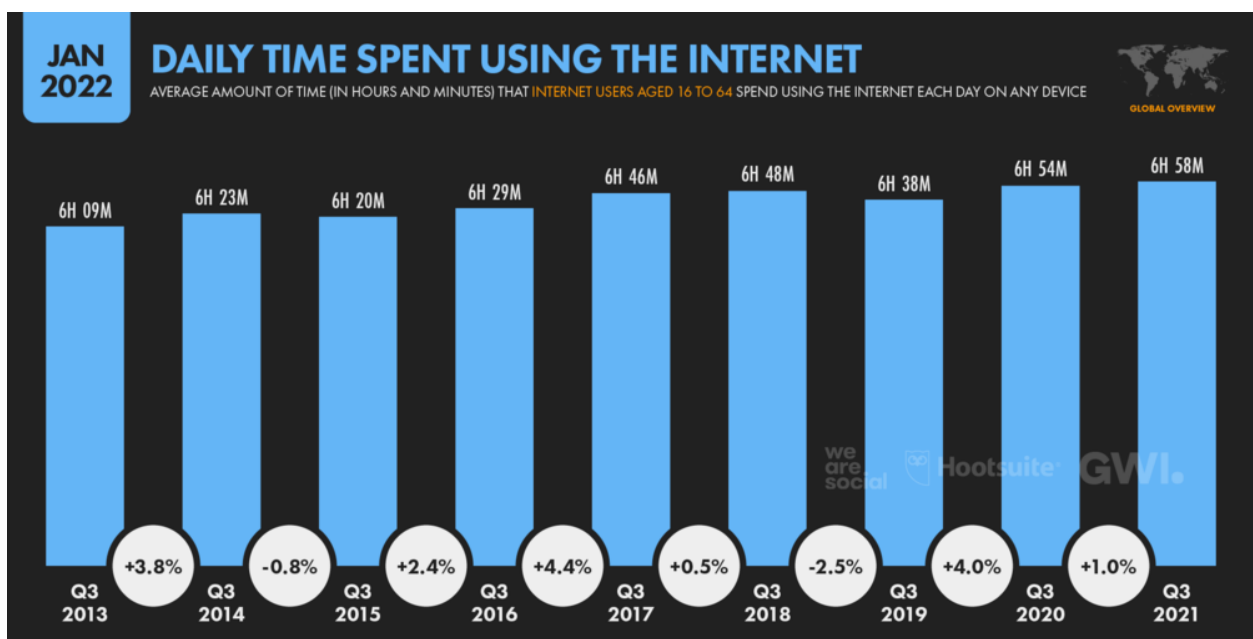
2.4 Social Media and Internet Addiction

The most common association with addiction is that of substance abuse like drugs or alcohol. Harris, Nagy & Vardaxis (2014), however, state that uncontrollable behaviours, practices and habits are also termed as an addiction. Similarly, the idea of technological dependence or addiction has been used to define the behaviour of extreme Internet use (Kuss & Griffiths, 2012; Turel & Serenko, 2012). The internet has undoubtedly become the most popular and convenient form of media, but it is also evident now that significant use of the internet causes negative effects. Young (1998) has described problematic internet use as 'Internet addiction' and stated

that people suffering from internet addiction usually encounter problems in their relationships, mood, and day-to-day routine performance.

As of 2017, it was estimated that over 210 million people suffer from internet and social media addictions worldwide (Longstreet & Brooks, 2017). This figure becomes even more alarming considering that only about 62.5% of the world's population has access to the internet (Kemp, 2022). The *Digital 2022: Global Overview Report* (Figure 5) noted that the typical internet user spent 20 minutes longer online each day in Q3 2021 than they did in Q3 2019, representing an increase of about 5 percent.

Figure 5: Daily Time Spent Using the Internet



Source: Kemp (Digital 2022: Global Overview Report)

When asked whether excessive social media use could be considered an addiction, there was a unanimous response from the experts. Mr. Grauwiler thought that as addiction is tied to neuro pathways, there are interactions happening in the brain that create the desire for certain effects including dopamine that draw the person in. He said that anything that has the power to alter our neuro pathways has the ability to be an addiction. Mr. Greenspan stated that based on the research on addiction, there is a natural tendency to want more, so if someone is a social media addict their usage is likely to keep increasing: they spend more time, get more likes, and share more things.

Dr. Gentile agreed as he said that in the case of psychoactive drugs, it is very clear whether it is addiction or not, because there are elements of physical dependence. Whether we call social media use an addiction is more of a semantics question. He notes, it could also function like an addiction, in the way social media is engineered to be reinforcing so people spend more time on it. He went further and said that an even more problematic side is when people use social media as a way to avoid other difficult feelings so the use becomes extremely reinforcing. He likened it to someone taking a few drinks and getting a sense of relief for a short period from the things that are painful in their life. This usage, thus becomes a means of avoidance. But persistent avoidance of any kind, he warned, will almost always lead to unhealthy psychological outcomes, taking the person away from a meaningful and important life.

To find out about the possibility of internet addiction among the recruited participants, they were asked how often they check their social media accounts every day, and how they feel about their social media use. The lowest number of hours spent on social media was 2 and as high as 5 hours in one day. The average time between the 15 participants was about 3 hours per day. One participant said, “It’s in my face all the time with my phone. The pop ups and notifications on my phone are constant. I think I have good control over the frequency of my use but I wish I was more structured.” Another participant mentioned that it depends on the day of the week, and if *YouTube* was included, it amounts to over 4 hours every day. She added that she doesn’t feel good about her social media use, as she could be a lot more productive during that time. One other participant also felt the same, saying that 2 to 4 hour daily social media use becomes concerning because she is aware that she could instead be studying and being with friends in person.

After learning about their social media use habits, the participants were asked if they had ever neglected more pressing work or tasks in favour of social media. One participant mentioned that there are times where she watches *YouTube* videos instead of doing homework or studying. “You feel guilty while you’re doing it,” she admitted, “I know I should be studying but I’ll still click on the next video.” Many other participants felt the same way, with one sharing that social media is a very easy way to procrastinate.

2.5 Social Media and Cyberbullying

Cyberbullying, a persistent problem for social media users, is the intentional use of digital media to cause harm to other individuals by posting hostile messages, rumours, embarrassing pictures,

and threats (Brown & Marin, 2009; Patchin & Hinduja, 2006). Cyberbullying is the most common online risk for all users and is an online peer-to-peer risk as well. People can negatively make use of social media to destroy the reputations of others or blackmail individuals with embarrassing videos, pictures or personal information. Cyberbullying amongst young people, adolescents and children is a critical issue as it has made the headlines across the world and is behind a number of serious incidents (e.g., revenge porn, suicides, etc.) The Australian Psychology Society (APS) noted that high use of social media and technology can have a negative impact on youth's self-esteem, finding that two in three young people feel the pressure to look good and a third of youth reported to have been bullied online (Grove, 2017).

Sometimes online harassment and cyberbullying are seen as the same entity but they are not. Cyberbullying has appeared as a major concern in terms of safety, and there is evidence to propose that one faces harms with exposure to cyberbullying (Shannon, 2016). A study conducted by Michael Hamm (2015) at the University of Alberta found a link between social media and bullying where 23% of teenage participants in the study reported that they were being targeted and bullied on social media, while 15% noted that they had bullied others on social media (Scott, 2015). The study also found that cyberbullying led to depression in teens.

The fundamental factor which makes online platforms tempting is the freedom from conventional norms and labels, the anonymity, and the apparent lower stakes of involvement. The hard truth is that these conditions lead to an environment in which there are more possibilities for a person to face harmful consequences.

2.6 Social Media and Disturbed Sleep

Sleep is a key element of health and well-being which has substantial impacts on physical and emotional development and the regulation of individuals and their quality of life. Scott, Biello & Woods (2018) stated that many studies have indicated a significant association of young people's increased social media use and poor sleep quality. The use of social media at night just before sleeping is associated with poor quality sleep as compared to daytime use (Woods & Scott, 2016; Xanidid & Brignell, 2016). Sleep quality and duration can also be affected by the extent of worry and anxiety which arises from online experiences. Power, Taylor, and Horton (2017) stated that one in five young people shared that they wake up in the night to check updates on social media. This increases the possibility of tiredness and these young individuals are thus three times more prone to feel constantly tired than the ones who do not use social media in the night.

Thousands of years of evolution have hardwired human brains to associate red light with sunset, and as a sign for sleep whereas blue light reminds humans of the onset of daylight. Under red light, the body produces melatonin, the sleep-inducing hormone, but when surrounded by blue light it stops that production (Harvard Health, 2020). This is one reason why when people lay in bed under the blue light of their smartphone, they fail to fall asleep.

The American Academy of Sleep Medicine and the Sleep Research Society documented that adults aged 18–60 years are recommended to sleep at least 7 hours per night to aid in their optimal health and well-being (Consensus Conference Panel, 2015). Sleeping less than 7 hours a night is associated with increased danger for obesity, high blood pressure, diabetes, stroke, heart disease, and regular mental distress (Grandner et al., 2014). Social media use influences the sleep of individuals in multiple ways, for instance spending a longer time on social media contributes in a reduced sleep duration, as incoming alerts and notifications in the night, and the fear of missing out on new updates, keep the user hooked and results in sleep disruptions (Scott & Woods, 2019). In the following figure, the researcher has shown the major factors which result in disturbed sleep patterns due to excessive social media use.

Figure 6: Reasons behind Disturbed Sleep Related to Social Media



Source: The researcher (derived from secondary research)

As many of the participants mentioned using social media at night, they were asked if they checked their social media accounts before sleep. 13 of the 15 participants said they do so every night, with one mentioning that it is the last thing she does every night for at least an hour. Another participant shared she uses it a fair amount at night, as she gets tired while looking and that helps her fall asleep.

Some of the effects of disturbed sleep due to social media use are also linked with the findings from the *#Status of Mind* report (Royal Society for Public Health, 2017), as shown in Figure 7.

Figure 7: Effects of Sleep Disturbances Due to Social Media Use



Source: Royal Institute of Public Health (2017)

2.7 Social Media and The Fear of Missing Out (FOMO)

Young people want to feel involved, accepted, acknowledged and popular. A common phenomenon which individuals today experience is the Fear Of Missing Out (FOMO). Scott (2020) describes FOMO as “the feeling that others are having more fun, living better lives, or experiencing better things than you are”. It often involves a sense of envy and affects a person’s self-esteem. It creates a scenario “in which you are comparing your regular life to the highlights of others' lives”.

There are several studies that associate social media use with FOMO which may result in anxiety and depression. Chris Barry, a Professor of Psychology, noted that social media allows a person to peer into what is going on in other people’s lives (Washington State University, 2020). If there are already concerns about missing out, then that person would be distressed at seeing things like that on social media. FOMO is also connected with signs of depression and apprehensive attention, which are indicators of poor emotional and mental health. Chou and Edge (2012) stated that FOMO and the persistent desire to check the social media activities of others results in false assumptions that others have better lives. These studies also concluded that those individuals who tend to have more real-life, offline connections with their peers are less likely to

believe that others are leading better lives than them, because they are personally aware of their peers' life conditions (Chou & Edge, 2012).

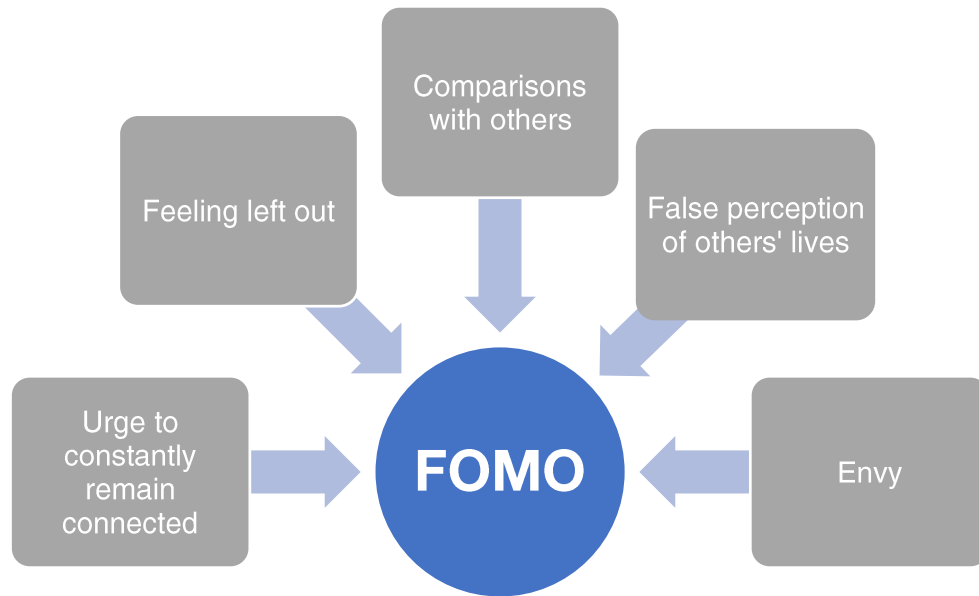
On how closely linked FOMO and social anxiety are, Mr. Grauwiler said that the fear of missing out has always existed for young people. The big difference is that in the past, there were fewer opportunities to look at what was happening out there, so the feeling was not felt as intensely or often, he said. Now, with countless forms of media, it is likely that a person would come across something on social media, and have a sense of longing for being at a certain place or event. Mr. La Follette also noted, "There's always a sense of wanting some form of relationship, as we are wired for that. Social media creates a secondary relationship, not a primary one. So, it can easily lead to an ongoing sense of the fear of missing out, which is a terrible way to live."

On whether FOMO affects an individual's ability to focus and concentrate, Dr. Gentile said that it seems like a possible connection, as constantly thinking about others' experiences and the excessive social media use make it more difficult to be present in the moment. Ms. Theresa agreed, saying that peoples' attention spans have definitely decreased, as with social media and micro blogging sites like *Twitter* they don't have to spend a lot of time on reading long articles.

Among the recruited participants, when asked if they ever lost their concentration due to social media notifications, one mentioned that it happens quite a lot, as she feels the need to check if something pops up. Another participant shared she gets distracted if her phone has group chat notifications on, and she joins the conversation, taking her time and focus. One participant answered that when she is busy studying, her phone's vibration urges her to check it, so she just puts it on mute to not be distracted. "But sometimes even when it's mute, I will wonder if I got a message and that causes a distraction again. It's quite frequent, but I've learned and I'm better at focusing and not checking my social media," she added.

Based on these findings, common factors behind feelings of FOMO were summarized in Figure 8.

Figure 8: Factors That May Cause FOMO



Source: The researcher (derived from secondary research)

2.8 Mental Health

Mental health is an integral component of health. The World Health Organization (2018) described health as not just an absence of disease, but a state of complete physical, social, and mental well-being. An important takeaway from this definition is that the spectrum of mental health is much wider than the absence of mental disorders or disabilities.

According to the American Psychiatric Association (n.d.), mental health is the foundation for emotions, thinking, communication, learning, resilience and self-esteem, and is also key to relationships, personal and emotional well-being and contributing to community or society. It involves “effective functioning in daily activities resulting in productive activities (work, school, and caregiving), healthy relationships, and ability to adapt to change and cope with adversity”. According to the statistics shared by Our World in Data 792 million people (10.7% of the total global population) suffer from mental health disorders in 2017. These disorders are more prevalent in females, where 11.9% females and 9.3% males are affected by mental health disorders. Anxiety disorders, with 284 million people affected, and depression, with 264 million affected people, are the top two mental health issues (Dattani, Ritchie, & Roser, 2021).

The WHO fact sheet stated that depression is one of the leading causes of disability globally and in severe conditions could lead to suicide, which is the second key cause of death among people

aged between 15–29 years. It also mentioned that between 76–85% of the people with mental disorders get no treatment for their disorder in low and middle-income countries (World Health Organization, 2018). These statistics show that depression and anxiety disorders are major mental health problems and will be focused upon in this study as well.

Anxiety is known as the response of a person's body to worry and fear. Experiencing anxiety is a regular part of life, often felt in trying situations like going through exams and facing critical decisions. But in anxiety disorders, a person's worry or fear is not temporary, as it could grow and become worse with time. Anxiety disturbs their daily activities and relationships. Jill Stoddard, a psychologist, stated that a common entity in all anxiety disorders is avoiding its triggers saying, "For example, people with panic disorder may stop exercising or having sex to avoid increases in negative physiological symptoms; people with agoraphobia may avoid malls, crowds, driving, or flying—any situation where they might have panic symptoms and not be able to escape or get help." (SingleCare, 2021).

The National Institute of Mental Health (NIMH) described depression as a common and serious mood disorder that causes severe symptoms that affect how a person feels, thinks and handles everyday activities, such as sleeping, eating, or working. They noted that a few symptoms of depression are persistent feelings of being sad and anxious, hopelessness, pessimism, irritability, guilt, worthlessness or helplessness (National Institute of Mental Health, 2018). The difference between depression and anxiety is that anxiety is an excessive feeling of worry, whereas depression could be excessive feelings of hopelessness (Holland & Raypole, 2022). There is a possibility that an individual can experience both anxiety and depression simultaneously (SingleCare, 2021).

Due to a social stigma, people suffering from a mental illness often do not talk about it. But one should understand that it is a medical condition, just like any physical health condition. Mental health problems could have different levels of symptoms, intensity, and duration. Where some disorders are mild and restrict our daily life in limited ways, there are some that are severe and may require professional care for the person.

2.9 Young People, Social Media Use, and Mental Health Problems

Dr. Jeffrey Jensen Arnett, a professor at Clark University's Department of Psychology, stated that emerging adulthood is the period of young peoples' life from the end of adolescence to

deciding about a job, love, marriage and parenthood. After interviewing 300 young people (between the ages of 18 to 29) he found, that there are five distinct features of emerging adulthood; identity exploration, instability, self-focus, feeling in between and possibilities/optimism. (Arnett, 2000).

Twenge (2017) stated that on social media, individuals present themselves as self-confident and very optimistic but the truth beneath these happy posts is quite different. The national surveys of American High School students and College graduates revealed that from 2012 and 2015 indications of anger, depression, anxiety, and loneliness has increased significantly in young people. Depression, suicide and self-harming has increased and 56% more teens were stated to have major depression in 2015 than in 2010 (Bethune, 2019).

Chief Executive of the Royal Society for Public Health Shirley Cramer CBE stated that social media has been described to be more addictive than cigarettes and alcohol. She added that when considering young people's mental health issues, it is not possible to ignore the influence of social media because it has so deeply ingrained itself in their lives (Royal Society for Public Health, 2017). Professor Sir Simon Wessely, an ex-president of the Royal College of Psychiatrists, stated in the *Guardian* that researchers still cannot unquestionably say that social media use causes poor mental health, although the evidence is starting to point in that direction (Campbell, 2019).

Social media use and its effects are definitely two-sided. Some studies reveal it to be beneficial, as it is a tool for empowering people in voicing their opinions, and gaining social support from others (Deters & Mehl, 2013; Ball, & Vernon, 2014; Lenhart et al., 2015; Lilley et al. 2014). Social support is another prime factor which influences social media use and mental health relationships. Social media pushes individuals to strengthen their bonds with current friends while also enabling them to develop new online friendships. That may lead to an improvement in their state of social isolation and loneliness, which can in turn improve their satisfaction levels and thus their mental health. Studies note that individuals with low social support are more inclined to struggle from mental health problems such as psychological distress, depression and anxiety (Klineberg et al., 2006; Maulik, Eaton, & Bradshaw, 2011).

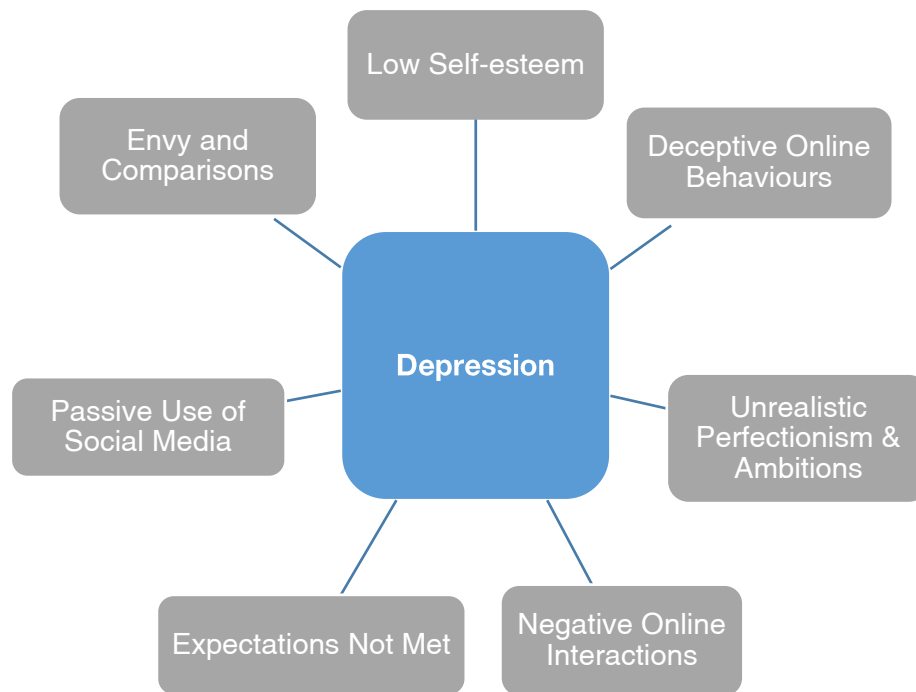
At the same time, studies have also shown an association between use of social media and psychological problems. In the following sections, the researcher identifies links between negative social media use and mental health issues in young people.

2.9.1 Social Media, Depression and Mental Health Problems

According to Qiu, Lin, Leung, and Tov (2012) after browsing on *Facebook*, people who have low self-esteem presume the life of their friends to be better than theirs, which resulted in negative social well-being. Grossman (2017) described that people having low self-esteem could be more prone to engage in deception online and they are at a higher risk of anxiety, depression, and even suicide. Frison and Eggermont (2016) concluded after their study that both active and passive style *Facebook* use relates to the increased incidence of a depressed mood. *Facebook* use can increase feelings of loneliness, depression and anxiety and negative feedback can affect wellbeing and self-esteem (Stapleton et al., 2017; Lup et al., 2015; Grossman, 2017; Baker & Algorta, 2016). Roccaforte, and Cohen (2016) described that the unrealistic perfectionism which is portrayed on social media may lead to feelings of self-objectification, low self-esteem, and unrealistic ambitions among young people which can cause anxiety, depression and other disorders.

Many systematic reviews also pointed out the significant relationship between social media use and depression (Best, Manktelow, & Taylor, 2014; Hoare, et al., 2016). Seabrook et al. (2016) found a correlation between negative online interactions and both anxiety and depression through a systematic review. Grossman (2017) stated that people with a strong wish of social desirability tend to use deception as a way to portray themselves in a favourable light to others. It is significant to identify those individuals with these tendencies, as they will be at higher risk of being negatively affected by social comparisons, dependability on outside validations, and the fear of being left out. Past research associates both depression and anxiety with excessive social media use among young people (Murrieta et al., 2018; Kuss & Griffiths, 2017; Labrague, 2014; Wright et al., 2013). Grossman (2017) stated that the engagement in online deceptive behaviour could very likely result in a person experiencing sadness, hopelessness, distress, anxiety, depression, low self-esteem, and could also lead to substance use and misdemeanors.

Figure 9: Key Factors Contributing Towards Depression



Source: The researcher (derived from secondary research)

The experts had similar views on this topic as well. Psychologist Dr. Gentile stressed that social media use has the potential for the most negative mental health impact on people's lives. It is observed that the messages of being and staying happy from social media users could be pushing viewers into suppressing, and thus hiding, their thoughts and feelings that may be seen as 'depressing' or 'unhappy'.

Mr. Greenspan said that it is problematic that it is not considered okay to share that you are unable to function well. Frequent suppression of emotions can create long term impacts for the person, he stated. "For about 70- 80% of people, it's important to have an outlet to share how they're feeling instead of pretending that everything is okay. If they don't have that and never learnt how to potentially communicate well, they become emotionally intolerant later on."

Mr. Lefebvre added noting that society has developed a belief that it is not okay to feel any unpleasant emotion. If a person actually feels unpleasant but is told by everything around them that they 'shouldn't' feel unpleasant, the difference between 'we should' and the actual self,

causes the suffering, pain and turmoil inside the person. “I believe that emotions all get expressed but if we’re not able to express them when they come up or in the appropriate way, they tend to squeeze out in other ways. Maybe it’s an explosive emotional reaction two weeks later, or getting sick. It can show up in lots of ways, but we don’t get to control how that happens in this way.” This suppression of emotion is a dangerous practice that often progresses from mental torment for the person involved into physical health repercussions.

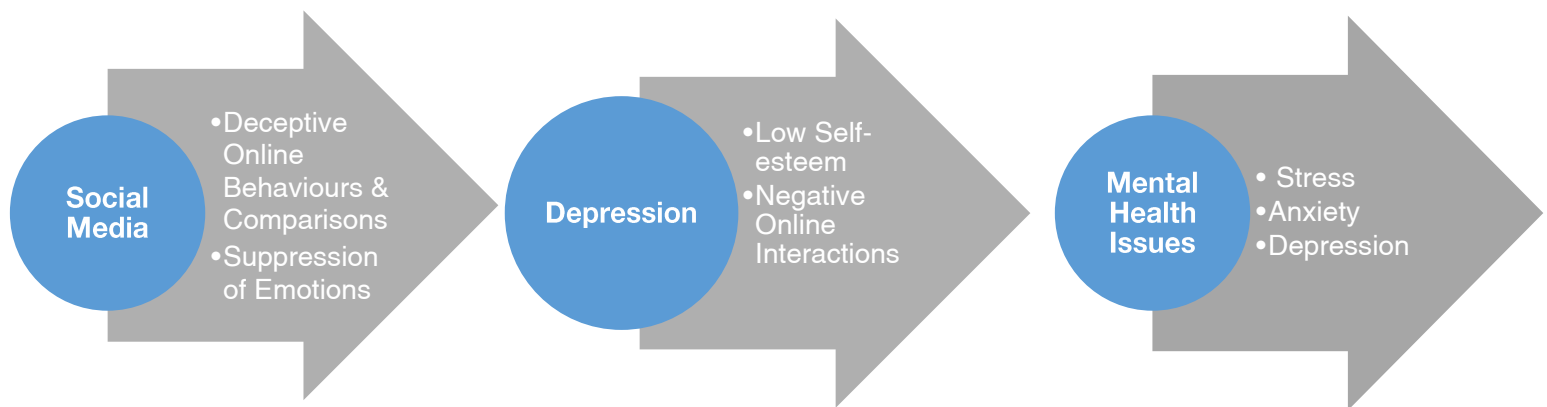
So, what happens when the user gets disappointed with the online engagement they received? Mr. La Follette, a psychologist, said that if the user does not receive the response they are expecting, they get very grumpy with no emotional control because they lack the coping skills. “That’s because all the pain and hurt are coped with a shallow secondary device called social media. If you’re already dealing with social anxiety and past traumas, adding social media to it makes it a very scary cocktail.”

He added that if the person does not find a way to cope with their anxiety, social media has the potential to reinforce that negative belief at their core being over and over again. Mr. Lefebvre also agreed with this, saying that the expectation is a depressive and lowering feeling, posting something with the goal of having a certain amount of likes and shares, and not receiving that, can be very deflating.

Mr. Greenspan agreed, mentioning that it is this sort of instant gratification that leads users to feeling dejected, disappointed and stressed, when their social media interactions fail to yield the expected results. He added to this, and mentioned that people who have anxiety, or who derive worth from their online engagement will have a benchmark raised over their actual likes. “It’s an ever-increasing wedge, and they’ll never really feel satisfied. It’s like an empty shell that props people up for a while and then breaks down again because of that unassured sense of self.”

The researcher deduced from the literature review and interview data that social media could cause low self-esteem, depression and extreme negative self-comparisons which lead to the suppression of feelings, deceptive online behaviours, unrealistic idealization, and a need of validation from others. All these behaviours could lead towards mental health issues like stress, anxiety and depression among young individuals. Figure 10, summarizes the effects of social media use which could contribute to mental health issues among its young users.

Figure 10: Social Media Effects that Could Contribute to Mental Health Issues



Source: The researcher (derived from secondary research)

2.9.2 Social Media, Internet Addiction and Mental Health Problems

Young people, who grew up with the growth of the internet and social media, now experience a host of negative effects from its use, and Problematic Internet Use (PIU) is one of them. It is the uncontrolled use of the internet, specifically sites like *Facebook*, which can lead to substantial psychosocial damages (Liu, Desai, Krishnan-Sarin, Cavallo, & Potenza, 2011). Kuss & Griffiths (2012) defined social media addiction as a form of internet addiction. Individuals spending excessive time on social media develop a habit of being informed of everything immediately, which can lead to developing intolerance and focus issues.

Mr. Greenspan noted that much of social media involves people constantly being rewarded with new, continual information. This never-ending information and increased internet use have recently resulted in more research and reports that in some people internet use is becoming a dependency instead of a habit. That is why researchers have named internet addiction as a behavioral disorder (Kutlu et al., 2016). Iannotti et al., (2009) termed internet use as a sedentary behaviour and its excessive use increases the health problems and risks for the user. Al-Menayes (2015) mentioned that their research discovered that high internet addiction is not only limited to university students, but it also includes secondary and high school students.

Primack et al. (2017), in a national survey of U.S. young people, found that individuals who use 7 to 11 social media platforms have a significantly higher probability of having elevated levels of anxiety and depression symptoms compared with individuals who use 0 to 2 social media

platforms. They concluded that the number of social media accounts being used correlates with anxiety levels.

Prolonged social media use also restrains people from being involved in physical activity. Asare (2015) mentioned that, in young people, inactivity for long periods has a toxic effect on mental health. One study, by the Johns Hopkins University Bloomberg School of Public Health, revealed that young people who spend more than 3 hours a day on social media are vulnerable to depression, anxiety and other illnesses and are more likely to internalize bad feelings about themselves (Riehm et al., 2019).

When the experts were asked about addiction to social media platforms, and whether a person receives a dopamine release from positive engagement on a social media post, all of the experts agreed with the statement. Mr. Gentile stated that dopamine is the neurochemical in our brains that is used to reward us for adaptive behaviour in general. So, any persistent behaviour can be explained on the biological level as the continual release of dopamine. Mr. La Follette mentioned, “Dopamine receptors are the pleasure centres. The part of the brain that is emotion based is connected to the dopamine area, and there’s a constant reinforcement of pleasure.”

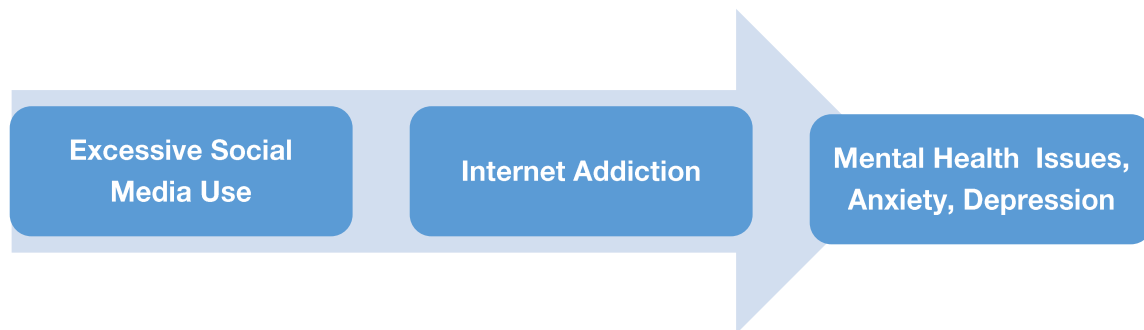
Mr. Lefebvre shared that the likes and engagements act as social rewards that the users collect, which feeds into increased social media use by those users, which is the whole idea behind the design of these social media platforms. He further talked about social media’s addictive nature, mentioning that social media use could be considered an addiction if it is extreme and excessive.

Among the recruited participants, one participant mentioned that she uses social media for more than 4 hours daily. “I think the usage is too much, but I don’t know how to stop. My friends and family use it even more than I do, so I feel the pressure to use it more too,” she shared. One participant mentioned that her use is more than 4 hours as well, and it is usually before sleep. “But I don’t go to sleep because I go scrolling for an hour and a half on *Instagram*. It’s a lot to think that 4 out of 24 hours are spent on social media,” she added. One participant mentioned her daily use is around 3 hours a day, adding that their amount of use is a reflection of how bored she is on a particular day. Another participant shared that they used social media for about 5 hours every day, saying, “It’s the first and last thing I do in a day. I know my usage is a problem. Whenever I’m waiting for something, I pull out my phone and scroll. So, every free moment I have where I don’t have to think about anything, is dedicated to social media.”

When asked if they ever tried to reduce their social media use, one participant shared that she should, but as there are people using it more than her, she believes that she is okay. Another participant shared that she wants to as she recognizes that meeting people is better for her health. She adds, “Our generation is said to have a lot of other psychological issues because of the exposure to social media and internet. Children who can’t even read can already use social media.”

After compiling the literature review and primary research, the researcher is of the view that internet addiction is one of the major negative effects of social media use among young individuals and it is also a source of mental health problems like stress, anxiety and depression. This link is represented in Figure 11.

Figure 11: Link between Social Media, Internet Addiction and Mental Health Problems



Source: The researcher (derived from secondary research)

2.9.3 Social Media, Disturbed Sleep and Mental Health Problems

The connection between social media and mental health problems is complicated, and a contributing factor is disturbed sleep. Until recently, the relationship between sleep and social media stress is supported through the theoretical understanding of the association between social media use and sleep, such as sleep disturbances, screen light exposure and raised alertness levels (Cain & Gradisar, 2010; Xanidis & Brignell, 2016). Social media use frequency is linked with more sleep disturbances, which includes more difficulty in falling asleep and low sleep quality (Levenson et al., 2016).

Social media use and sleep disturbances show consistent, considerable, and progressive associations, and have significant clinical consequences for the well-being and health of young people (Levenson et al. 2016). A worldwide survey of more than 16,000 students between the

ages of 17–30 showed a connection between fewer hours of sleep and poor health reporting (Steptoe, Peacey, & Wardle, 2006). Poor sleep can lead to poor mental health conditions, similarly poor mental health conditions can lead to poor sleep (Mind, 2002). Foldvary-Schaefer (2009) stated that sleeping problems can increase anxiety levels and panic attacks. The risks associated with sleeping less than 7 hours a night are associated with mental as well as physical health conditions as there is a greater risk of diseases of the heart, kidney, lung, as well as decreased weight control, obesity, mood swings, slowed reaction times, depression and some forms of cancer (Colten et al., 2006; Nutt, Wilson, & Paterson, 2008).

Lemola (2015) mentioned that young people usually keep their phones in close proximity while sleeping and may experience stress which can affect their sleep. Sleep quality and duration can also be affected by the extent of worry and anxiety which arises from online experiences. Sanford, Suchecki, and Meerlo (2014) explained the negative impact of reduced sleep and stress as it triggers various neurotransmitters and as a result stress hormones are released. Increased stress hormone (cortisol) levels have been linked with a consequent decrease in sleep duration (Zeiders, Doane, & Adam, 2011). The consequences of less sleep are, among others, greater risk of mood swings, slowed reaction times and depression. Moreover, rumination, wondering or getting lost in thoughts, which is a common technique to manage stress, has been related to an increase in sleep latency which is the time between bedtime and sleep inception (Pillai et al., 2014) and daytime sleepiness (Matthews et al., 2016).

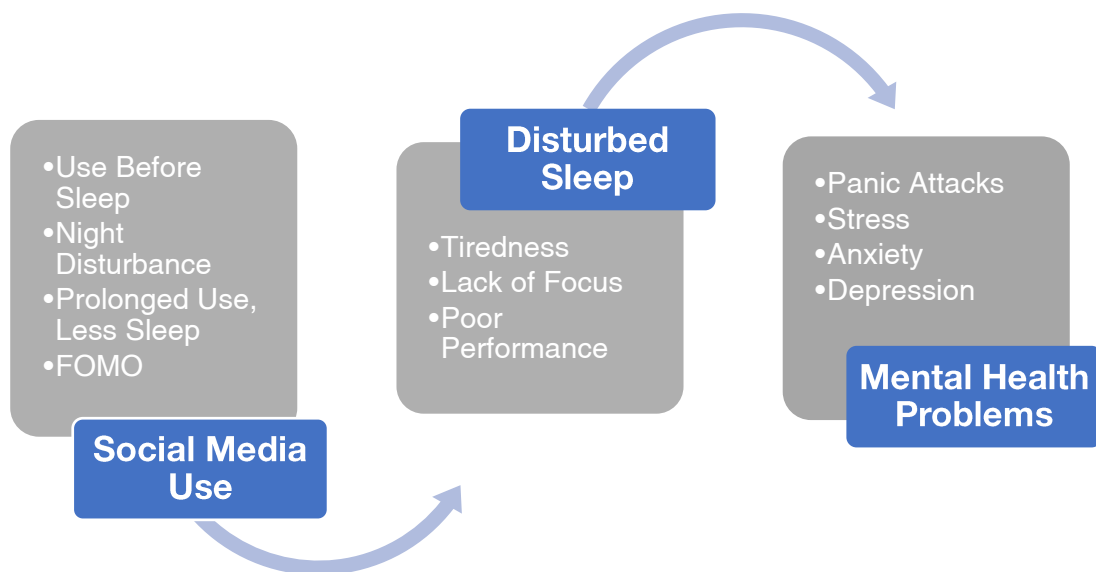
A number of participants noted that they often use social media to procrastinate and avoid going to sleep, and the researcher asked if they ever lost out on, or disturbed, their sleep through the use of social media, and how this affected their life. One participant noted that she goes to bed later at night when she uses social media, so it delays her sleep. She added that she gets less sleep when that happens, and has missed classes because of this. Another participant shared that she is usually on her phone before bed and sometimes ends up staying up late because she gets interested in something.

Another participant shared similar thoughts, noting that she uses social media at night, and finds it difficult to go to sleep immediately after because the light is right in her eyes: “So usually I don’t sleep enough and end up tired and angry because I was supposed to sleep and couldn’t. It’s hard,” One participant said that if he is watching a *YouTube* video in the night, he feels tired the next day even if he gets 8 hours of sleep. This led to another question, which was if the

participants had been through an instance where their social media use directly affected their physical or mental health. One participant shared that a lack of sleep affects both her mental and physical health. Another participant mentioned that in the past, missing out on activities with friends made her feel like she didn't belong. One participant shared that without a good night's sleep, he felt unfocused.

The researcher deduced from the primary research and the literature review that social media use can disturb sleep patterns, and as a result this could lead to mental health problems in users, which is represented below in Figure 12.

Figure 12: Link between Social Media, Disturbed Sleep and Mental Health Problems



Source: The researcher (derived from secondary research)

2.9.4 Social Media, Cyberbullying and Mental Health Problems

Numerous studies suggested an association between social media use and externalizing problems, like bullying and attention deficit problems (Galica et al., 2017, Ra et al., 2018). The Royal Society for Public Health & Young Health Movement mentioned anxiety, cyberbullying and FOMO as three major negative side effects of social media. According to their findings, the prevalence of anxiety disorders and depression has risen by 70% in the past 25 years (Royal Society for Public Health, 2017). A study published in the JAMA Psychiatry journal stated that the time spent using social media may increase the danger of experiencing cyberbullying, which in turn has a strong association with symptoms of depression (Williams, 2019).

The effects of bullying, such as mental health issues, problems in educational and social relationships, self-harm and feelings of loneliness have long-lasting effects (Scott, Dale, Russel, & Wolke, 2016). The survey results of individuals being bullied showed that bullying contributed in their negative mental health. In the survey, 44% of the victims felt anxious, 36% felt depressed and 12% reported to have developed antisocial behaviours (Ditch the Label, 2020). So, the researcher found from the literature review that cyberbullying is a key negative effect from problematic social media use pushing the users towards low self-esteem, antisocial behaviours and mental health issues such as anxiety and depression.

Figure 13: Link between Social Media, Cyberbullying and Mental Health Problems



Source: The researcher (derived from secondary research)

2.9.5 Social Media, FOMO and Mental Health Problems

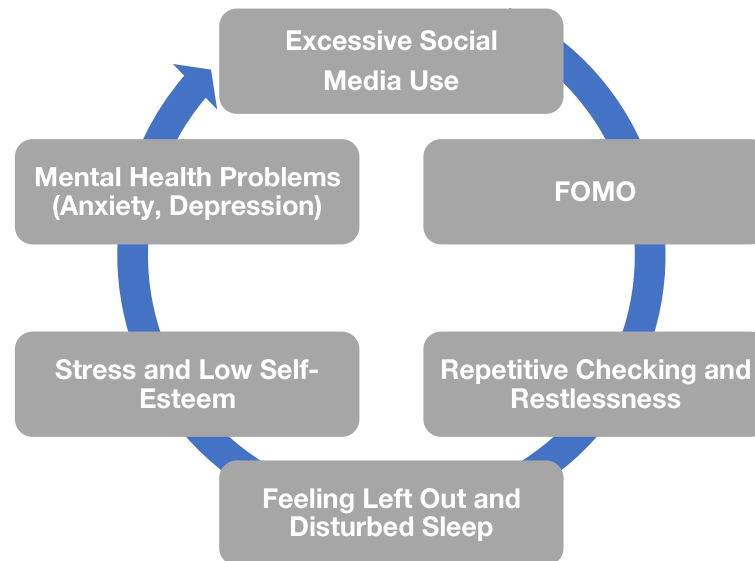
Several studies associate social media use with the Fear Of Missing Out (FOMO) which may result in anxiety and depression. Graham (2018) noted that people with a strong desire to keep themselves informed about activities of their peers report a lower level of life satisfaction. He adds that FOMO often leads to feelings of anxiety from the repetitive checking of social media updates. FOMO is also connected with signs of depression and apprehensive attention, which are indicators of poor emotional and mental health.

During the expert interviews, Dr. Gentile saw a potential connection between social media and FOMO. He noted that because the user sees people doing these amazing things that they themselves want to do but cannot, they feel they are not able to do everything, and hence, end up not doing anything out of feeling overwhelmed. He mentioned the fear of missing out could be potentially exacerbated by social media, and affect people negatively, which in turn could have an effect on social anxiety. Mr. Greenspan also saw a strong connection of FOMO with Attention Deficit Hyperactivity Disorder (ADHD), saying that difficulties in focusing and concentrating due to worrying over what their friends are doing while they themselves have to study or sleep are

indications of other behaviours like ADHD where people have an impulsiveness to want something immediately.

In Figure 14, the researcher notes the cycle derived from the literature review and interview data, as to how social media use, and FOMO as one of its resultant effects, contribute towards mental health problems such as stress, anxiety, and depression.

Figure 14: Link between Social Media, FOMO and Mental Health Problems



Source: The researcher (derived from secondary research)

2.10 Social Anxiety Disorder

Social anxiety disorder, also referred to as social phobia, is a mental health condition. It is termed as an extreme fear and avoidance of social situations where there is a probability of scrutiny or rejection by others (Kashdan & McKnight, 2010). Dr. Thomas A. Richards, a psychologist and the director of the Social Anxiety Institute, states that social anxiety can be termed as the fear of being judged and negatively evaluated by other people, leading to feelings of inadequacy, inferiority, self-consciousness, humiliation, and depression. (Richards, n.d.). According to the American Psychiatric Association (1994), social anxiety refers to certain fears of situations which involve social interactions or performances, or circumstances in which there is the possibility of scrutiny by others.

Rapee & Heimberg (1997) stated that social anxiety is a marked fear of situations which involve social interaction, due to feelings of being negatively evaluated, judged, or rejected. In most

cases this fear results in negative effects on the work, relationships, and other routine activities for the person going through it. Richards (n.d.) states that when a person experiences anticipatory anxiety, worry, indecision, depression, embarrassment, feelings of inferiority, and self-blame in many parts of a person's life, some form of social anxiety exists. The Anxiety and Depression Association of America (ADAA) termed social anxiety as America's second biggest diagnosed anxiety disorder, stating that approximately 15 million people are affected by it (Anxiety and Depression Association of America, 2021).

According to Anxiety Canada, when an individual finds themselves in a feared social setting, they are likely to experience physical symptoms like nausea, dizziness, blushing and sweating. To avoid these sensations, the person relies on 'escaping' such social situations. If they do end up in such social situations, they act inconspicuous to avoid drawing attention, like speaking only when spoken to, sitting in a corner of the room and avoiding eye contact with others (Anxiety Canada, n.d.). As Anxiety Canada states, these individuals end up focusing their attention on themselves during social situations, with persistent thoughts like "They wouldn't like me"; "I'll offend someone"; or "No one wants to talk to me". Extreme cases result in withdrawal from all social interactions including friends and family (Langlois et al., 2012).

According to Qiu, Lin, Leung, and Tov (2012) after browsing on *Facebook*, people who have low self-esteem presume the life of their friends to be better than theirs, which results in their negative social well-being. Shaw, Timpano, Tran, and Joormann (2015) performed a study that explored the connection between students' *Facebook* use style and social anxiety. Individuals having high levels of social anxiety symptoms used *Facebook* in a more submissive style such as viewing profiles of others without any interaction. Researchers suggested that passive *Facebook* use may increase symptoms of social anxiety by developing different interpersonal fears in individuals like feeling left out and comparisons with others.

During the expert interviews, psychologist Dr. Gentile described social anxiety as an anxiety associated with social scenarios, which is usually related to the perception that the person will be judged negatively by others. This causes psychological distress to the person and an imbalance in their life. He added that it also has to deal with the avoidance of, or escape from, certain scenarios in their life, as touched upon earlier. Mr. Grauwiler added that it basically is an inability to function, whether it is with another person or environmentally. This includes

experiencing social anxiety in something as seemingly simple as making a phone call as there is still a social element to it.

Mr. Greenspan noted that many of these fears and worries also apply to the person's social media use, which may make them adopt a docile presence online and engage in passive online activity. "It's just the inability to function within what are known as social norms for people: not being able to make a phone call, go out in public and be with people," Mr. Grauwiler added, "This ultimately goes back to isolating. When we look at personality theory: whether a person is an introvert or extrovert, when they're around people they have to hide, run and isolate themselves."

In regards to how a person may develop social anxiety, Dr. Gentile said, "With any mental illness or psychological diagnosis there's a combination of genetic or inherited predisposition towards that as well as environmental factors that impact the development of social anxiety. The critical factor that makes the difference between someone who is socially anxious in any given moment vs. someone that ends up developing a social anxiety disorder has to do with avoidance and escape behaviours."

Mr. Grauwiler observed that the turns of ordinary life, financial challenges, relationship disintegration, and transience can all exacerbate existing anxious feelings. Mr. Greenspan talked about this fear of being vulnerable, "When a person first expresses their feelings, the way those feelings are reinforced or received would really dictate whether they're suppressed or not. If they get positive support for it, they may share their feelings more and if they are reprimanded for it, they would be likely to not share their feelings again."

This, again, leads to avoidance behaviours, Mr. Lefebvre states that the difficulty with being vulnerable leads to avoiding certain situations, which leads to more anxiety. He said that is because the person does not do the very same thing that is needed in order to learn that they can be safe in that situation. Thus, avoidance is at the heart of anxiety, he said, and being unable to be vulnerable would lead to avoidance in many cases.

2.10.1 Young People, Social Media Use and Social Anxiety

It can be said that online interactions for individuals with social anxiety are usually more anxiety-inducing. McCord, Rodebaugh, and Levinson (2014) mentioned that individuals with higher social anxiety are more likely to feel anxious when engaging on sites like *Facebook*, when compared with using it passively. Furthermore, Erwin et al. (2004) stated that during online

interactions, users often display high incidences of passive online activity, a fear of negative assessment of their online engagements, and distress over being judged during their online interactions. Another study by Shaughnessy et al. (2017) revealed that people who experience high levels of social anxiety report heightened anxiety when faced with online interactions. Hence, they often choose to use online communication means that lends them anonymity and a delay between communicative exchange, like choosing texting or email over a phone or video call.

Interactions today mostly take place on social media. New social media trends emerge every day and we witness a slew of similar content being created, all because everyone else is doing it. Festinger (1954) described in social comparison theory that people have a tendency to compare themselves to others to evaluate their own capabilities. The influence of social media on mental health of individuals differs, some individuals compare themselves to inferior performers, which is known as downward social comparison, and some make higher performers their reference point, called upward social comparison.

Young people interacting with social media experience multiple problems in connection with its habitual use. Zakri (2015) stated that the signs of social anxiety usually show themselves in adolescence but mostly are not diagnosed and treated. Some studies have suggested that over 30% of college students are currently depressed (Bettmann, Anstadt, Casselman, & Young, 2020). Existing research also showed that in comparison to the general public, college students have consistently higher rates of social anxiety (Parade, Leerkes, & Blankson, 2010). Brook and Willoughby (2015), noted that students experiencing social anxiety find it difficult to form the social connections required for academic success. They concluded that the fear of interaction and being negatively gauged by others, which socially anxious individuals constantly experience, can hinder them from engaging with their academic community successfully.

Anxiety can have damaging effects on the lives of young people due to an overwhelming worry and panic. Anxiety could be diagnosed as Obsessive-Compulsive Disorder (OCD), Generalized Anxiety Disorder (GAD), Panic Disorder or Social Anxiety Disorder (National Institute of Mental Health, 2018). Vannucci et al, (2017) stated that enhanced social media use may result in an increased possibility of experiencing anxiety disorders. Tandon et al. (2020) found that compulsive social media use is connected with anxiety and depression.

This topic was also discussed with the recruited participant interviews, where it was asked if the person had ever posted about a failure, feeling sad, or been emotionally vulnerable on social media, and how that experience made them feel. One participant said that she is extremely against that, so she never even considered it. Another participant mentioned that her image is that of the fun one, so she would not be posting something sad. “And if I do, it wouldn’t be a permanent post, but something on my story. People reach out if they feel the need to, and it disappears after 24 hours. I don’t post this on my actual feed because the way I am as a person, I get through and move on from the sad and unfortunate events in my life,” she said. One participant shared that she does not share sad thoughts, not because she doesn’t want people to see her sad, but out of concern that her sad thoughts might make someone else sad. “It’s more to not impact another person than not showing my true feelings,” she noted.

The participants were then asked if they have ever stopped themselves from posting anything on social media, due to a fear of being judged or getting embarrassed. One participant shared that she sometimes wants to be “silly” online, but changes her mind after rewatching it. “Sometimes if my picture doesn’t get a lot of likes, I feel it’s not worth keeping up,” she said. Another participant mentioned that she likes a lot of her photos personally but thinks that her followers might not like them or understand them, so she deletes it or doesn’t post it. She believes it comes from doubt and a fear of getting negative feedback. One person mentioned that she does that for a post that is about political or environmental issues, and there is a chance that some people might comment on it. She says that for an issue, that people would either be against or supportive of, would make you fear their judgment if you post your stance on it on social media. “If it’s too sensitive, I’m not prepared to respond to people on it.” All the answers in the affirmative hint at some form of the symptoms of social anxiety, as seen in the participants’ apprehension, fear of judgment and having to confront or be answerable to people.

The participants were then read a definition of the term social anxiety, and asked if they have ever experienced it during their social media use. One participant shared that yes, he has, as he was going to make a *YouTube* channel, but he stopped himself for embarrassment and fear of not getting enough views and likes. Another participant said that in terms of her posts’ likes and comments, she might sometimes think that people don’t like them or that they are weird. She thought that it is a form of social anxiety because she would be thinking of what others are thinking of her based on that post, which is an indicator of social anxiety. One participant

wondered if she does not post because she fears being judged. “Maybe I fear how people would react to this version of myself that they see. How would a not-positive response affect me? So that fear might affect what I post, so I don’t post at all,” she shared. This again hints at socially anxious behaviour, and a pattern of passive social media use.

The researcher then summarized the findings from the primary data and the literature review in the figure below and showcased the connection between the individuals who are anxious, their social media use patterns and resultant social anxiety.

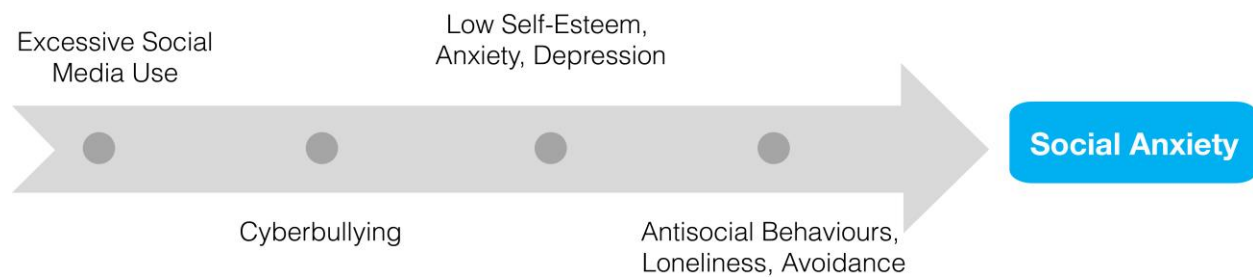
Figure 15: Connection of Social Anxiety and Social Media Use



Source: The researcher (derived from secondary research)

When there is a “cyber curtain” of anonymity, which acts as a shield for online interactions, people often say or share things about others which they would never say in real life, which can lead to increased incidences of harassment, bullying and humiliation, and this can push the individual towards developing social anxiety. Hinduja & Patchin (2010) mentions that cyberbullying, due to its common nature on social sites, can happen to any young person who is online, and it can lead to dangerous psychosocial outcomes such as severe isolation, anxiety, depression and, in extreme cases, suicide. The researcher, in the figure below, shows a link between social media use and the probability of cyberbullying and its resultant effects which could lead the person to develop social anxiety.

Figure 16: Link between Social Anxiety, Social Media and Cyberbullying



Source: The researcher (derived from secondary research)

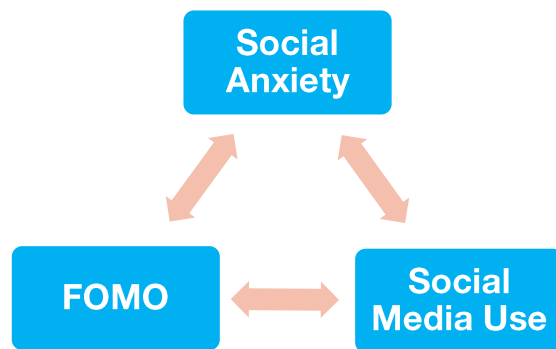
Research indicates that the fear of missing out could have roots in unhappiness and dissatisfaction of life and also these feelings could drive a person towards excessive social media use (Przybylski et al., 2013). Oberst et al., (2017) noted that higher social media use can lead to increased FOMO and stress. Dempsey et al., (2019) concluded from their research findings that as a compensatory process, individuals with social anxiety could be inclined towards Problematic Facebook Use (PFU) and, as a result, higher FOMO.

Mr. Greenspan explained the difference between FOMO and being socially anxious. “If somebody is clinically socially anxious, they’re not going to go to an event and going to find a reason to avoid it. Whereas, someone who has a fear of missing out may not like going to the event but they’ll still go out of a social pressure of being there.” He restates, there is a big difference between the fear of missing out and social anxiety, as in the feeling of not going and wondering what you missed versus the feeling of how you would react or how the people there would accept you, tolerate you, or even want you there.

He does, however, say that social anxiety can exacerbate the fear of missing out especially when so much of what the person missed out on can be seen through the posting, talking, liking and commenting online. There has always an “I should have been there” feeling in the person’s mind. Thus, he views FOMO as an after effect of social anxiety.

Figure 17 represents the interdependency between social media, social anxiety and FOMO. The researcher deduced from the primary research and literature review that excessive social media use could be a factor in a person experiencing FOMO. Also, individuals with social anxiety lean towards heavy use of social media where they are exposed to FOMO, which could further enhance their anxiety and depression levels, adding to their state of social anxiety.

Figure 17: Connections between Social Anxiety, Social Media Use and FOMO



Source: The researcher (derived from secondary research)

2.11 Existing Design Work on Mental Health and Social Anxiety

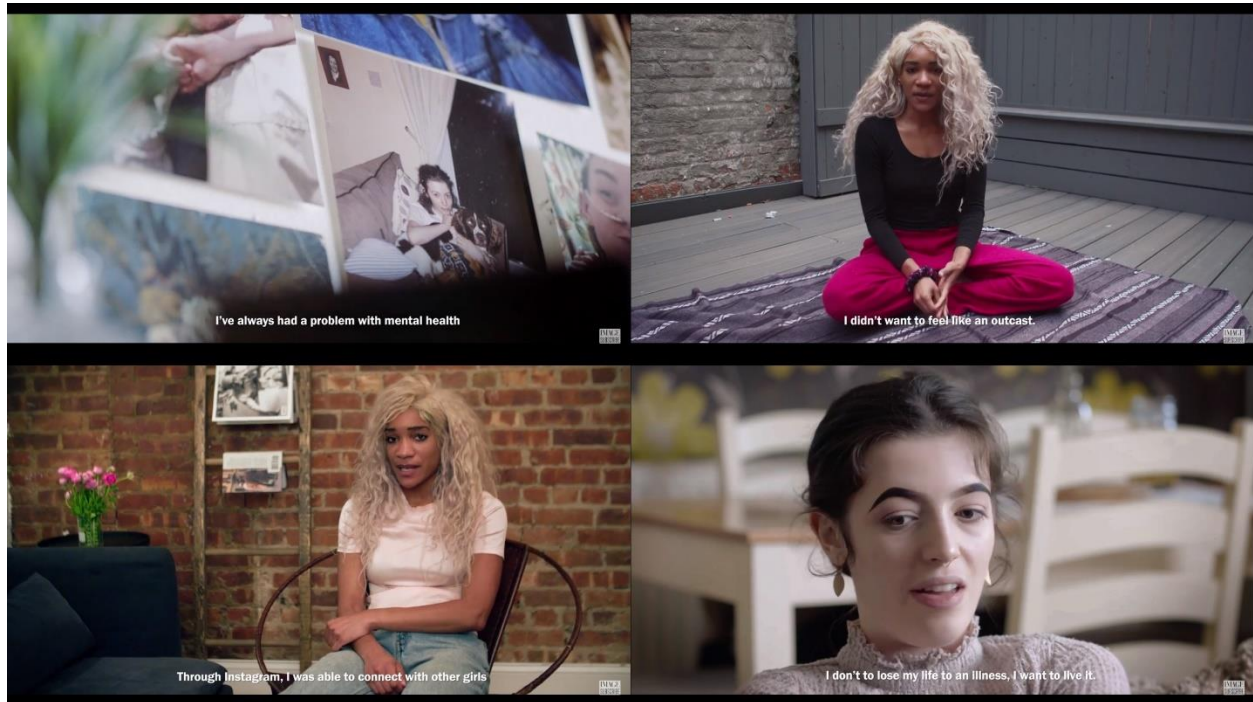
As part of the secondary research, the researcher referenced a range of effectively executed design work on the topic of mental health and social anxiety. The researcher found a number of effective design work which employed the use of visuals, words and ideas to portray mental health issues. The works were created over various mediums including animated videos, short films and advertisement campaigns.

#HereForYou – Instagram

<https://www.youtube.com/watch?v=5h-s9xUPvGA>

In past studies, social networks have been positively used for identifying depression among students who generally show depressive indicators on *Facebook*. According to Kraut et al. (1998) social networking sites could be an innovative source of detecting people who are at risk for depression. As mentioned earlier, *Instagram*, which is owned by *Facebook*, has proven to be one of the social media platforms with the fastest growth over the past 10 years. As stated by Keane (2022), the large number of people turning to social media to look for mental health support inspired *Instagram* to launch its #HereForYou campaign in 2017. “It was intended to encourage the existing community of people on *Instagram* to better support one another and find the appropriate help, spreading their support wider”, she says.

Figure 18: Screenshots from #HereForYou



Source: YouTube/Image Media

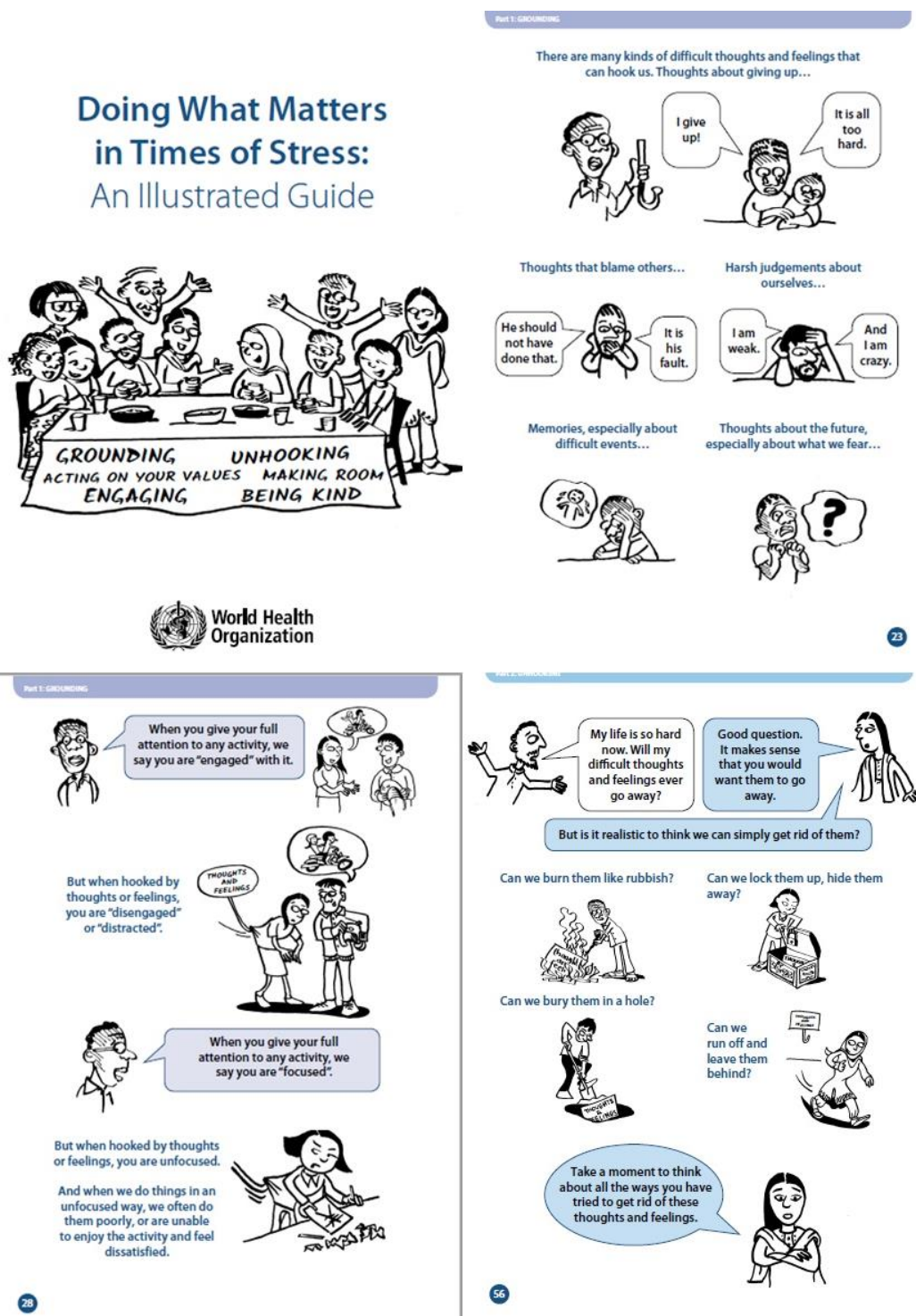
According to Khoo (2017), the campaign not only brought awareness to mental health issues, but it also highlighted people on *Instagram* who were helping others by sharing their personal struggles with mental health, like eating disorders, depression and suicidal thoughts. This encouraged other viewers and users to feel a sense of support in opening up and sharing their own stories of mental health struggles, as well as make use of the resources of support provided by the online community (Khoo, 2017).

Doing What Matters in Times of Stress: An Illustrated Guide – WHO

<https://www.youtube.com/watch?v=E3Cts45FNrk>

This design project by the World Health Organization (WHO) is a guide which aims to equip readers with practical skills to help cope with stress (WHO, 2020). Published in April 2020, this guide showcases different hypothetical situations that may cause stress and suggestions on how to react in said situations. Some of these situations are also supported by metaphorical examples and comparisons, which gives the viewer a different perspective to think with.

Figure 19: Pages from *Doing What Matters in Times of Stress: An Illustrated Guide*



Source: WHO

It comprises of five sections all of which dealt with a different technique to overcome stress through easy-to-understand illustrations and provides an added convenience of being available to read in 15 different languages. It was released during the peak of the global COVID-19 pandemic which made it even more topical. To provide a more widespread awareness about the guide, an animated video was released in November 2020 which gives a brief introduction to the guide and a short overview of its contents.

I Had A Black Dog, His Name Was Depression; Living With A Black Dog – Matthew Johnstone

<https://www.youtube.com/watch?v=XiCrniLQGYc>

<https://www.youtube.com/watch?v=2VRRx7Mtep8>

“The Black Dog” is a metaphor for depression popularized by Sir Winston Churchill. (Drinkwater, 2009). Matthew Johnstone, who has himself dealt with depression, wrote and illustrated a book called “I Had A Black Dog, His Name Was Depression”. The book features a sad looking black Labrador hanging around the protagonist, signifying a physical presence of the affliction and it offers a compelling account of depression. The colours used in the illustrations are subdued, which help in setting up a glum visual aesthetic for the book.

Figure 20: Screenshots from *I Had A Black Dog, His Name Was Depression*

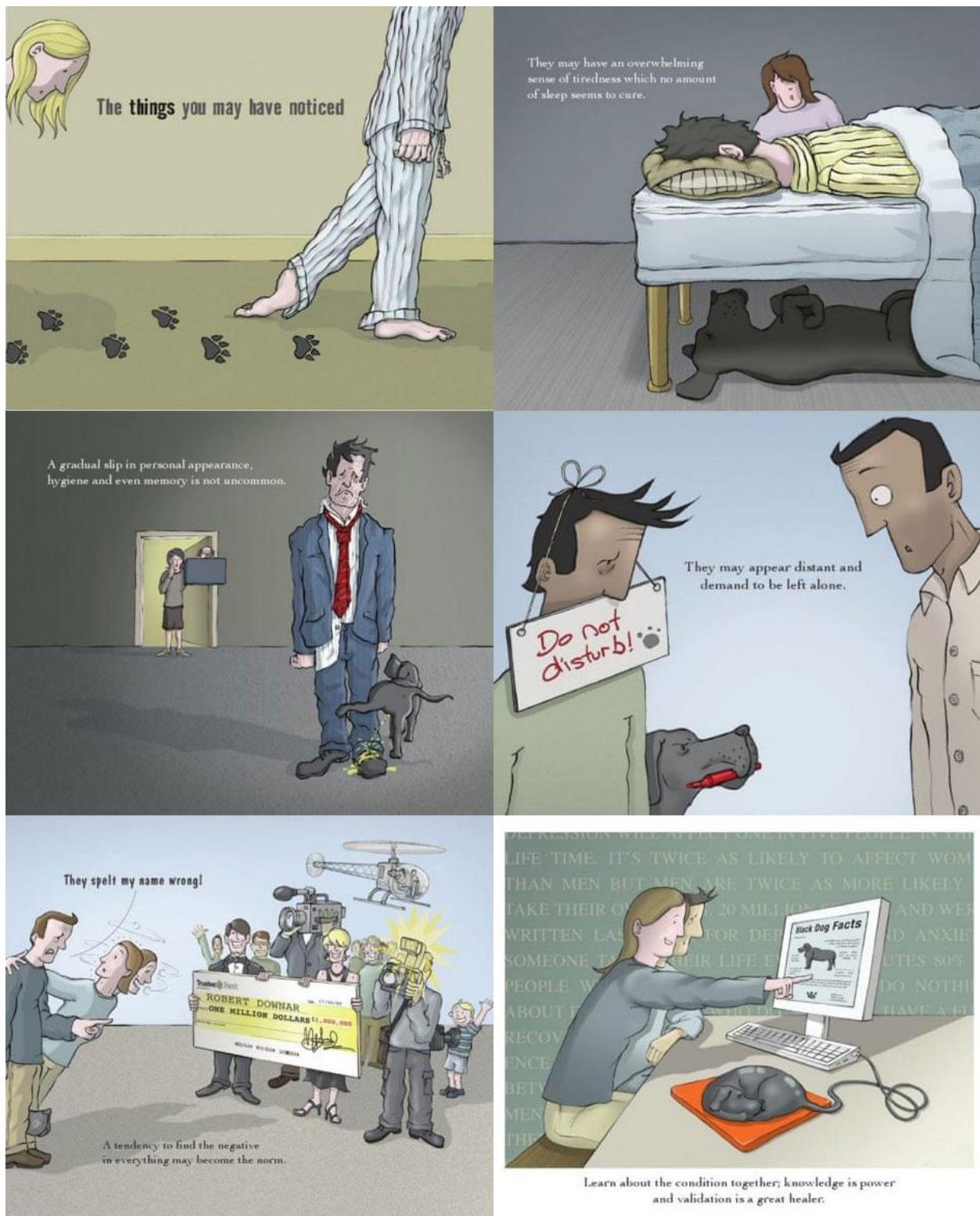


Source: YouTube/WHO

Johnstone talked about how his books offers a different approach than traditional self-help texts, saying “People who are depressed find it hard to concentrate, so a picture book makes this complex subject much more accessible.” (Drinkwater, 2009).

Recognizing and acknowledging that one has a mental health issue is the first step towards recovery, and this what Johnstone emphasizes upon in his follow up book titled “Living With A Black Dog”. What sets this book apart is that it, in some parts, addresses the caregivers of the depressed person, who may be able to detect the signs of depression in their loved one and how they could then help.

Figure 21: Pages from *Living With A Black Dog*



Source: *The Guardian*

The book emphasizes on the importance of sharing one's feelings with people who are close to them, as Johnstone says that "It's important that people talk about their feelings in facing up to their problems. It's important to realize that they are not alone." (Drinkwater, 2009). This book uses the same muted colours, illustration style and visual aesthetic as the first one.

Johnstone also partnered with the WHO to create voice-narrated animated video versions for both of his books, where the visuals from the books were animated. The two videos together have over 12 million views on *YouTube* thus far.

Overcoming Bad Inner Voices - The School of Life

<https://www.youtube.com/watch?v=gGuZVuUBeiQ>

This animated video focuses on lowered self-esteem and anxiety by looking at the inner dialogue and voices that run through a person's mind. The video shows that the mind has both negative and affirmative voices running through it. It goes on to take a look at how these voices are produced, what might be the sources, and an emphasis on focusing upon and surrounding oneself with self-affirming and accepting relations to overcome the adverse inner voices.

Figure 22: Screenshots from Overcoming Bad Inner Voices



Source: YouTube/The School of Life

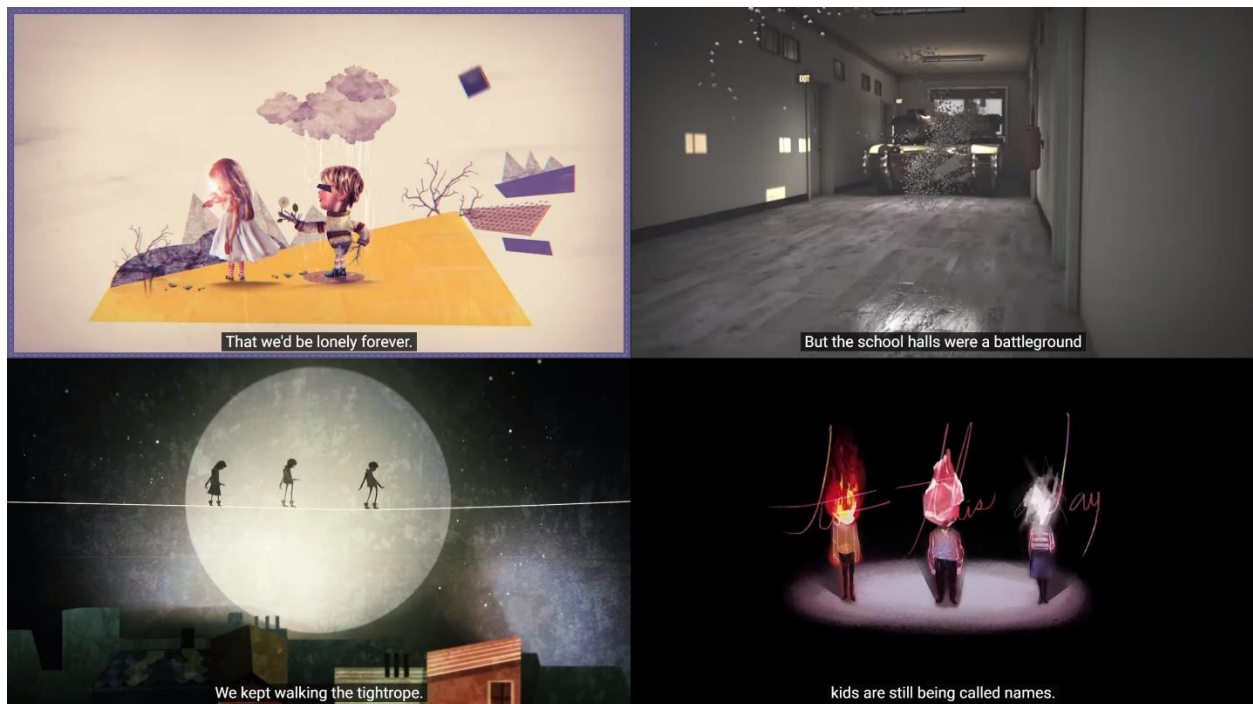
The colour palette is largely toned down, with some pops of bright colours which add visual value to the overall video. The fluid animation in the video, as well as the concise information provided by the voice narration helps deliver the sensitive message effectively.

To This Day Project – Shane Koyczan

<https://www.youtube.com/watch?v=ltun92DfnPY>

The effects of bullying can last a lifetime, and have the potential to taint the survivor's image of their self, as well as the way they form relationships with others around them. Emotional and mental wounds take effort and time to heal and move on from, and for some individuals, it is a lifelong struggle. Based on the subject of bullying, Shane Koyczan collaborated with 86 animators worldwide to create a seven-minute video for “To This Day”, his spoken-word poem about surviving childhood bullying (Samson, 2014). Since its release on *YouTube*, the video has received over 24 million views and paved for the launch of the To This Day Project, which features a website, a TED talk, an iPad app, and an illustrated book.

Figure 23: Screenshots from To This Day



Source: YouTube/Shane Koyczan

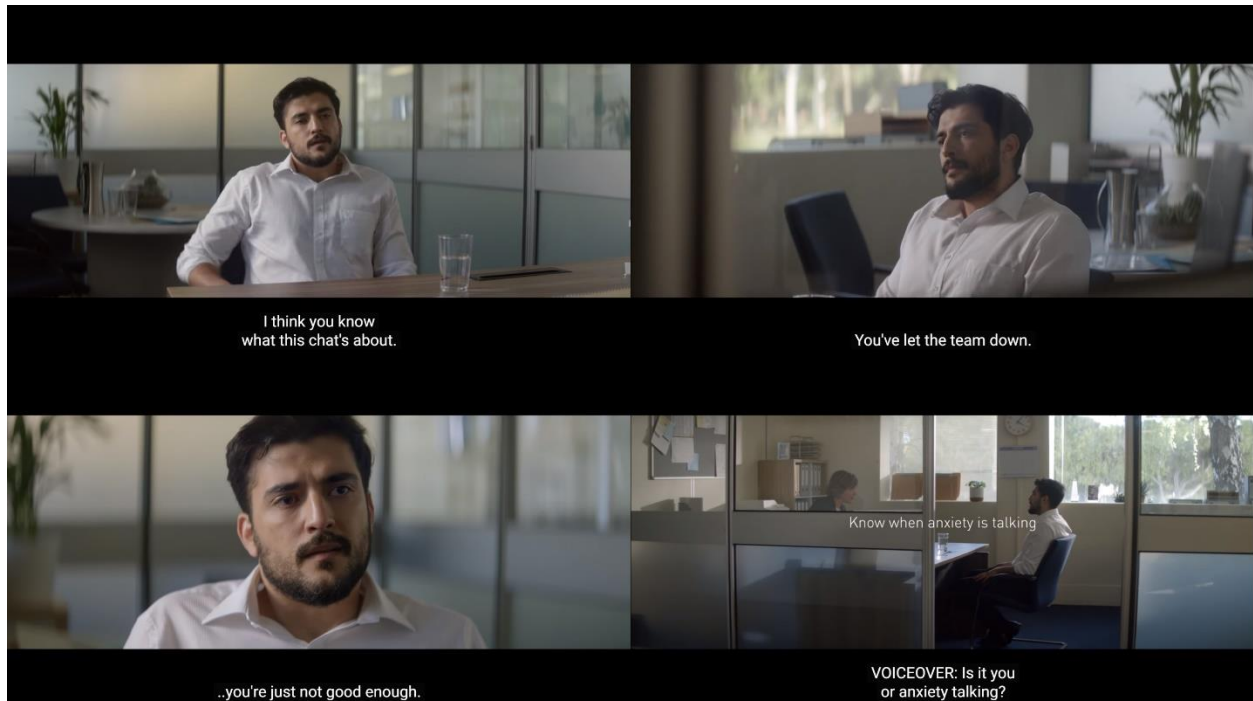
Suhay (2013) notes that the touching spoken word poem by the Canadian poet takes the viewer “on a journey of past and present to show us what may haunt children, from the classrooms and other bullying grounds, into adulthood.” Koyczan makes it a point to stress throughout the work how being called ugly names affects a person in a painful way (Suhay, 2013). He takes inspiration for the work from his own life experiences as well as others he knows, and the overwhelming online responses through comments, views and likes shows the emotional resonance the poem has with survivors of bullying.

Know When Anxiety is Talking – BeyondBlue

https://www.youtube.com/watch?time_continue=60&v=vjxhq5QJBU

The Australian mental health organization BeyondBlue focused on social anxiety in their campaign titled “Know When Anxiety is Talking”. The 60-second commercial shows a man sitting in an office meeting room as his anxiety begins to tell him why he is not good enough. “The bottom line is....you’re just not good enough, you are a failure, just because you have a young family that’s no reason to keep you on,” the protagonist’s anxiety voices (Dawson, 2017).

Figure 24: Screenshots from Know When Anxiety is Talking



Source: YouTube/ BeyondBlue

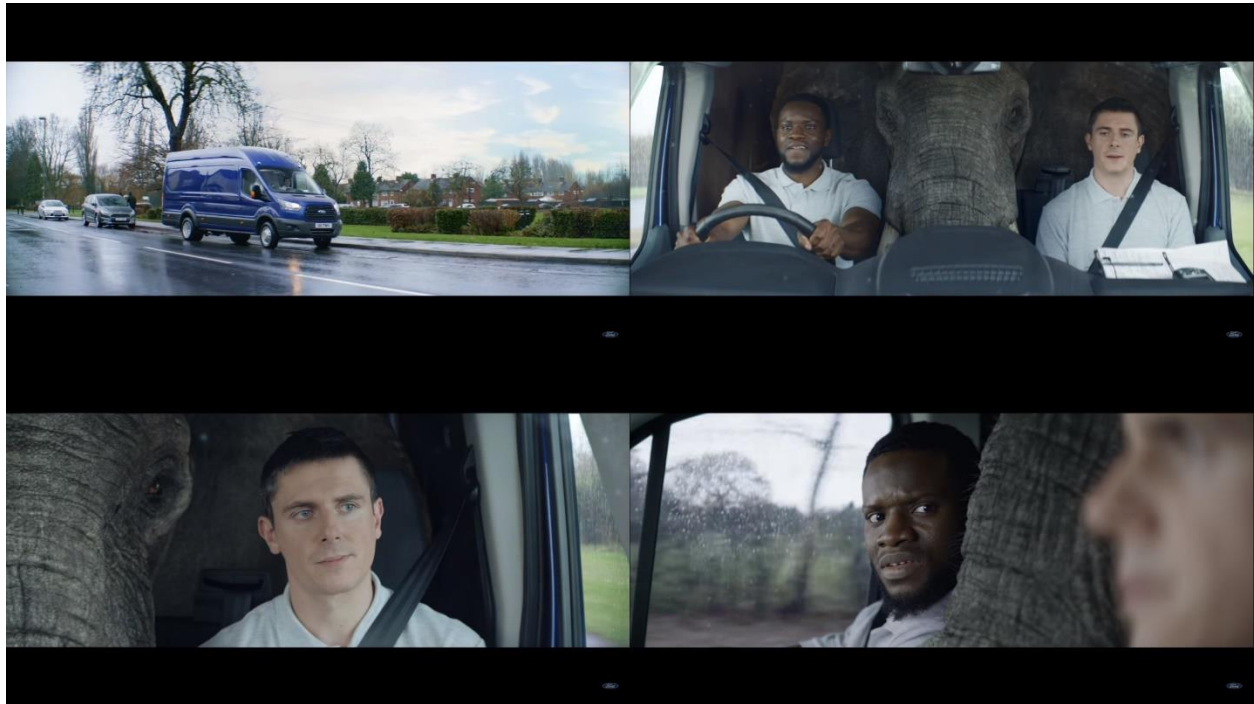
The planning director of Clemenger BBDO, the creative agency behind this commercial, mentions that “Anxiety is not stress, despite them often being lumped together. Strategically we had to find a way to separate anxiety from the individual and showcase what makes it distinct from a common stress response.” They also mention that people tend to believe that the anxiety they are experiencing is just stress, and fail to recognize its reality. The campaign was also designed to help viewers “recognize the symptoms and start dealing with the issue earlier.” (Little Black Book, 2017)

Elephant in the Transit - Ford UK & Time To Change

<https://www.youtube.com/watch?v=tk9KKyogY7w>

Yet another great advertisement aimed to start dialogue on mental health was by Ford UK and Time To Change, titled “Elephant in the Transit”. The video ad shows two men sitting side-by-side in a Ford van when the driver asks his friend if he’s “still on for Friday night?” His friend, the passenger, offers a rather muted, non-committal response (Lyons, 2018). At this point, rather than ignoring it, the driver pulls over and asks his companion what is wrong, leading to a conversation that could potentially save the other’s life (Cleeton, 2018). Sitting, in the back, between the pair is an elephant, which symbolizes the unspoken words between them, and “the fact that mental illness affects one in four people at some point in their lives yet many are reluctant to speak out about it.” As soon as the friend turns and says “talk to me mate”, the elephant leaves the van, symbolizing the relief of a weight from the van and the person suffering (Lyons, 2018; Cleeton, 2018).

Figure 25: Screenshots from Elephant in the Transit



Source: Youtube/Ford UK

The idea of using two young men travelling in a transit van came from the fact that men, in particular, often struggle to talk about mental health and suicide is the biggest killer of men under the age of 45. The campaign was designed to strike a chord with the millions of men who travel to and from work every day, urging them to start a conversation while in the safe space of a vehicle (Lyons, 2018). Through Ford's research for this campaign, they found that out of over 2000 people, 53% of respondents would have talks in their car or vehicle, while another 56% mentioned they have had important emotional conversations in a car. The safety and enclosedness of a vehicle works, because a person can let their feelings out more comfortably without feeling the necessity to make eye contact (Lyons, 2018).

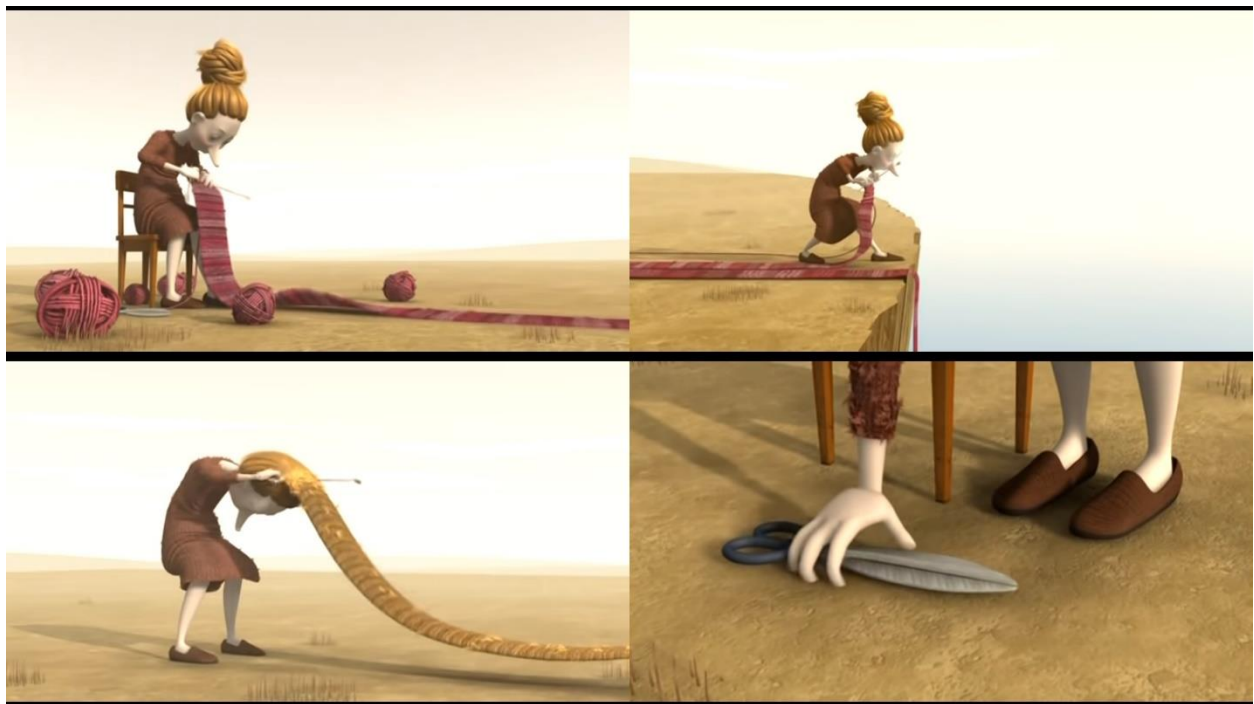
The Last Knit - Laura Neuvonen

<https://www.youtube.com/watch?v=M6ZjMWLqJvM>

This 3D animated video deals with the themes of obsession, attention deficit, and addictive/habitual behaviour. The clip shows a woman knitting a scarf near the edge of a cliff. She becomes so engrossed in the knitting that she fails to notice that the weight of her knitted scarf is pulling her towards the cliff, until it actually starts to drag her towards the edge. She tries

to resist by adding even more yarn to it, which only adds to the weight of the scarf and does not help the situation. In desperation, she starts knitting her own hair into the scarf, rather than letting go of the scarf and knitting. She thus becomes even more embroiled into the very action that is dragging her down. When she finally detaches herself from the scarf by cutting off the parts of her hair that she had knitted into it, she gets some relief as she throws away her knitting needles. But not soon after, she occupies herself with a pair of scissors, signifying another activity that she has instead obsessively latched onto.

Figure 26: Screenshots from The Last Knit



Source: YouTube/null

The clip very effectively uses the act of knitting as a metaphor for an activity that becomes an obsession for a person and by the time, they want to improve their situation by distancing themselves from it, they may already be too deeply involved with it. It also shows that a restless mind that does not seek help would only find a new activity or object to habitualize or obsess upon, and not really get any rest. The clip has amassed over 26 million views till date. It uses no spoken words, and relies entirely upon a well-designed background score and sound effects to create a sense of suspense and urgency. The visuals also function very well in moving the narrative forward in an engaging way. One laudable aspect of this video is that the metaphor of

knitting used makes it not specific to any one particular issue, thus making it open to interpretation and applicable to a number of real-life situations and mental health conditions.

This Actually Happens A Lot – Tom Law

<https://www.youtube.com/watch?v=3WKfgbUkSug>

“This Actually Happens a Lot” is a short, animated clip about social anxiety by then-student Tom Law. It shows a man who is terrified of interacting with people at a party, yet tries to mingle with them when he feels pressured, making a fool of himself. Here, a woman at the party notices him and starts a conversation with him. He essentially tells her that he is socially anxious and thinks he is a bad person because of that. She disagrees with him, revealing she feels the same way yet she tries to power through it by “being nice to people”. The man is glad to find a kindred soul at the party, and as they part, they acknowledge that it was nice to share their feelings with another person.

Figure 27: Screenshots from This Actually Happens A Lot



Source: Youtube/Tom Law

The animation in this short clip is engaging, and does not feel static. The protagonist floating and defying the laws of gravity effectively portrays the uncontrolled gamut of emotions that a

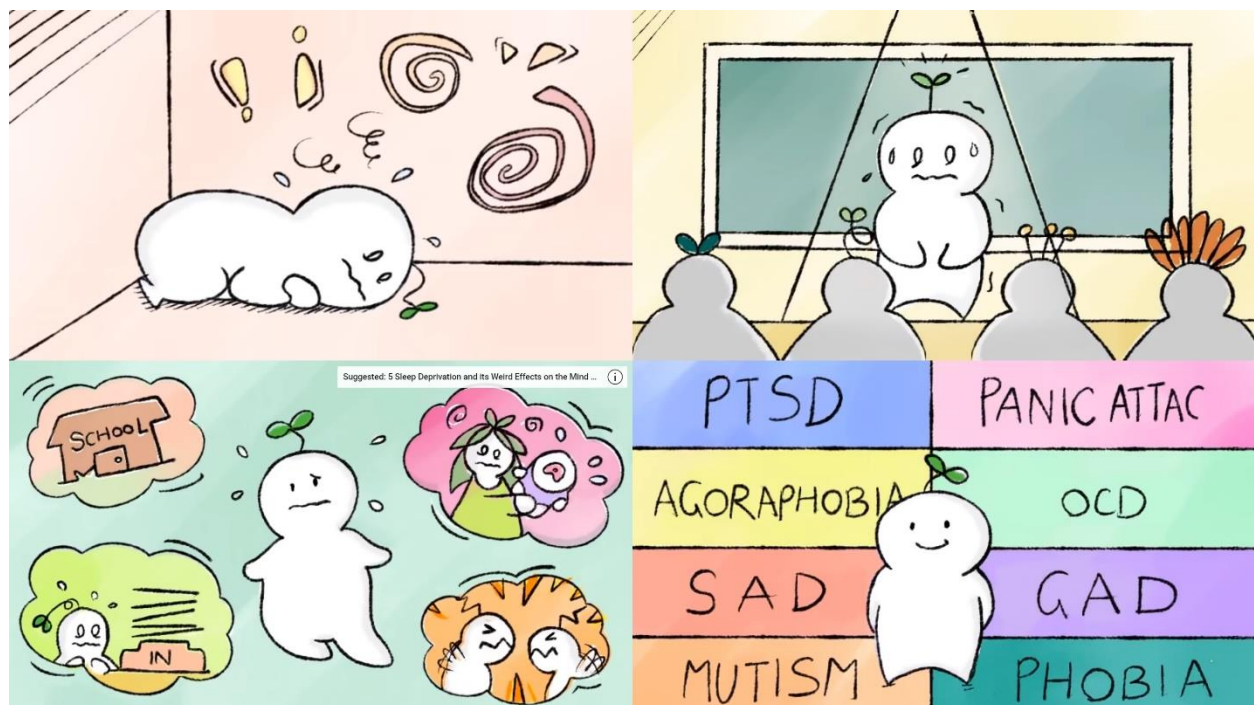
socially anxious person tends to feel. It also works well because it is an unexpected visual, designed to immediately catch the viewer's interest. There is a lot of self-deprecatory humour that works well in the clip, especially when exaggeration is employed to portray certain situations. The animated clip itself is short and succinct, and it ends up being relatable in many ways for individuals afflicted with social anxiety, and easy to grasp and understand for somebody who is unfamiliar with the condition.

7 Types of Anxiety Disorders – Psych2Go

https://www.youtube.com/watch?v=RuPPRLv_YSw

This animated video informs the viewer about 7 different types of anxiety disorders. It goes over Social Anxiety, Social Phobia, Selective Mutism, Panic Disorder, Agoraphobia, Specific Phobia, Obsessive-Compulsive Disorder (OCD), and Post Traumatic Stress (PTSD), making the distinctions between them clear for its viewer. The information narrated is to the point, which makes it easier for a viewer to register and retain. The visuals make very good use of the expressions of the characters to portray scenarios and the animation, in comparison to the other examples here, is fairly simple yet engaging.

Figure 28: Screenshots from 7 Types of Anxiety Disorders



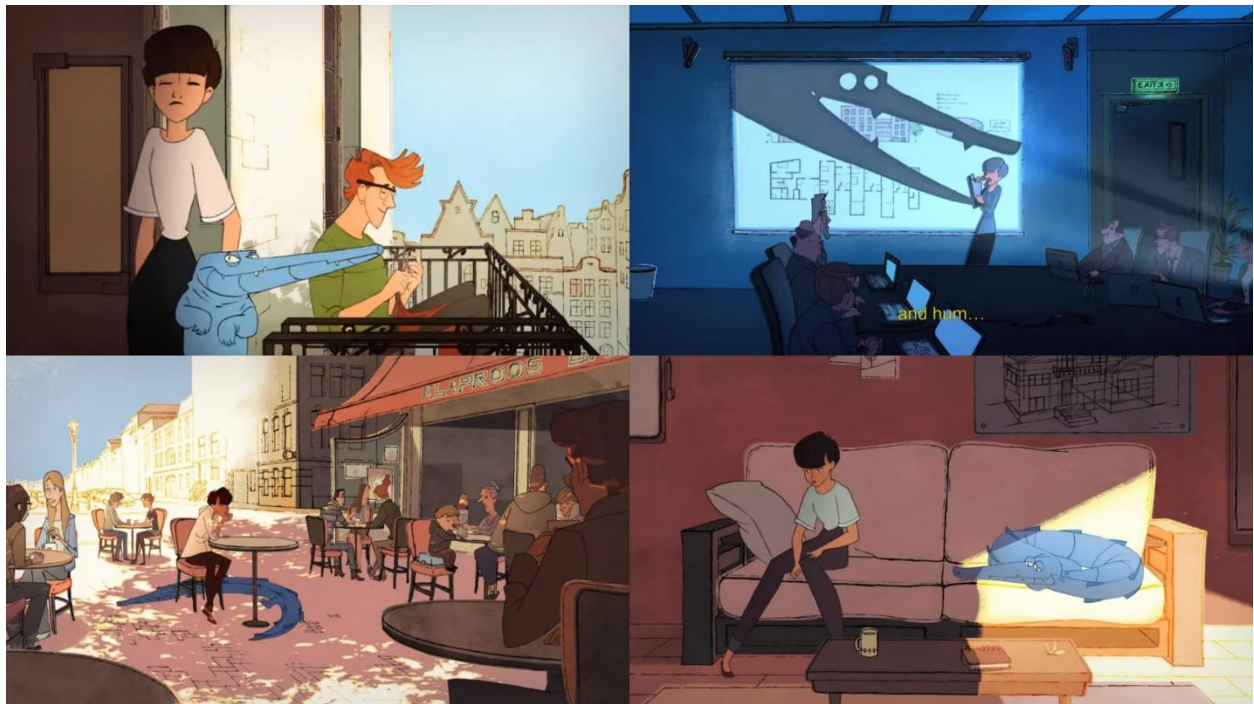
Source: YouTube/Psych2Go

In Between – GOBELINS

<https://www.youtube.com/watch?v=2xp22IYL2uU>

“In Between” is a French animated film which depicts the anxiety that a young woman experiences. This anxiety is represented by an undesirable presence in her life that is in the form of a crocodile. This crocodile follows her everywhere and hampers her attempts at speaking up in public or being social with people around her. The protagonist tries to get rid of it but continually fails until she confronts it assertively. It is then that she realizes that she can learn to control the crocodile (her anxiety) and live a functional life with its existence.

Figure 29: Screenshots from In Between



Source: YouTube/GOBELINS

This animation uses bright daylight settings for portraying the world the protagonist lives in, while her home is very low lit, creating a visual contrast between the two environments. It is scored with pleasant sounding background music, which helps in keeping the general tone of the clip light. Although the story does not dig too deep into the exploration of anxiety, it conveys its core message effectively.

Anxiety is the Greatest! (jk it can go jump off a microwave) – Jaiden Animations

<https://www.youtube.com/watch?v=sbtQp7C1MDs>

This animated video employs a very humorous, informal tone to talk about the creator's anxiety disorder. She starts off with telling the viewers what anxiety is commonly confused with, what it actually is and then she talks about some of her own personal emotions and experiences in regards to the condition. The humour works very well in the narrative, and the frantic feel of the animation lends itself very well to the video. The references made in the video are very timely and would be relatable/understandable for most viewers. The visuals comprise of minimal line work in a monochrome tone, which work in favour of the narrative and the animation style. The self-deprecatory nature of the video makes the viewer be at ease and comfortable with the narrator, and possibly more open to watching and learning about the condition.

Figure 30: Screenshots from Anxiety is the Greatest!



Source: YouTube/Jaiden Animations

2.12 Section Summary

Based on the research, observations, views and deductions of various academic researchers, the extracted literature review presents a deeper understanding of the possible adverse effects of social media on young people; the concept of social anxiety; factors contributing to developing or provoking mental health issues; and the connections between the excessive use of social

media and mental health issues, particularly social anxiety. The literature review presents comprehensive findings in regards to the above stated areas, which assisted in highlighting the major problems being created by the excessive prevalence and use of social media, and its role in developing mental health issues among the youth. Examining a selection of existing design work dealing with mental health issues and social anxiety, as well as social media's impact, also offered insights for the primary and secondary data collected.

Section 3: Research Methodology, Survey, Insights, and Data Analysis

3.1 Introduction

In the previous section, existing studies, theories and research related to social media use, mental health issues and social anxiety were examined. This section emphasizes the study's research framework and methodology, and extracts key insights from the findings of the literature review and interview data. It also provides analysis of the survey responses and highlights the results about social media use, its key negative effects and their possible contribution in causing or increasing mental health problems and social anxiety in users. The primary data collected from the questionnaire survey and interviews is analyzed by the researcher to find links and parallels between the identified negative effects of social media use, mental health problems, and social anxiety. Then, the researcher notes the findings and conclusions of the research and shares the results of the research hypothesis.

3.2 Conceptual Framework of Research

From the literature review, the researcher identified the most common and important aspects of social media use among young people and selected key negative factors which could contribute to mental health issues, particularly social anxiety. The researcher then developed the conceptual framework for the research study by identifying the dependent and independent variables. The framework helped in exploring the links between selected variables through their mediating variables (mediators). Then came the challenge for the researcher to understand which of these factors were more pressing and which were less harmful, so that recommendations could be made accordingly.

3.2.1 Independent Variable

The literature review showed that excessive social media use, its addictive potential, negative effects and resulting complications are all contributing factors for mental health issues, particularly social anxiety, among young people. In this case, excessive social media use is the independent variable, as it is being scrutinized against changes in the framework settings, and thus it remains constant throughout.

3.2.2 Dependent Variables

Mental health problems and social anxiety are termed as dependent variables in this framework because they are the possible outcomes of, and are subject to change based on, the excessive social media use by young people.

3.2.3 Mediating Variables

During his primary and secondary research, the researcher came across several negative factors that emerge from excessive social media use (independent variable) and contribute to developing mental health issues and social anxiety (dependent variables) in young people. These factors act as mediating variables (mediators) between independent and dependent variables. From among those factors, the researcher chose five that most commonly came up in his primary and secondary research. Thus, for the research framework, the researcher selected the following factors as the mediators.

3.2.3.1 Depression

Depression has been selected as a mediator as the literature review showed that excessive social media use is associated with depression among young people and fuels low self-esteem, negative comparisons, stress and depression, which leads to mental health problems and could also contribute to increasing social anxiety among these individuals.

3.2.3.2 Internet Addiction

The researcher selected Internet Addiction as another mediator because the literature review indicated that internet addiction is one of the leading factors that contributes towards mental health issues and social anxiety. Its excessiveness contributes to negative personality traits among young people, as they are online for hours on social media sites and gradually become increasingly distant from their families and friends.

3.2.3.3 Cyberbullying

Cyberbullying was also selected as a mediator as it was evident from the findings that excessive social media use could increase the probability of cyberbullying. Cyberbullying could cause mental health problems and social anxiety for young people and could also initiate a series of problems like fear, loneliness, social avoidance, stress, depression and anxiety, among others.

3.2.3.4 Disturbed Sleep

The researcher found that disturbance or shortness of sleep time could cause mood fluctuations, depression and anxiety in young individuals and a major cause of sleeplessness or reduced sleep is the prolonged and frequent use of social media at night. Based on these findings, Disturbed Sleep was selected as a mediator which can cause mental health problems.

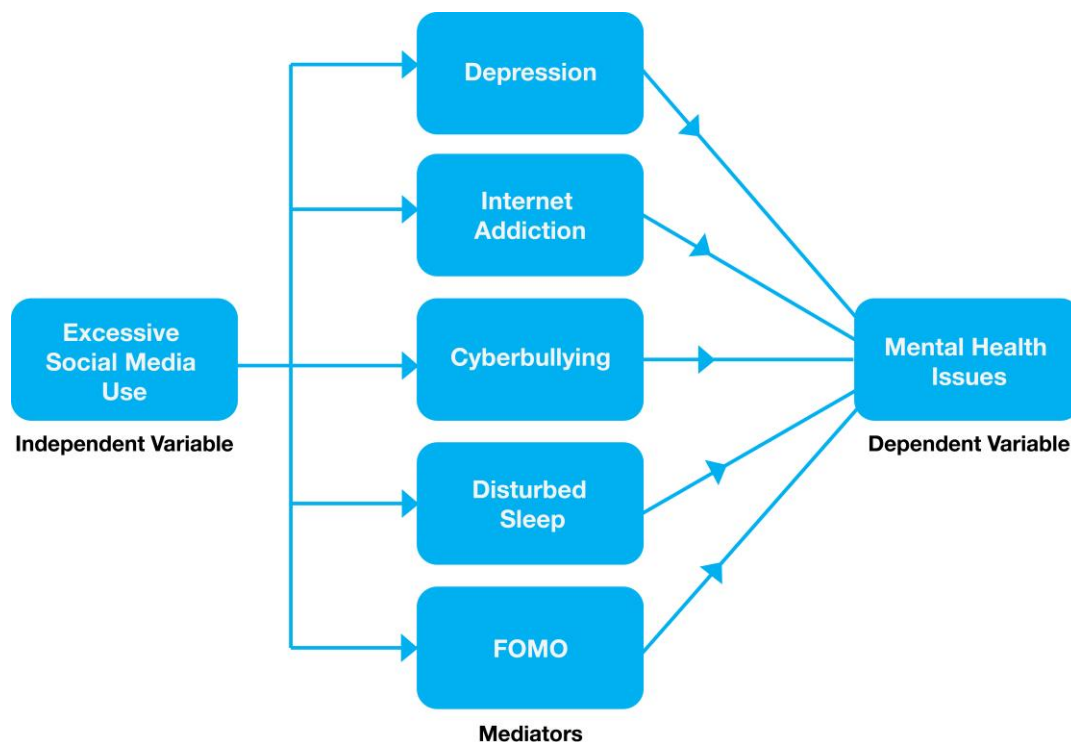
3.2.3.5 Fear of Missing Out (FOMO)

FOMO was selected as a mediator. The literature review made it evident that it is one of the major negative factors resulting from excessive social media use, making young people anxious and pressuring them into continuously checking social sites which causes mental health issues like anxiety and stress.

3.2.4 Conceptual Frameworks

The researcher developed two conceptual frameworks to analyze the links between the independent variable, dependent variable through the mediators. The first framework, as shown in Figure 31, shows the resultant negative factors of excessive social media use and mental health problems.

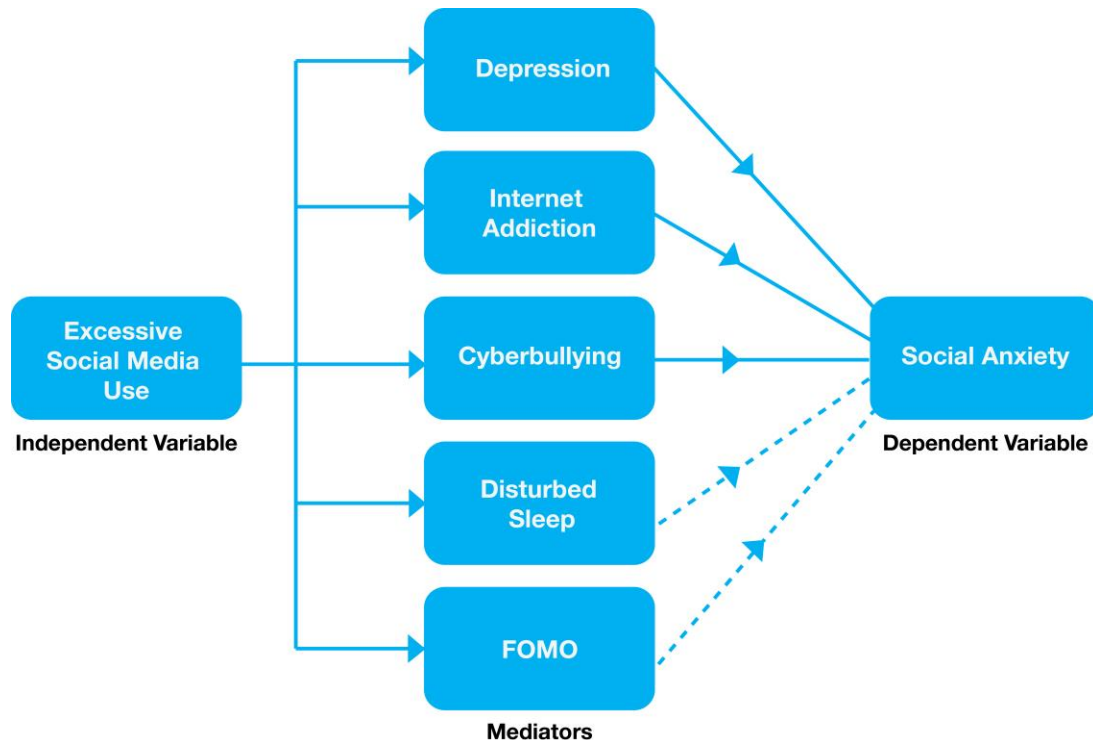
Figure 31: Conceptual Framework Model 1 — Independent Variable and Mental Health Issues



Source: The researcher (derived from secondary and primary research)

The second conceptual framework in figure 32 focuses on the independent variable, mediators and their link with social anxiety, which is the dependent variable. This was created based on the findings of the literature review and interviews which indicated that three factors (Depression, Internet Addiction And Cyberbullying) could directly contribute in causing social anxiety while two others (Disturbed Sleep and FOMO) can be indirect factors in causing or exacerbating already existing social anxiety.

Figure 32: Conceptual Framework Model 2 — Independent variable and social anxiety



Source: The researcher (derived from secondary and primary research)

3.3 Research Methodology

The researcher formulated the research methodology and drafted the blueprint of the research, within which the research was conducted. The researcher selected the Sekaran Research Model for developing the research plan, which comprises of multiple steps and provides guidance from defining the purpose of study to data analysis (Sekaran, 2003). The settings selected for this research are described in Figure 33 and then briefly explained by the researcher.

3.3.1 Purpose of Study

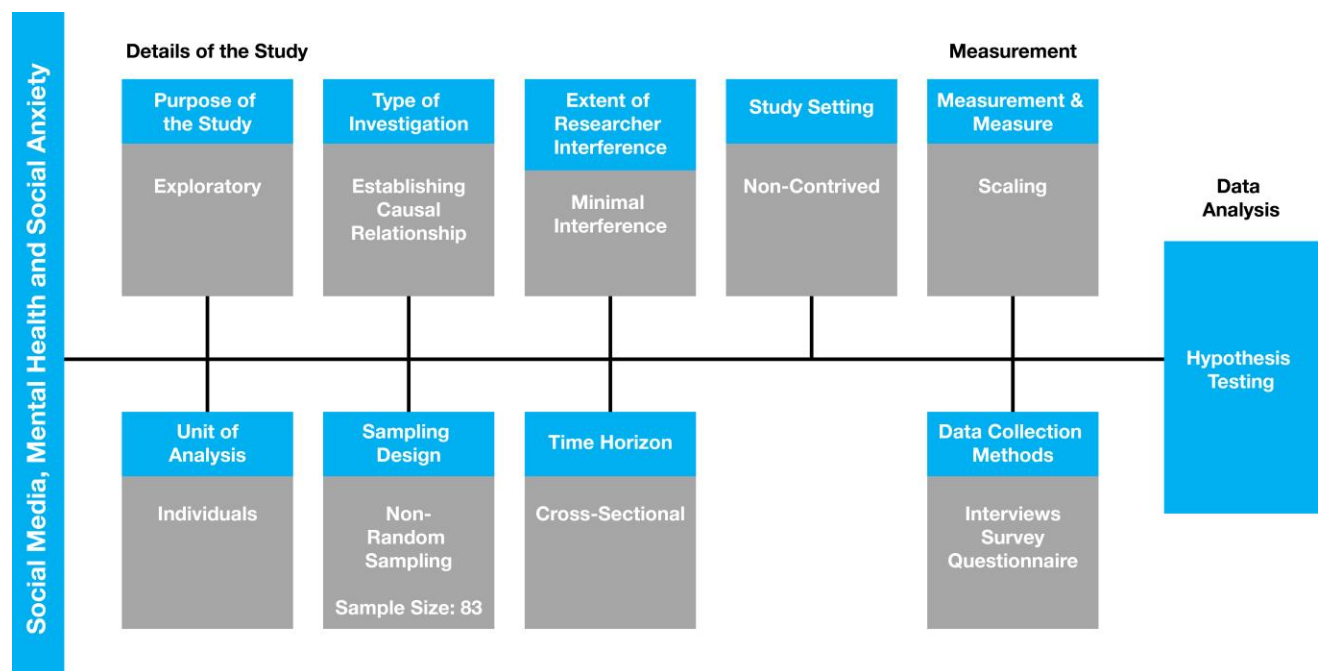
The purpose of this study is to explore the negative factors resulting from excessive social media use and their effects on the mental health of young people. Using the findings as a basis, the

researcher created a design-based response to bring this issue to light and showcase how a discipline like design can be utilized to create awareness for this cause. The researcher selected this topic as it is relatively unexplored, specifically the examination of the link between social media and social anxiety.

3.4.2 Type of Investigation

The researcher conducted a causal type of investigation to better understand the connection between excessive social media use, its effects on selected demographic and resultant contributions towards mental health issues and social anxiety. The following figure shows the selected research design framework.

Figure 33: Research design framework



Source: The researcher (on the basis of Sekaran, 2003)

3.4.3 Extent of Researcher Interference

The researcher is of the view that there should be minimum interference, on their part, in the research study so it was ensured throughout this research with questions designed to extract authentic insights, views and perceptions of the target demographic on the subject.

3.4.4 Study Settings

For this study, the researcher selected a non-contrived setting meaning that there were no particular settings created, as the interviews and surveys were conducted in a natural environment.

3.4.5 Measurement & Measures

The scaling method was used by the researcher to collect the responses of the selected target demographic group. Open and close ended questions were used by the researcher to collect information and record the thoughts, views and perception of the respondents. The nominal scale was used for some of the close ended questions.

3.4.6 Unit of Analysis

For this study, the researcher conducted interviews and a survey individually with each respondent, so the unit of analysis is “Individuals” for this research.

3.4.7 Sampling Design

The researcher used non-random sampling for the research and sent questionnaires through email to exclusive target groups that were relevant and appropriate for the study. The sampling process below helps to clarify the steps for sampling:

Population: In this study, the population consists of young people aged between 18–35 years.

Sampling Unit: Every person within the selected target demographic has personal views that need to be considered as a single element in this research. The interviews were also done individually therefore the sampling unit of this research is individual.

Sampling Frame: The study focused on current or former college or university students who are active social media users, between the ages 18 to 35. This frame was chosen because people between these ages are likely to use social media as an essential part of their daily activities.

Sampling Design: The non-probability method is used for the sampling design of this research because it is convenient for the researcher to choose university students and individuals from selected target group to fill out the survey questionnaire.

Size of Sample: 83 respondents were used to analyze the research objectives.

Sampling Plan: Convenience sampling and snow ball sampling permitted the researcher to recruit participants efficiently through easily manageable resources. The participant recruitment for interviews was done through posters placed throughout the University of Alberta campus as well as local coffee shops. For survey sampling, email invitations for the survey questionnaire were sent. To maintain strict confidentiality, no identifying information apart from the age, occupation and gender of the participants was collected.

3.4.8 Time Horizon

For this research, the chosen time horizon is cross-sectional, which means a one-shot study so the interviews and survey were done once.

3.4.9 Data Collection Method

To explore the topics of mental health issues and social anxiety, and their connections with excessive social media use, the researcher used both primary and secondary data collection methods.

3.4.9.1 Secondary Data Collection

The researcher studied and collected secondary data extensively to gather relevant and useful information to ensure that the research would be reliable, in-depth, and comprehensive. Existing research, official statistics, journals, publications, blogs, newspaper and online magazine articles were studied to understand trends in social media use, and their influence, potential risks and contribution towards mental health problems, specifically social anxiety.

3.4.9.2 Primary Data Collection

The researcher used both qualitative and quantitative approaches to collect primary research data. Survey strategy is used to collect quantitative primary data as it is a cost effective and appropriate method for larger data collection. To collect qualitative primary data the researcher conducted semi-structured in-depth interviews with professionals who have expertise in social media, social anxiety and mental health. The researcher spoke to six industry professionals about the social media habits of young people and what, if any, effects those habits may have on mental health.

The researcher also conducted interviews with individuals that fell under the selected demographic to collect qualitative primary data. A number of one-to-one interviews were conducted with individuals who were between the ages of 18 to 35, current or former college or

university students, and active social media users. This demographic was chosen because students between these ages are likely to use social media as part of their daily activities.

Additionally, a survey was used to collect primary data—questionnaires—through which direct responses were collected from the target respondents. The survey questionnaire was a mix of both open and closed questions. An online survey was conducted due to its high response rate and internet-using target group; who were university or college students or working professionals, and the range of age was between the ages of 18 and up to 35 years. Participants were emailed a survey link and, in some cases, through student portals. The online survey also facilitated the researcher in managing the sample size, reducing associated data collection costs and summarizing the collected data easily. The researcher also personally contacted a few respondents to complete the hard copy of the questionnaire. People from various countries contributed in the survey due to snowball sampling, but the majority of respondents were from Canada and Pakistan. The researcher recognizes that Canada and Pakistan are different in terms of culture, but at the same time, social media use is a global phenomenon that transcends the bounds of geography. The researcher got feedback from 110 respondents who filled the survey questionnaire independently as per their views and experiences. However, some respondents only partly answered the questionnaire. Thus, the researcher rejected those responses as being incomplete and carried forward the research with 83 completed questionnaires.

3.4.10 Questionnaire Design for the Study

The researcher selected a quasi-structured questionnaire model for this study with both structured and non-structured questions. Open ended questions allowed the respondent to answer questions with more freedom whereas multiple choice questions offered answer options and made it easier for the respondent. The complete survey questionnaire is shown in Appendix 4. The questionnaire had the following 2 sections.

Section A: Basic Information of Respondent

This section comprises of four questions to collect basic information of respondents pertaining to age, gender, occupation and country for screening purposes.

Section B: Insights about Social Media Use

This part contains 30 questions related to social media use trends, its effects on lives, behaviours, and emotional states of users. Questions focused on exploring the links between social media use and selected factors, discovering that either of these factors can contribute to exacerbating mental health issues and social anxiety in respondents.

3.4.11 Data Analysis

This study aims to analyze the negative effects resulting from excessive social media use, and their contribution towards creating or exacerbating mental health problems and social anxiety among young people. Primary and secondary data are used as a source of analysis.

Data on the negative effects of social media are collected through secondary and primary research (interviews) and then findings are reinforced through the responses gathered from the survey questionnaire.

3.5 Insights and Data Analysis of Research

The researcher evaluated the primary and secondary data and explored the links between independent variable (excessive social media use), mediators (key negative factors of social media use) and dependent variables (mental health and social anxiety). The hypotheses were tested against the insights and findings from the primary and secondary data.

3.5.1 Insights and Data Analysis of Social Media Importance

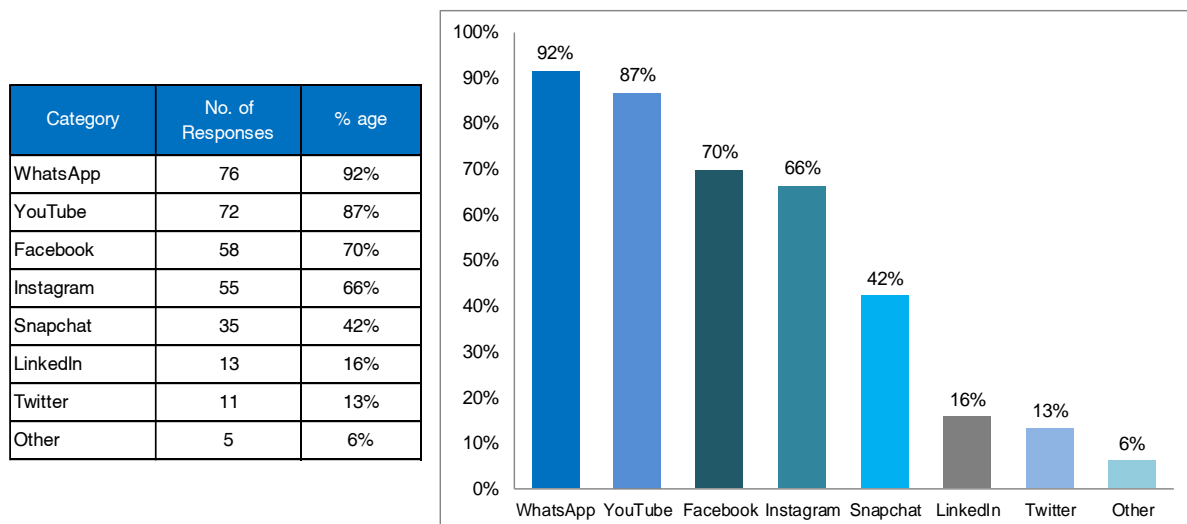
The expert views noted that social media has indeed become an integral and important part of the lives of young people, to the point where most of them cannot imagine spending their lives without it. Both socially and professionally, people are dependent on social media, and lives and careers are now built around it. Experts also highlighted the danger of using too much social media, stating that despite better connections and modes of communication, the information can become too much. It was found that not only are young people hooked on this technology, but their parents and teachers are trying to cope with the rapidly changing technological innovations as well.

The responses received from participants showed that social media is a significant part of the lives of young people from the moment they wake up to the moment they sleep. They were of the view that social media is a good way for keeping in contact with people, especially with friends and family overseas. On the other hand, young individuals are often on social media for prolonged periods and spend significant time on it which hinders other social relations. On the

idea of successfully living without a social media presence, most agreed it is not conceivable and social media is an essential part of their life.

While exploring the influence of social media on the lives of young individuals, the researcher asked in the first survey question about the respondents' most used social media sites. It showed that most young people are part of multiple social sites and *WhatsApp*, *YouTube* and *Facebook* are found to be the top three most commonly used social media platforms among young people. The results of question 1, as Figure 34 shows, reveal that the majority of the respondents are using multiple social media platforms. The 'No. of responses' in table shows out of total 83 respondents, how many are using that social site and its percentage is shown in next column.

Figure 34: Most commonly used social media platforms



Source: The researcher

In response to question 2, on whether the respondents thought that social media networks are an important part of today's life, 98% of them agreed with this statement.

As to why they are deemed important, the majority of the interview participants stated that social media keeps them connected with their friends. Another major factor mentioned by them was that it is useful for getting updates and information, and that it acts as a fast medium of connection and communication around the globe. This response also coincided with the responses from the expert interviews, where in particular Mr. Greenspan, a psychologist, stated

that, the fact that everybody uses social media networks makes them needed, as that is how people are now most commonly communicating.

The researcher continued with the topic by asking question number 3, “Do you think it is possible to not have a social media account and successfully live life in today’s world? If yes, how?” This question was structured to gain insights into two areas: to get an idea of the respondents’ social media use, and to identify the necessity or dependency of the respondents on these networks. In response to this question, 73% of the people said that it is not possible to live life successfully without social media networks, but 27% of respondents stated that it is possible. Out of these 27%, a few were confident in thinking that they can lead successful lives without using social media, but some also said that it is possible but it will be difficult. These responses match with those from the general participant interviews, as one participant had mentioned that despite not being an active social media user, “I sometimes feel pressured to join those social media networks because everyone around me use them.”

From the experts’ responses, interview participants and survey results of questions 1, 2, and 3, the researcher deduced that social media plays an integral part in the lives of young people as the majority of the respondents agreed with this fact and stated that living life successfully without social media would be very difficult. It also shows young peoples’ dependency on social media networks, and that they find it difficult to imagine life without these. Those who are of the view that ‘yes, it’s possible’ also find it difficult to quit.

3.5.2 Insights and Data Analysis of Depression and Social Media

Through the literature review, the researcher found that social media has the potential to cause feelings of lowered self-esteem and inferiority among young people which could lead to a rise in stress and depression. Moreover, users are being judged on their appearance and activities which could intensify pre-existing insecurities in young people and they can suffer depression.

Previously, in Figure 4, the researcher documented the findings from existing research regarding the negative side effects of social media use which could lead to depression.

In the interviews, the experts stated that on social media platforms, people mostly post the activities and experiences that portray them in a favourable light. Users anticipate and expect likes and positive comments on their posts, and not receiving them on a post can be disappointing. The user also experiences a sense of comparison as they misperceive how other

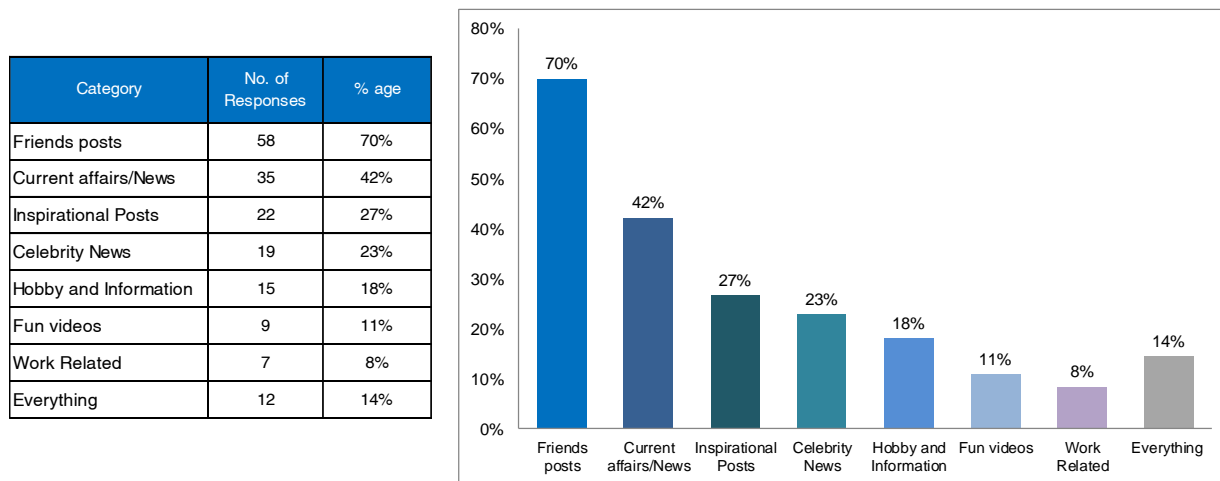
people are living, and relies heavily on self-comparisons to validate their own self. This comparison can lead them to feel worse about themselves, fueling low self-esteem and depressive thoughts. These feelings thus lead into those categorized under depression. It was further revealed that in an attempt to move away from feelings of inadequacy, a user tries to imitate the popular content they are seeing online. It is observed that these messages of being happy that social media users view could push them into suppressing their thoughts and feelings, and this can create long term negative impacts. This suppression of genuine emotion is indeed a dangerous practice that often develops from mental unrest into physical health consequences.

These individuals are likely to become more devastated if they don't get enough likes for their posts. In these cases, their depressed state or low self-esteem seems to increase dramatically when they fail to produce the content they desire, and they fall into passive social media use. Passive social media use is highly problematic, as it does not provide the user the benefit of connecting with others, but instead gives them plenty of opportunities for negative self-comparison and avoidance.

The participant interviews showed that young people often expect a high number of comments and likes on their posts. Participants mentioned that they felt hurt when their pictures did not get an expected response and that this often made them feel insecure about themselves. The participants stated that they often compared their life with someone else's life on social media, especially with close friends or peers.

The literature review showed that people use social media to connect with friends which may lead to the development of negative feelings such as comparisons with others, sadness, stress, and depression. To explore this, question number 6 asked, "What do you like to see the most on your social media feed?" Survey results (figure 35), shows that 70%, of respondents liked to see 'Posts of Friends', while 42% mentioned news posts and 27% stated that they are interested in viewing inspirational posts.

Figure 35: Bar Chart—Percentage of Most Viewed Social Media Posts



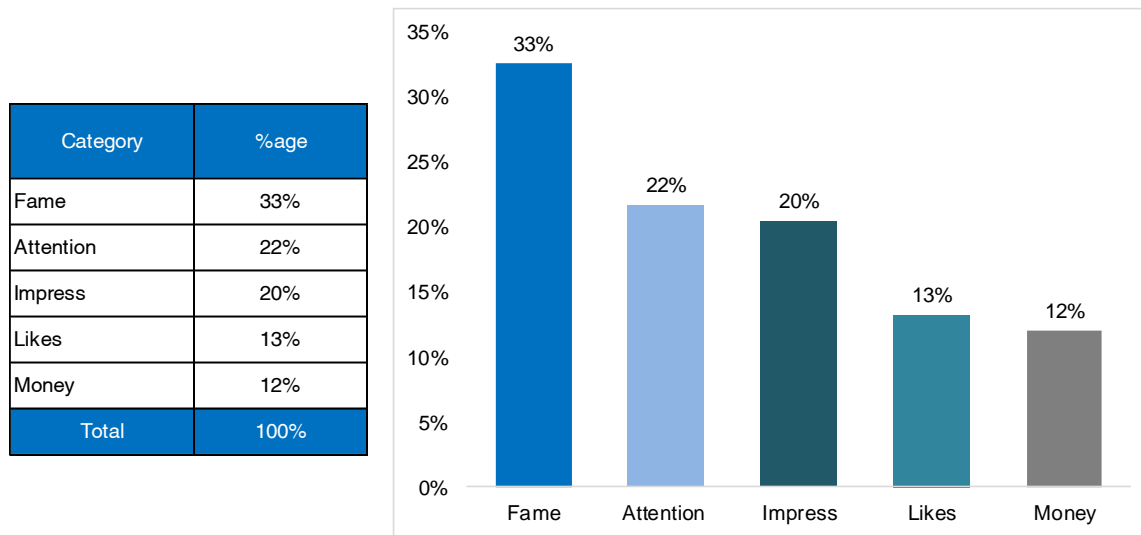
Source: The researcher

In response to the literature review and interview data, where it was found that some people feel sad and depressed when they do not get positive post responses or when their posts are ignored by their friends, the researcher sought to confirm these findings by asking the questions no. 9, 10, 12 and 13.

The results of the question no. 9 “Do you feel that many posts on social media are made only to receive a response and/or appreciation? If so, why?” showed that 80% of the people responded that users make posts to get responses and appreciation from others, while 20% of the respondents did not agree with this statement. This also coincides with the general participant interviews, the answer to this question was a unanimous yes, with one participant summing it up by saying “the feeling of getting a picture liked is getting indirect validation of being liked by a person, so the statement stands true.”

The researcher went on to ask the aim behind getting appreciation through social media post. The young people responded with different reasons. The highest stated, at 33%, was to get fame or popularity through social media posts. The 2nd most selected reason was to seek the attention of others and the 3rd one was to impress others. Getting likes and earning money were also mentioned as motives to get appreciation through social media posts. Figure 36 shows these findings.

Figure 36: Bar Chart—Motives to Get Appreciation Through Social Media Posts



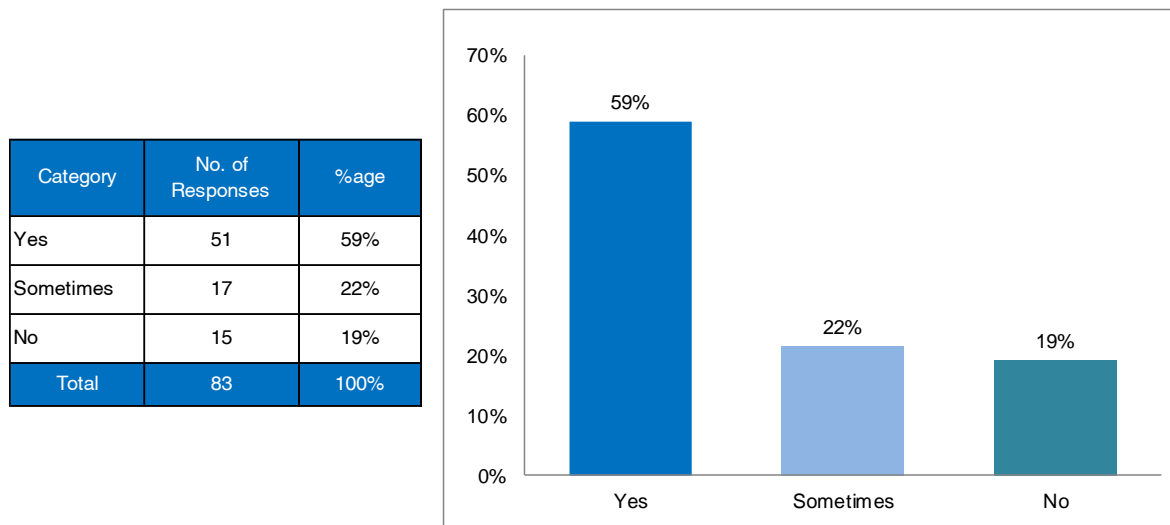
Source: The researcher

The literature review indicated that users feel bad or experience stress when their posts do not receive good responses. To explore this further, question 10 asked “Do you judge if a social media post is good or bad, based on the likes and comments it has received?”

The survey results noted that 72% of the respondents stated that yes they judge if a social media post is good or bad according to the likes and comments received, but 28% stated that they don’t think this. The researcher deduced from the results of this question that people do judge their actions and life on the performance of their online posts.

Continuing on this topic, question no.12, “Have you ever felt sad or depressed when you did not receive a lot of comments or likes on a social media post? Please explain.” was asked to explore the connection between the development of sadness or depression in young people and their social media use. The survey result showed that 59% of the respondents stated that ‘Yes’ they often feel sadness and depressed when they do not get the expected likes and comments. 22% responded that they sometimes feel sad and depressed when they do not get likes and comments and 19% said no. The researcher thus gathered that 81% of the respondents sometimes feel sad or depressed when they did not get likes and comments on their posts, and this also correlates with the response which was gathered in Q9 where it was found that the majority of users make posts on social media with an expectation of a response and appreciation.

Figure 37: Bar Chart— Percentage of Respondents Who Felt Sad or Depressed on Not Getting Online Engagement



Source: The researcher

Through the literature review and interviews, it came to light that there are multiple factors that can lead to creating stress in users while using social media. One of the key factors is the fear of being judged in front of others, which is also a leading factor of social anxiety. The researcher explored this finding through question no.13, “Have you ever stopped yourself from posting anything on social media, due to a fear of being judged or getting embarrassed?” A large number, 81% of respondents shared that they have stopped themselves from posting on social media due to a fear of being judged or embarrassment. This linked with responses from the general interviews, where participants said that they have refrained from posting online for fear of judgment. “Sometimes if my picture doesn’t get a lot of likes, I feel it’s not worth keeping up,” one noted.

The researcher deduced from the findings of questions 6, 9, 10, 12 and 13 that majority of the users want to see updates on their friends on social media and their key intention to make posts on social media is to get appreciation, noticed, or to impress others. Young people judge their and others’ posts on the engagement they get, so before and after making the posts they are exposed to the fear of being judged which may put them under stress. Failing to receive the expected response, young people could become disheartened, restless, stressed, depressed and felt left out which could lead to more complicated issues.

The researcher also found out, through one-to-one interviews and the literature review, that negative use of social media often leads to social comparisons, where users compare their lives with others which could result in distress, anxiety, and mental health issues. To explore this, the researcher asked question 16, “Do you think that social media encourages people to constantly compare themselves to others online? Please elaborate.”, where the survey results revealed that 83% of young people replied ‘Yes’ social media does encourage people to compare themselves with others online. This finding was also supported by the findings from the general participant interviews, where 13 of the 15 participants mentioned that social media is designed to create comparisons with others. One participant mentioned; “Comparison especially occurs with depression when a person watches people appearing happy, achieving their dreams, and they are left thinking why their life doesn’t work that way.”

Question 17 asked “Have you ever compared your life and activities; with the activities of the social media accounts, you are friends with/follow? If yes, how did you feel about doing that?” The survey results for this question revealed that 72% of the respondents do compare their lives and activities with the ones they follow. A similar outcome was seen in the general participant interviews, where many participants answered in the affirmative and one of them stated “I mostly envy people I actually know.”

Thus, from the survey results, interviews and literature review it became evident that the use of social media can result in negative self-comparisons, suppression of emotions, false image building, unrealistic expectations, fear of being judged, and feelings of rejection. All of these emotions could result in undue pressures, lowered self-esteem, passive social media use, stress, anxiety, which could result in depression. Depression is also listed as one of the key negative effects of excessive social media use. Hence, it was deduced social media use can contribute to depression in young people.

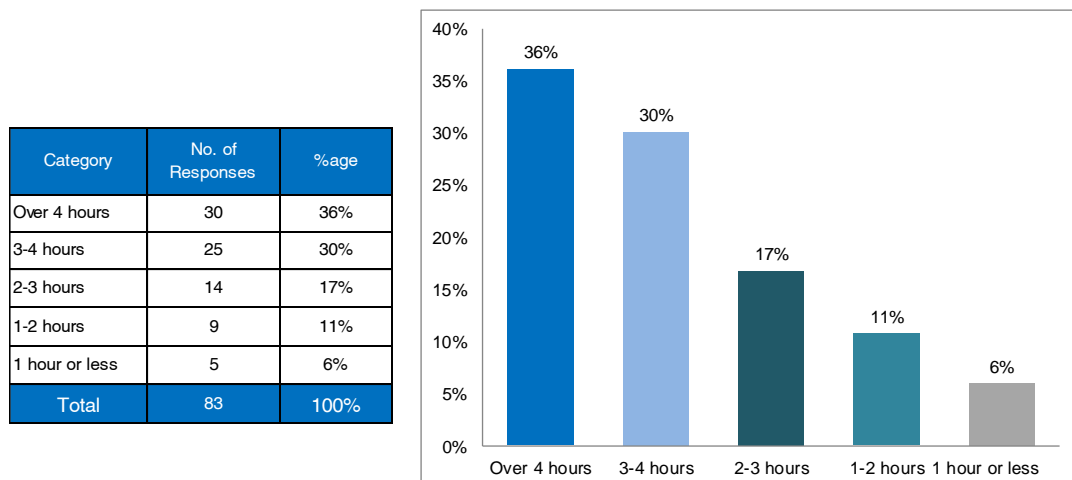
3.5.3 Insights and Data Analysis of Internet Addiction and Social Media

In the expert interviews, Mr. Grauwiler, the director of the Canadian Mental Health Association, noted that anything that has the power to alter our neuro pathways has the ability to change into an addiction and it was found out that excessive social media use could be an addiction. In the way social media is engineered to be as reinforcing as possible so people spend more time on it, social media could certainly function like an addiction. Mr. Lefebvre, a psychologist said that it can compound over time, where it does not initially seem like a problem but the person’s

dependency and validation grow more and more. This way, a person's only way to feel good about themselves is through social media use.

Questions were asked to assess the participants' dependency on social media. Participants responded that they feel stressed and somewhat anxious, when they were unable to reach their social media accounts, as they could not see what everyone was doing or what was happening in the world. It was found that the average time the participants were spending on social media was about 3 hours per day. Some participants also mentioned feeling the urge and need to be present on social media. Most of the respondents were not happy about the time they were spending on social media because they thought they could be a lot more productive during that time. Social media was also described as a source of distraction for its users. The researcher deduced from the views of the professionals, participants and existing research that social media addiction is another adverse effect of excessive use of social media which could lead to further issues. This link was shown in section 2 in Figure 11. The researcher then aimed to corroborate these findings through the survey, asking in Question 4 how much time, on average, the respondents spend on social media sites daily. It was revealed that a high proportion of the respondents—36%—spent more than 4 hours per day on social sites and in total 66% of respondents spent more than 3 hours per day on social media platforms.

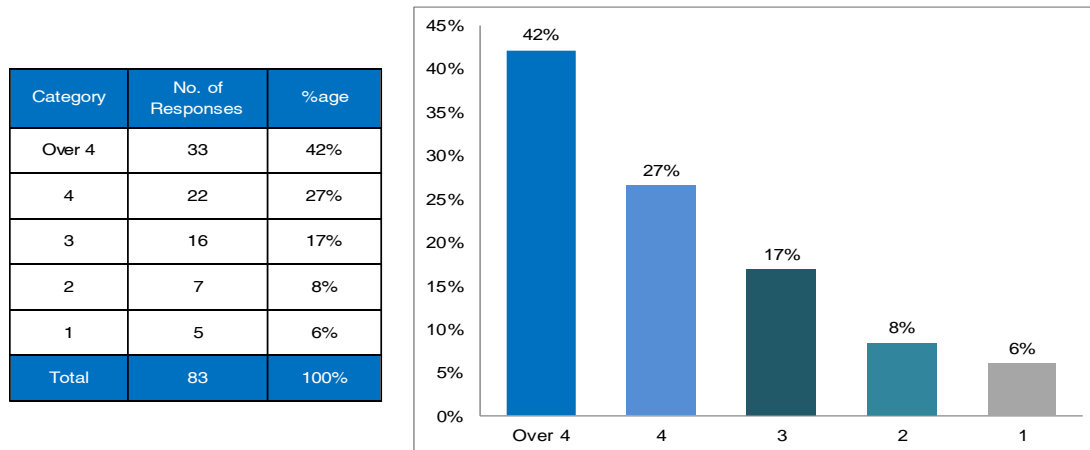
Figure 38: Bar Chart — Percentage of Daily Average Time Spent on Social Media Platforms



Source: The researcher

In Question 5, the researcher asked the respondents how many social media platforms they are part of, in order to know their interest and involvement in social sites and find links to social media addiction. The survey results showed that 69% of the respondents were active on 4 or more social media platforms and a total of 86% of respondents were using more than 3 social media sites.

Figure 39: Bar Chart — Number of Social Media Platforms Active On



Source: The researcher

For Question 11 which asked, “Do you ever feel a strong compulsion/pressure to remain/appear active on social media?”, the results showed that 73% of the respondents stated that they feel a strong compulsion or pressure to remain active on social media networks while 27% did not feel this pressure.

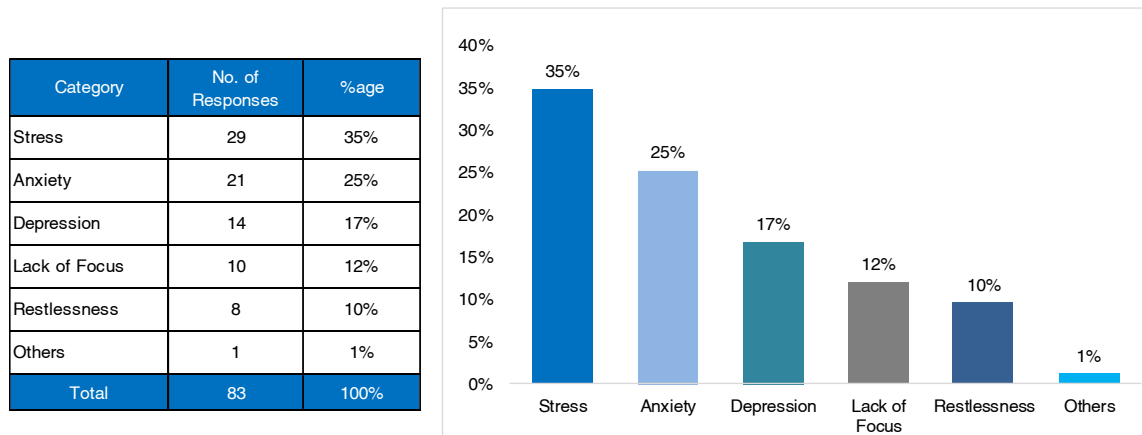
The literature review showed that people who are inclined towards higher use of social media are likely to face problems in their daily routines, family relationships, moods, education related performance and social behaviours. It was thought that the continuous notifications from social media disturbs the users’ routines, keeping them hooked for hours and leading towards social media dependency and addiction. Question 19, “Do you often get distracted from other tasks, by the notifications and updates from your social media networks?” was asked for further elaboration on these insights. In the general participant interviews, the response was a unanimous yes, with many stating that they end up getting distracted by curiosity, even if they have their social media notifications on silent mode. The results for this question revealed that 78% of young people agreed with the statement.

In Question 20 the researcher inquired, “After browsing or using your social media, do you usually feel better, motivated, and happy or worse, restless, and unhappy?” This helped to evaluate how young people feel after their use of social media. 64% of the respondents stated that they feel better, motivated, and happy after using social media while only 36% said that they felt worse, restless, and unhappy. From these results it was evident that the users have concerns regarding social media effects and its use, but they still feel better when they use social media. There can be multiple factors for this happiness such as the relief of getting updates, quick opportunities to connect with friends and family, the satisfaction of their posts getting positive responses, and a source of passing time for those who experience loneliness or a lack of company. Social media also offers users the opportunities to create an image of themselves which they wish the world to see, and this may provide feelings of happiness.

Question 21, “Does your mood ever get negatively affected when you are not able to use/access your social media accounts?” was asked to gauge the dependence of young people on social media networks, and how the inaccessibility of these platforms affects behaviours, stress and anxiety in young people. This question’s outcome was important, as in the literature review it was found that individuals spending excessive time on social media can develop social media addiction and a habit of being informed of everything immediately, which can cause intolerance, focus issues and problems in daily routines, family relationships and mood. The results showed that 73% of the respondents said that their mood is often negatively affected when they are not able to access their social media accounts, while 17% of them said that sometimes their mood was negatively affected. From this it was deduced that a majority (90%) of young people experience negative feelings when they are unable to access their social media accounts.

The researcher continued this subject further by asking Question 22, “If your previous answer was ‘often’ or ‘sometimes’, what type of feelings do you experience when you are not able to use/access your social media accounts?”. The results of this are shown in Figure 40 that clearly illustrate that 35% of the respondents’ experience stress when they are not able to access their social media accounts, 25% mentioned experiencing anxiety and 17% faced depression.

Figure 40: Bar chart — Percentage of Respondents' Feelings on Inaccessibility of Social Media Networks



Source: The researcher

After examining the literature review, expert and participant interviews, and results of survey Questions 11, 19, 20, 21 and 22, it was found that the continuous notifications from social media networks cause pressure on users to check and respond. It was seen in the results of Questions 1, 4 and 5 that a majority of the young people are part of more than 4 social media networks and spent an average of 3–4 hours on social media, hence they are likely to be susceptible to disturbances from social media. They tend to spend more time on these networks because the persistent urge to remain updated on the activities of others leads to a constant desire to check their social media accounts. This in turn disturbs their concentration, focus and routine which can affect their daily routines leading to undue stress and anxiety.

After analysing the literature review, expert and participant interviews, and results of survey Questions 1, 4, 5, 11, 19 and 20, the researcher found that stress, anxiety, lack of focus, restlessness and depression are experienced by young people when they are unable to access their social media accounts, due to their habits, dependency and addiction. This also shows that a majority of young people are significantly addicted to social media as its unavailability leads to developing multiple problems. Thus, it shows that social media and internet addiction is one of the negative effects of excessive social media use which can lead to mental health problems like depression and anxiety. It can also cause social isolation and avoidance by cutting off users from performing normal social activities and avoiding direct social interactions with friends and family as they could be more inclined to spend their time on social media.

3.4.4 Insights and Data Analysis of FOMO and Social Media

Mr. La Follette, a registered counsellor, mentioned in his interview that people always want some form of relationship. Social media satisfies this need but it creates a secondary relationship, not a primary one as it is not in person. So, it can easily lead to an ongoing sense of the fear of missing out (commonly abbreviated FOMO), and generates a feeling of compulsion to be seen to not feel excluded or isolated negatively. It was also stated that FOMO affects an individual's ability to focus and concentrate, as the user constantly thinks about all the experiences that other people might be having which are better than what they have.

Experts described a potential connection between social media and FOMO, as the user views people doing things that they wish to do, but miss out on. The fear of missing out could be exacerbated by social media, and affect people negatively. People suffering from FOMO experience anxious feelings, a lower level of life satisfaction, negative social comparisons, and fear of being excluded which could have negative effects on mental health. Mr. Greenspan, the psychologist, mentioned that the aspect of FOMO where someone cannot rest until they have seen every new post is likely to cause restlessness and disturbed sleep. FOMO is also linked with signs of depression and apprehensive attention, indications of poor emotional and mental health. Young people are prone to depression from the belief that others are having fun while they are being left out. Mr. Grauwiler stated, "With the countless forms of media abound, it is very likely that a person would come across something on social media, and have a sense of longing for being at a certain place or event."

When exploring the link between fear of missing out (FOMO) and social media, the interview participants described that when they are unable to access social media, they felt left out. They also mentioned feeling that others were enjoying their lives more than they were enjoying their life. With social media, FOMO could be greater because the user has multiple avenues for receiving, and potentially missing out on, information. In Figure 8, the researcher showed the key reasons of FOMO deduced from existing research and one-to-one interviews.

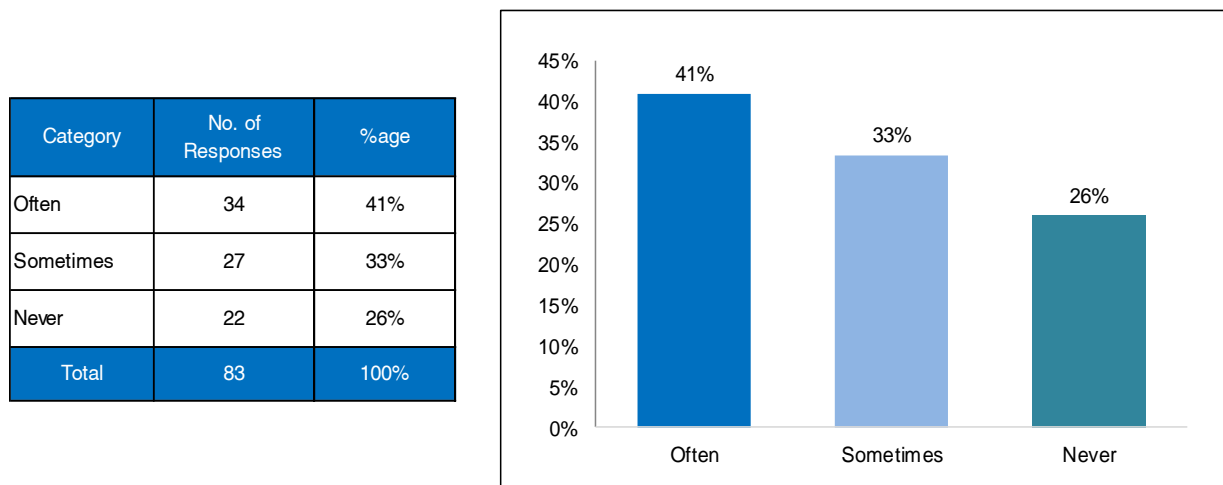
It was found through primary and secondary data that FOMO is one of the effects from the use of social media and it may lead to stress, depression and could enhance social anxiety. From Question 14 which asked "Do you know what the 'Fear of Missing Out' (FOMO) is?" the researcher aimed to find out how many of the young people are aware of this feeling, because knowingly or unknowingly they are likely to be affected by FOMO. The survey results showed

that 41% of the respondents were aware of the term FOMO (59%, were unaware). This was different from the general participant interview responses, where 10 of the 15 participants were familiar with the term FOMO, while 5 were not. From this it was revealed that a significant number of young people are not familiar with the term FOMO.

To further enquire about the effect of FOMO, the researcher explained the term FOMO and then presented Question 15: “Based on the description of FOMO, do you think you have ever experienced FOMO due to your social media usage?” 71% of the respondents stated that they have experienced FOMO. It was a similar response with the general interview participants, where 73%, 11 of the 15 people, stated that they have indeed experienced FOMO in some form through their social media use.

The results of Question 18 “Have you ever experienced anxiety or depression by making online comparisons with others?” was important as it was found in the literature review that these comparisons can develop pressure, low self-esteem, stress, anxiety, and depression among young social media users. Figure 41 notes the results of the question and shows that 41% of young people responded that they “often” feel anxiety or depression while making social media comparisons, while another 33% responded that they sometimes feel stressed and depressed while making comparisons. This showed that 74% of the young people surveyed experienced anxiety or depression while making comparisons on social media platforms.

Figure 41: Bar Chart—Percentage of Respondents Experiencing Anxiety and Depression Due to Comparisons on Social Media



Source: The researcher

From the research results of Questions 14, 15 and 18, it was found out that young people often experience the fear of missing out without realizing it. The results indicated that FOMO is one of the key negative effects from social media use among young people as a majority, 71%, stated they felt FOMO due to their social media use.

After studying the findings of Section 2 and the survey results, the researcher is of the view that FOMO could result from the excessive or negative use of social media. Due to which users could be prone to develop mental health problems or exacerbate existing ones such as anxiety, stress, and depression. This link is also highlighted in literature review and described in Figures 14 and 17.

3.5.5 Insights and Data Analysis of Disturbed Sleep and Social Media

From existing research, it was found that excessive social media use is known to cause sleep disturbances for young people. In Figures 12 and 14 (previous section), the researcher has documented the reasons of disturbed sleep due to social media use and resultant negative effects on users due to these sleep disturbances.

On the impact of social media on a person's sleep, the experts revealed that sleep is in fact being impacted by social media use. People now take the technology to bed with them and in many cases use it to get a sense of when to go to sleep. Mr. Grauwiler noted that if the repercussions of

a drug are a lack of sleep, a potential for overuse, and overstimulation, it would be termed as a significantly bad drug and would not be advisable to be taken long term. These very effects are what an excessive use of social media can result in, this shows how dangerous social media's unmonitored use could become. FOMO also has links with disturbed sleep as people keep on checking their phones during night to get updates and remain connected to avoid feelings of missing out.

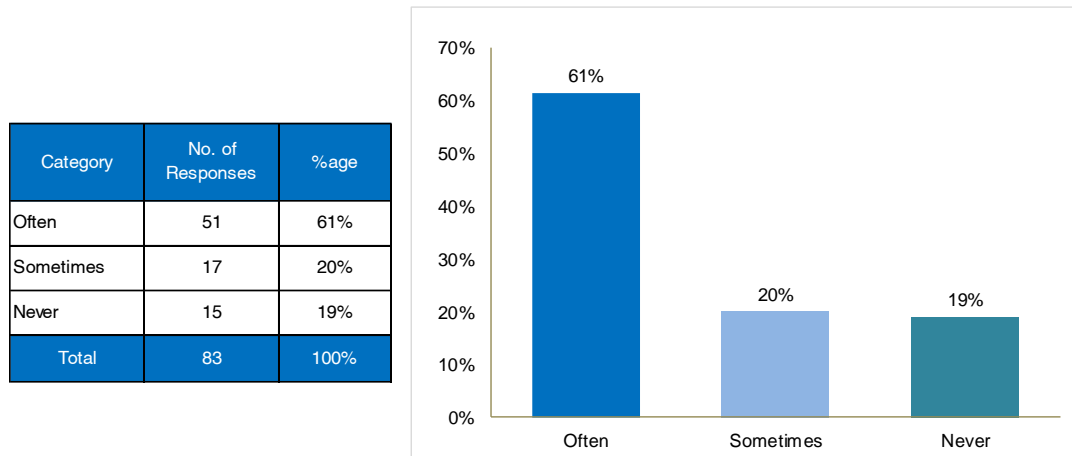
Through the responses of the interview participants, it was discovered that social media use is likely to disrupt the sleep of young people. Almost all of the participants mentioned using social media before going to bed which in turn delayed their sleep and resulted in reduced sleep. The participants also noted that their tasks were subsequently affected by the sleep disturbances. Thus, it was found that excessive social media use had a negative impact on sleep time and quality, and disturbed sleep was one of the key negative effects of such use.

To assess the relation between sleep and social media use of young people, Question 23 asks, "Do you often check your social media accounts before going to sleep?" The interviews and literature review revealed that using smartphones before going to sleep can disturb a person's sleep cycle. The results of the question showed that 86% of young people check their social media accounts before going to sleep. These results also coincide with those of the general participant interviews, where it was found that 86% (13 of 15 participants) used social media sites before going to sleep every night. One participant mentioned that "Not only is the blue light from the phone screen bad for sleeping but the quality of sleep also depends on what the person views or does online before going to bed."

The literature review showed that sleep disturbances and a lack of sleep triggers stress hormones and increased stress hormone levels have been linked with a decrease in sleep duration. Subsequently, individuals with less sleep duration are at a higher risk of diseases related to the heart, kidney, lung, obesity, mood swings, and depression (Grandner et al., 2014). Through Question 24, "Do you think you ever got less sleep than you needed, because of using social media before falling asleep?" the researcher further tried to explore the link between social media use before sleep and reduced sleep. The results shown in the Figure 42 indicate that 61% of respondents stated that they often experienced less sleep than they needed and 20% responded that they sometimes experience less sleep due to the use of social media before sleep. The

researcher concluded from the survey results that a large majority, 81%, of young people did face a lack of sleep due to social media use before sleeping.

Figure 42: Bar Chart— Percentage of Respondents' Sleep Affected by Use of Social Media



Source: The researcher

Through the literature review it was quite evident that social media use frequency is linked with more sleep disturbances, including difficulty in falling asleep and lower sleep quality. Moreover, young people usually keep their phones in close proximity while sleeping and they check their phones for updates which disturbs their sleep and also leads to stress. Increased screen time is also linked with reduced sleep.

The researcher concluded from the analysis of results of Questions 23 and 24 that social media use influences the sleep pattern of young individuals and can cause sleep disturbances in multiple ways (e.g., checking social media accounts before sleeping, alerts in the night, the urge to check updates). Hence, from these results it can be seen that social media causes sleep disturbances which is also termed as one of the key negative effects of excessive social media use.

Furthermore, as shown in Figures 12 and 14, it was found that sleep disturbances have negative effects on mental health, causing anxiety and stress. Thus, the researcher derived from the literature review, interviews and survey results that excessive social media use contributes to sleep disturbances for young people which negatively interrupts their daily routines and leads to mental health problems such as panic, tension, anxiety and stress. Furthermore, disturbed sleep, less sleep and sleeplessness could exacerbate already existing mental health problems, specifically social anxiety.

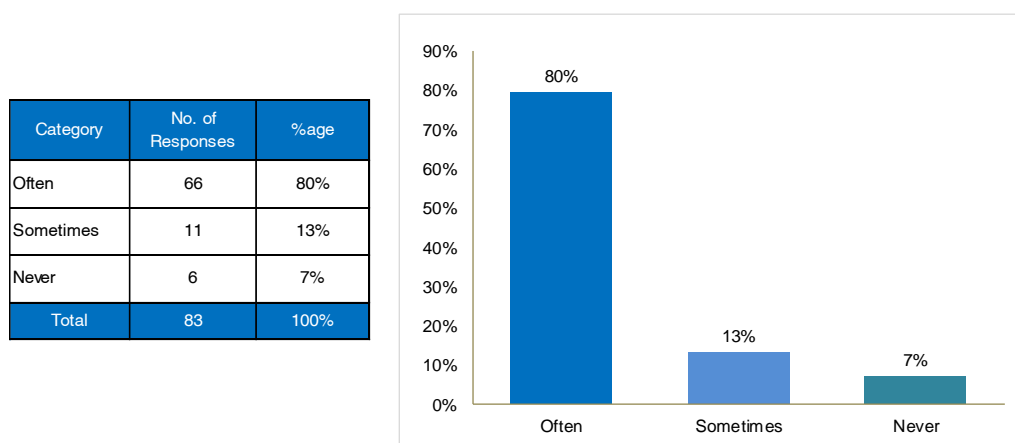
3.5.6 Insights and Data Analysis of Cyberbullying and Social Media

Through the literature review and interviews, it became evident to the researcher that cyberbullying is another key factor which is negatively affecting social media users. As noted, “time spent on social media may increase the risk of experiencing cyberbullying, which has a strong association with depressive symptoms.” (Williams, 2019). A report from the Royal Society for Public Health revealed that cyberbullying is one of the three major negative side effects of social media. The summarized findings from existing research are shown earlier in Figure 2.13.

The interviewed experts were of the view that cyberbullying is the intentional use of digital media to post hostile messages, rumours, awkward pictures, etc. to embarrass or cause harm to the victims. People negatively make use of social media to destroy the reputations of others or blackmail individuals through embarrassing videos, pictures or personal information. Most of the interview participants also agreed that cyberbullying is a risk for all users and is an online peer-to-peer risk as well. Most of the participants agreed that they had observed cyberbullying and a few also admitted to be cyberbullied.

The researcher further investigated these findings through the survey and added Question 27 which asked, “Have you ever encountered cyberbullying during your social media usage?” The survey results of this question revealed that 80% of young people had encountered cyberbullying often and 13% had sometimes seen cyberbullying in their interactions on social media.

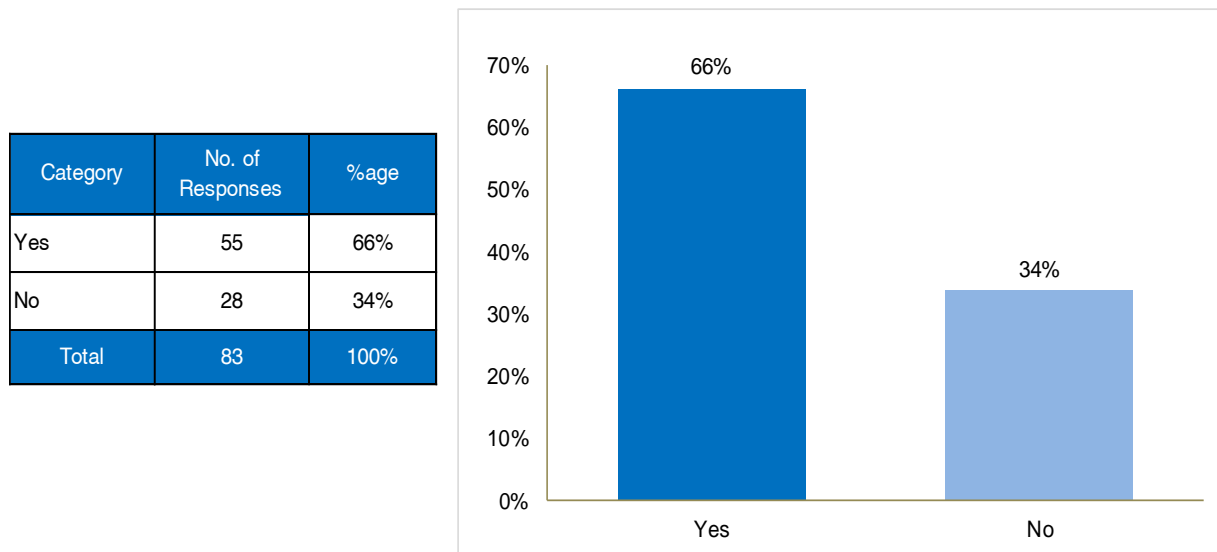
Figure 43: Bar Chart—Percentage of Respondents Who Encountered Cyberbullying on Social Media



Source: The researcher

In order to further explore cyberbullying the researcher asked Question 28, “Have you yourself experienced cyberbullying on social media networks?” 66% of the young people responded that they have experienced cyberbullying during their interactions on social media networks, and 34% of the respondents shared that they had not.

Figure 44: Bar Chart – Percentage of Respondents Who Experienced Cyberbullying on Social Media Networks

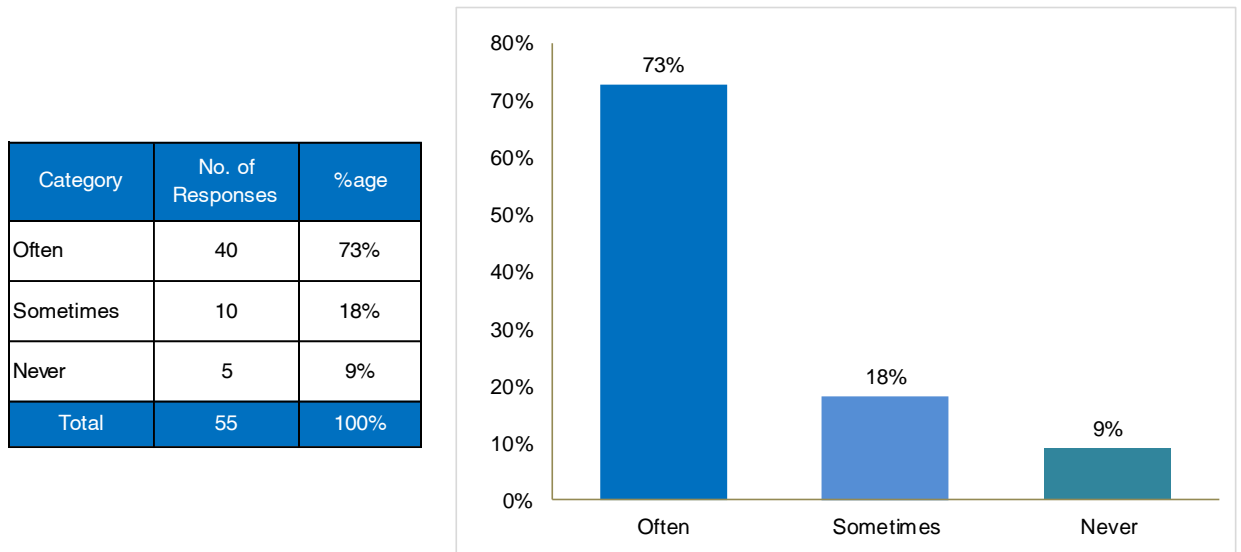


Source: The researcher

The literature review and interviews also showed that cyberbullying could push victims to isolation, loss of self-esteem, and fear of being judged and facing others, which leads to developing social anxiety. To support these findings, the researcher constructed Question 29 for the participants who answered yes to the previous question, “Have you ever experienced social anxiety when you were negatively treated or made fun of on social media platforms?”

The results of this question showed that 73% of respondents agreed that they often experienced depression and social anxiety when they were negatively treated or made fun of on social media platforms. 18% stated that sometimes they experienced social anxiety and 9% responded that they never felt social anxiety due to cyberbullying.

Figure 45: Bar Chart—Percentage of Respondents Who Experienced Social Anxiety from Cyberbullying



Source: The researcher

The researcher deduced from the survey results of Questions 27, 28, 29, the literature review, and interview data that cyberbullying is a common practice on social media and it is another negative factor resulting from social media use which can have enduring effects. Therefore, cyberbullying is considered one of the key contributors of social anxiety from excessive or negative social media use.

3.5.7 Insights and Data Analysis of Social Anxiety and Social Media

The literature review and experts interviews established that social anxiety causes psychological distress to a person, an imbalance in their life and also can lead to avoidance of certain scenarios. An even more problematic side of social anxiety is when people use social media as a way to avoid other difficult feelings so the use could become habitual. This use becomes a way of avoiding things in life but the persistent avoidance can lead to unhealthy psychological outcomes, when it takes people away from the life and things that would be meaningful and important for them.

In the expert interviews, Mr. La Follette, a psychologist, mentioned that if a young person is already dealing with anxiety and past traumas, excessive social media use can make it worse. Social media platforms ensures that the likes and engagements act as social rewards which feed

into further social media use. Users anticipate and expect likes and positive comments on their posts and derive worth from their online engagement. In this way they are also setting themselves up for disappointment in not receiving the desired outcomes. Mr. Greenspan also noted that if an already depressed person uses social media and sees what others are doing, being in a negative state of mind, anything they see would be “thought of negatively and comparatively from their own perspective.” Moreover, this stress might make them feel anxious, left out, and cause the person to develop low self-esteem and self-isolation leading to social anxiety.

When the interview participants were asked about social anxiety and if they ever experienced it due to social media use, the response was largely yes, as they recounted times when they have not posted things on social media, due to a fear of being judged or embarrassed. They were worried about what others would think of them based on that post, which shows low self-esteem, an indicator of social anxiety. A few of the respondents mentioned fearing responses on the posts, so they didn’t post at all. That again indicates socially anxious behaviour, and passive social media use.

Continuing this line of questions, the researcher asked question number 7, “Are you familiar with the term ‘social anxiety’?” Survey results showed that 75% of respondents were familiar with the term but 25% were unaware of it. These results marked that the majority of the respondents were aware of the term and would be in a position to respond to the questions asked as well as contributing factors. These results also corresponded with the general participant interviews, where 73%, 11 of 15 participants, stated they had a clear idea of what social anxiety is.

To keep all the respondents at the same level of information, the researcher explained the term ‘social anxiety’ and then asked the participants in Question 8 that “Do you think you have ever experienced social anxiety due to your social media usage?” As per survey results 63% of the respondents mentioned that they have experienced social anxiety due to their social media use and 37% said that they had not. This also matched with the results already mentioned of the general participant interviews, where a number of participants mentioned that they often stop posting online, for fear of being judged, humiliated or being drawn into an argument.

It was already determined through analysis that cyberbullying could be a key contributor of developing social anxiety in social media users as analysis of results of Question 29 showed that 73% of the respondents who had been cyberbullied admitted that they often experienced

depression and social anxiety when they were treated in a negative manner on social media platforms. Further relating to the analysis of the survey questions responses, social media users could be at a high risk of social isolation and experience social anxiety, as 86% of them are active users of more than 3 social media platforms and 81% of them spend more than 2 hours daily on social media. FOMO could urge, rather force, young people to check and respond to continuous updates on different social media platforms. All of these factors may lead to the development of social isolation, sleep disturbances, restlessness, stress and a pressure to stay online for prolonged hours and disturb their social as well as personal life as they focus more on online interactions instead of in-person social interactions.

People who experience mental health issues like social anxiety are already sensitive and the negative effects of social media could further aggravate their conditions. The researcher also found from the survey results that stress, anxiety, lack of focus, mood swings, and restlessness are experienced by young people due to their social media use. It was evident from the survey analysis that if people often make social comparisons with online friends or undergo a bad online experience, they were very likely to experience tension, anxiety, stress, depression, and passive social media use. Cyberbullying could directly lead to developing or exacerbating social anxiety. Also, being socially anxious, the person could be prone to passive social media use, leading to social media addiction and FOMO. This, in turn, could heighten their social anxiety by disturbing their sleep and keeping them using social media sites for prolonged hours.

3.5.8 Summary of Insights and Data Analysis

The researcher found that the mental health issues, including social anxiety, (dependent variables) are associated with excessive social media use (independent variable) through the key negative effects of social media use (mediators). These selected key negative effects of social media e.g., depression, social media addiction, cyberbullying, sleep disturbances and FOMO, could be factors behind mental health issues such as stress, anxiety, depression, and social anxiety among young people. The researcher also found out that if people are already anxious or depressed, they may be more prone to being affected by the negative effects of social media which could lead to exacerbating already existing social anxiety and other mental health conditions.

3.6 Hypothesis Testing

At the start of this study, the researcher set forth three hypotheses which in this section are evaluated under the light of the research findings.

3.6.1 Hypothesis 1

RH1: Excessive social media use by young people could result in multiple negative effects

Research Findings:

1. From the literature review it was found that there are multiple negative factors emerging from excessive use of social media by young people.
2. The expert and participant interviews showed that young people face multiple negative effects due to excessive social media use. The researcher selected and explored five key negative factors which are a product of excessive social media use and found through interviews that young people are indeed affected by them.
3. Along with the findings of the primary and secondary data, the analysis of the survey results also revealed that excessive social media use in young people could result in the five selected negative effects of social media.

Data analysis of the survey questionnaire, which is discussed in this section 3 under section 3.3, indicated that young people do experience these negative factors while using social media excessively.

Conclusion: Hypothesis RH1 is accepted.

3.6.2 Hypothesis 2

RH2: Young people using excessive social media are more likely to experience mental health problems

Research Findings:

After analyzing the literature review, the insights from interviews, and survey results, the researcher explained in section 3.4 that excessive social media use by young people could result in multiple negative effects and these negative effects are factors in developing mental health problems. A few key findings are:

1. Depression is found to be one of the key negative effects of social media use and it can lead to mental health problems in young people.
2. It became evident that internet addiction is exacerbated by excessive social media use and it could cause mental health issues for young people.
3. The researcher also established from the research findings that cyberbullying can be a negative effect resulting from social media use and could lead to further mental health problems.
4. The research findings also revealed that disturbed sleep could be a negative effect of excessive social media use and lead to other mental health problems.
5. The Fear of Missing Out (FOMO) was also found to be a result of negative social media use and contributes in developing mental health issues.

According to the research findings regarding key negative factors resulting from social media use and mental health problems in young people, these key negative factors can cause mental health problems in young people.

Conclusion: Hypothesis RH2 is accepted.

3.6.3 Hypothesis 3

RH3: Social media is a contributing factor in developing or exacerbating already existing social anxiety among young people

Research Findings

1. It was determined from the research findings that negative effects resulting from social media contribute in developing or exacerbating already existing social anxiety in young people. It was evident from the research results that social media users are at a higher risk of social isolation and could experience social anxiety from cyberbullying, social media addiction and depression. Also, it was found that FOMO and disturbed sleep indirectly contributes to stimulating social anxiety. FOMO could also increase sleep disturbance, internet addiction, and depression.
2. The researcher also found that if people are already anxious or depressed and they use social media sites excessively then they are more prone to be affected by the negative effects of social media which could lead to intensifying already existing social anxiety and other mental health conditions.

After analyzing the findings of the literature review, interviews and survey results, it was found under section 3.4 that excessive social media and its negative factors could develop or contribute in increasing social anxiety in young people.

Conclusion: Hypothesis RH3 is accepted.

3.7 Section Summary

In this section the researcher has examined and summarized a conceptual framework, research methodology and analyzed the insights and findings from his research. The researcher linked the findings of the literature review, the insights of the one-to-one interviews, and questionnaire survey results to analyze and present the research findings. The researcher also explained the implications of each survey question and stated how its results are helpful in evaluating links of excessive social media use with mental health issues and social anxiety. Lastly, following the defined research methodology supported the researcher to evaluate and verify the research hypotheses, and deeming them acceptable.

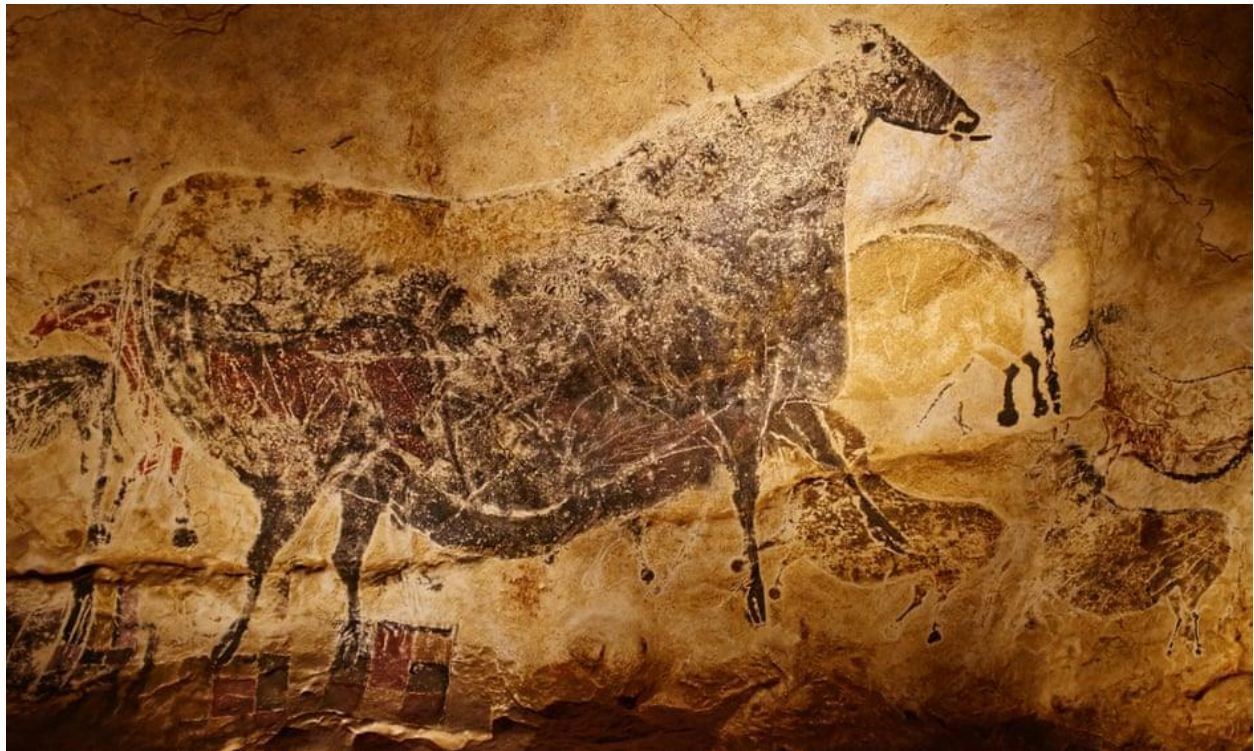
Section 4: The Design Response

4.1 Visual Communication

The role of visuals as modes of communication goes back as far as the history of the human race can be tracked (Novak, 2019). In the palaeolithic age, visuals created upon cave walls helped people in expressing their thoughts and feelings (Zalac & Fleerackers, 2015).

Be it the renowned cave paintings of Lascaux dating back 10,000 years or the more recently discovered cave paintings in Indonesia (Callaway, 2019), one can see how images were utilized as forms of expression. With depictions of large beasts, often shown towering over human figures, these paintings could have been interpretations of dreams, real life incidents or just stories told through images. But the choice to use images as the medium to give their thoughts a form speaks to the effectiveness of visuals.

Figure 46: A Palaeolithic Cave Painting in Lascaux, France



Source: Getty Images

Another much later, yet interesting use of visuals used as a form of communication came with the usage of hieroglyphics in ancient Egypt. It was a written language used primarily to adorn the

walls and insides of tombs and monuments, and used stylized images of people, objects and animals to create its words and letterforms (Kiger, 2021).

Figure 47: Ancient Egyptian Hieroglyphic



Source: Getty Images

What is interesting to note in this ancient language was that despite being a pictorial language, the words did not exactly represent those pictures. According to Kiger (2021), some words were phonetic (representing sounds) while others were ideograms — a graphic symbol that represents an idea or concept. This shows how visuals were, and can be, adapted to signify more than just the obvious when it comes to communication.

On the topic of communication through the power of visuals, it would be amiss to not talk about the effectiveness of imagery in the conveyance of an intended message in advertisements. Visual based advertisement, much like social media, is a tool that puts across an intentional message for its audience.

Although print advertisement had existed for a long time, advertising as we know it today really took off in the 1950s. With World War II having just ended, and goods no longer scarce in supply or production (at least in North America), it was an opportunity for products to be

advertised (Chron, 2020). And they had a very powerful medium to do so—the television (TV). Unlike the radio or newspaper, TV was a more enticing way to spread a message, offering moving visuals and sound. By 1959, TV commercials could reach 90 percent of all U.S. households (Chron, 2020). With this type of reach and the use of catchy jingles, memorable animated characters and celebrities as product endorsers, advertisement proved to be an effective communication medium.

Figure 48: A Still from a Marlboro Cigarettes TV Ad from 1955



Source: YouTube

In the following years, marketers began to specifically target certain demographics to sell their products to, using product personification as an effective approach. Smoking was marketed as a desirable trait through the Marlboro Man. Meanwhile, Tony the Tiger with his animated movements, bright colours and catchphrase became a favourite for children, making Kellogg's a bestselling brand. Similarly, the Michelin Man and Mr. Clean became popular characters and successful examples of the power of brand personification, identity, and effective visual communication. Behind all of these, and countless other successful advertisements were

extensive surveys, testing and research to gauge the intended consumer's needs (USC Online, n.d.).

Figure 49: Kellogg's Mascot Tony the Tiger's 1953 Ad (left) and a Recent Iteration (right)



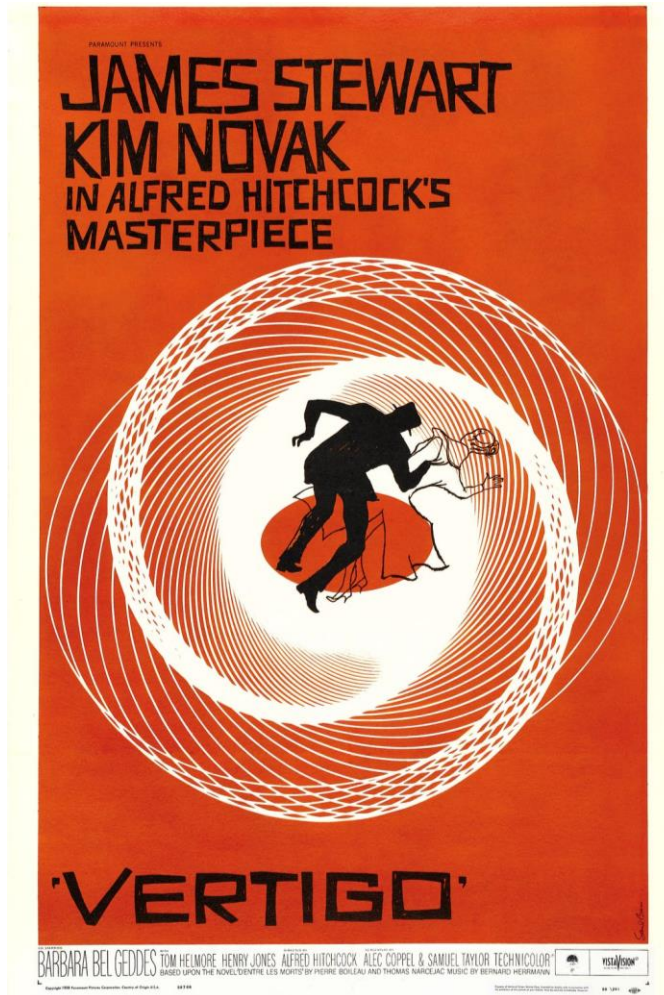
Source: Vintage Adventures (left), Kellogg's (right)

The influence of visuals had already been witnessed through the propaganda posters of war, but after the war, design was employed to boost consumerism, telling the masses how a certain product may enhance their way of life, and what a perfect household looks like. In this economic boom, with the rising demand for advertising and packaging, the demand for graphic design (and thus, for designers) grew (Toth, n.d.).

The world saw influential designers like Saul Bass emerge, who is known for his iconic logo designs for Kleenex, Quaker Oats and the Girl Scouts. He also designed for film, where his unforgettable work for the films of Alfred Hitchcock and Stanley Kubrick is revered (Toth, n.d.). His use of shapes and silhouettes with striking custom typography, often against a bold and contrasting background, were something that was new, and the novelty of his designs redefined what a poster could look like (Dvorak, 2019).

Even though the designs from the 50s are now considered vintage, they are still seen as defining pieces in the history of visual communication design.

Figure 50: Saul Bass' Poster Design for the Film Vertigo



Source: Saul Bass Poster Archive

One other example of the power of communication through visuals is the content that the researcher himself consumed as a child. Growing up as a non-native English speaker, the researcher noted that the most popular cartoon show was Tom and Jerry. Showcasing a rivalry between a cat and a mouse, what was special about this show was that it rarely, if ever, depended upon spoken words to carry the narrative forward. Instead, it was through the establishment of atmosphere and mood, through the characters' expressions and antics and the very pertinent accompanying background score, that an entire story was conveyed to the viewer. Freedom from a language barrier is what makes Tom and Jerry globally recognized and enjoyed, and any

episode of the show is a great exercise in storytelling through the use of visuals. It should also be noted that the use of little to no spoken words meant this cartoon could easily be used in many different countries.

Figure 51: A Still from the Show Tom and Jerry



Source: YouTube

4.2 Design for Action

As the researcher discussed in the literature review of existing design works, visual communication can be a very powerful tool of messaging for the general masses. It could still be seen as an advertisement, but with different intentions.

Uncle Sam, a nickname for the United States (U.S.) devised by American soldiers, can be considered an icon in the history of visual communication design. Although the name Uncle Sam had taken the form of a man through many previous iterations, one of his most famous forms was an illustration by James Montgomery Flagg, wearing a top hat and pointing his finger at the viewer when it appeared on a magazine cover.

The image was later adapted by the U.S. Army for a poster with an unforgettable call to action “I Want You For U.S. Army” that had over 4 million copies printed between 1917 and 1918 (Knauer, 2017). The image was solidified as one of American patriotism so much so that it was used in World War II as well, and became a symbol to be used in mediums ranging from posters

to stamps to political cartoons (National Geographic Society, 2020). Its success is such that it is still seen as one of the symbols globally associated with the US, and frequently used in visual media.

Figure 52: The Uncle Sam Recruitment Poster by James Montgomery Flagg



Source: Getty

Rosie the Riveter is an iconic piece of advertising which came to the fore during World War II. Aimed at recruiting female workers for the defense industries during the war, she became an image synonymous with working women (History, 2021). The strong, bandana wearing and bicep flexing Rosie became one of the most successful recruitment tools in American history, seen everywhere from movies, newspapers, propaganda posters, photographs and articles.

The Rosie the Riveter campaign stressed the patriotic need for women to enter the workforce. Its success was clear as over 310,000 women were working in the U.S. aircraft industry by 1943, making up 65% of the industry's total workforce compared to just 1% in the years preceding the

war (History, 2021). The impact of this campaign helped to change the workplace and the concept of women empowerment forever, as women proved that they could successfully work to support themselves independently. After the war, while continuing to face a myriad of barriers, more work opportunities opened up for women, assisted in a small part by an effective design campaign.

Figure 53: The Original Rosie the Riveter Prototype by J. Howard Miller



Source: History.com

The power of visual symbolism can also be witnessed through the evolution of the raised fist against oppression. It first came to visualization by the French painter Honoré Daumier in a depiction of the 1848 French Revolution but the fist was first used as a symbol in modern times in 1917, on posters created by the Industrial Workers of the World, an international labour union, and has been associated with workers movements since then (Green, n.d.).

The symbol was also used in the Spanish Civil War, the 1968 Miss America Protests against misogyny, against homophobia in the 1969 Stonewall Riots and the Orlando nightclub shootings in 2016, and up to the Black Lives Matter movement in 2020 (The Black Sheep Agency, 2020). It has signified resilience and resistance against the powers that oppress, and it is a strong and effective example of bringing awareness to an important issue through visual communication.

Figure 54: The Symbolic Use of the Fist in a Cartoon for Workers Union Rights in 1917 (left), and for Racial Justice in a Black Lives Matter protest in 2020



Source: Alamy (left), Jason Connolly/AFP (right)

4.3 The Design Response

4.3.1 Overview

Design has undergone an evolution through the years, but it should always be reflective of the world in which it exists. While design is essential for commercial purposes, effective and responsible design must also address pressing issues. In section 2.11, the researcher discussed existing design works and campaigns that address excessive or problematic social media use and how it impacts the mental health of people. Looking at these design works gave the researcher insight into how these topics have been attempted in existing works, and how his own response could address these topics.

Having examined all of the design case studies, as well as the findings of the data from Sections 2 and 3, the researcher decided to design a campaign around excessive social media use and its negative effects on mental health. For this purpose, the researcher designed a series of four short animated videos based upon the topics of the selected key negative factors from Section 3 like Disturbed Sleep, Depression, FOMO, Social Anxiety, Social Media Addiction and Cyberbullying.

4.3.2 The Design Process

The researcher began the design process by creating storyboards, then designing the characters and environments in the Adobe Illustrator software, and then animating the illustrations using Adobe Animate. The post production and sound design was then finished in Adobe Premiere and After Effects software.

To document the process, the following sections will be a walkthrough of the design process for the videos.

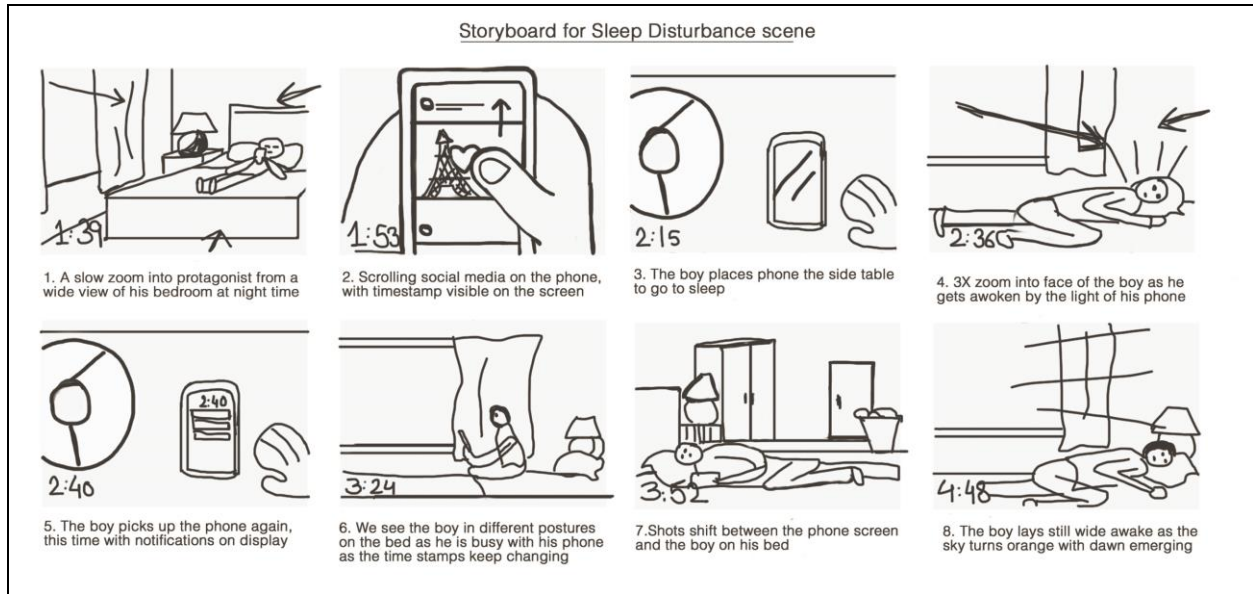
4.3.3 Animation Short 1

The first short video explores the topics of Disturbed Sleep, FOMO, Internet/Social Media Addiction and Anxiety. It starts off with a boy scrolling through social media at night before going to bed. He puts down his phone after some time, and turns over to sleep, but is awoken by the display screen light of his phone. That starts him off with his social media use again, as the minutes keep passing by. By the time he gets ready to finally fall asleep after his phone use, daylight is already starting to emerge and he lays in bed with his eyes open with anxiousness.

This video's setting was a bedroom at night time. The choice of colours was set accordingly, with shades of blue and teal throughout the environment to signify a dark indoors setting. The only use of several colours, as required, was in the content that the boy is watching on his phone, and towards the end of the video which signifies the arrival of dawn. The only light sources were the room's window and the phone, which was established through the use of colours as well. The character designs in this animation were mainly the protagonist boy, as well as the various people and animals that show up on his phone screen.

Having devised the narrative of the animation, the researcher then created a storyboard that captured the settings, screen movements, number of characters and angles needed for each shot of the animation. The figure below shows the storyboard for the first clip.

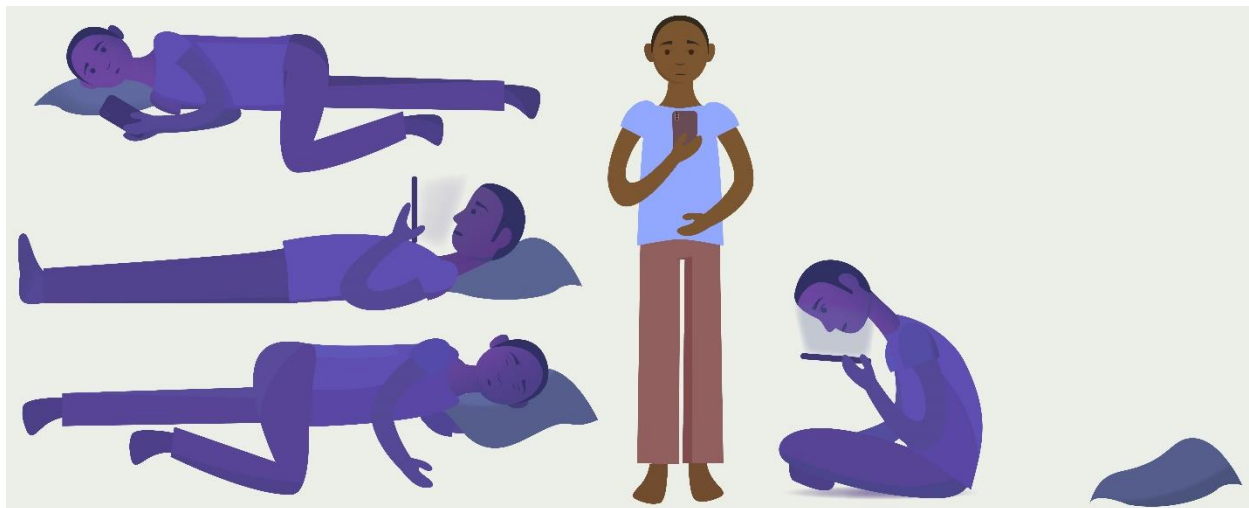
Figure 55: Storyboard for Animation Short 1



Source: The researcher

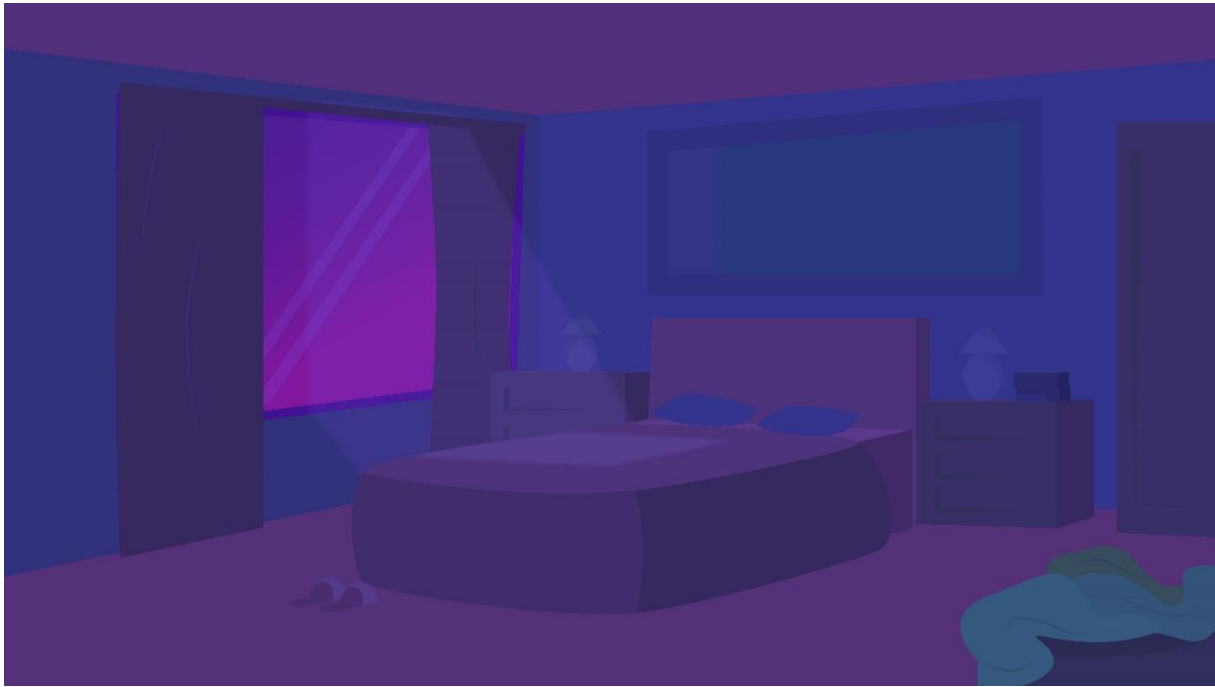
The researcher then created the illustrations for the protagonist and any background characters, as well as the environments for the animation, as seen below.

Figure 56: Character Variation Examples Used in Animation Short 1



Source: The researcher

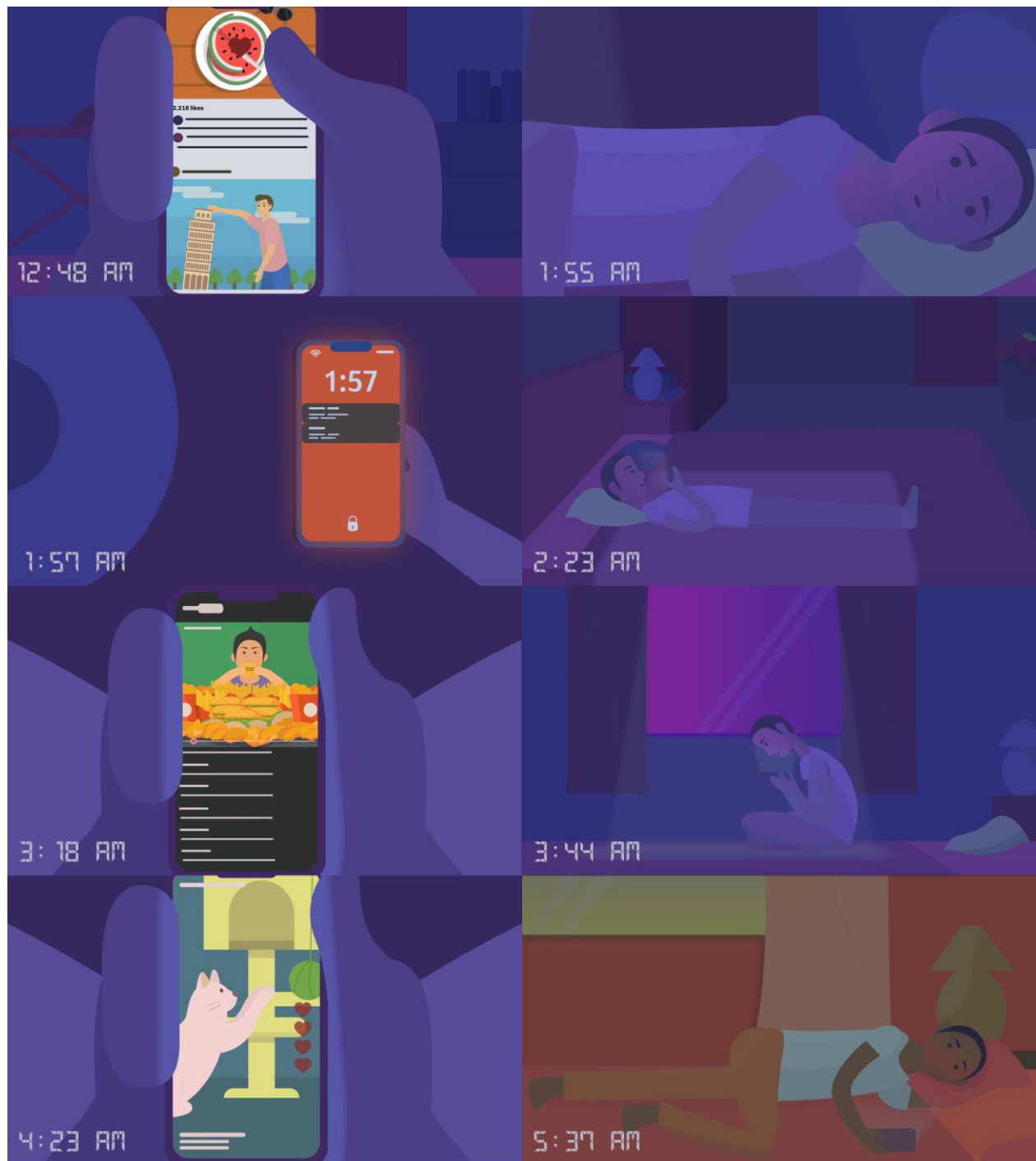
Figure 57: The Environment Design Used in Animation Short 1



Source: The researcher

The illustrations were then animated and the background music and sound effects were added where necessary, thus completing the video.

Figure 58: Screenshots from Animation Short 1



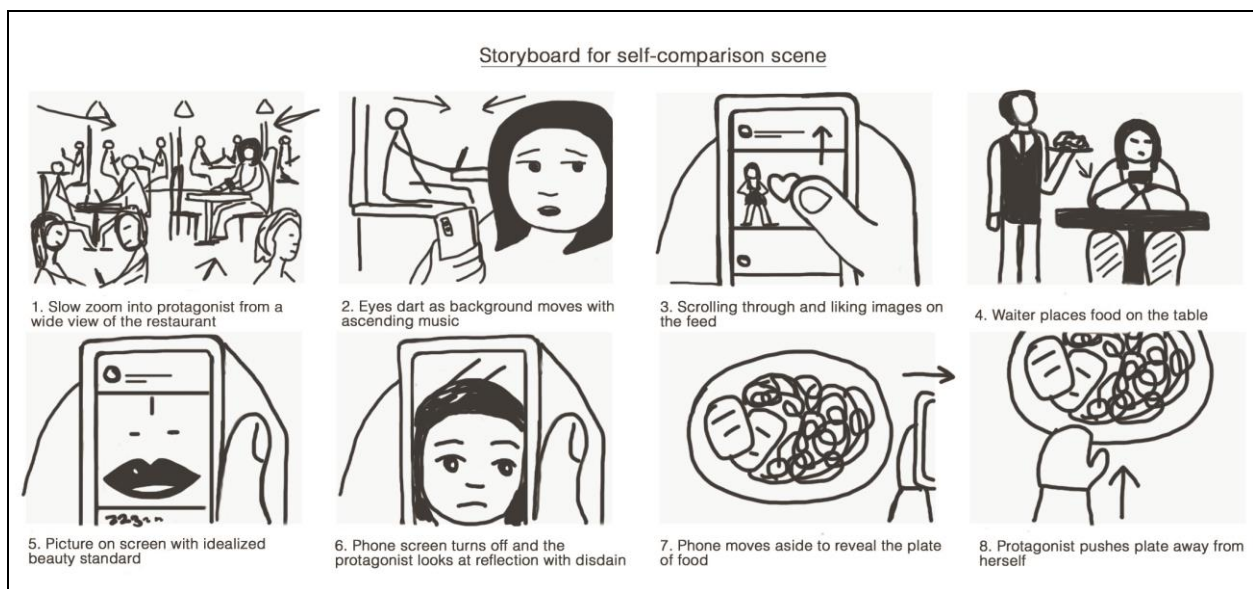
Source: The researcher

4.3.4 Animation Short 2

The second animated short revolves around Social Anxiety, Depression from Social Media Use, and touches upon harmful social media effects such as Low Self-Esteem, Body Image Issues and Eating Disorders. The story involves a young woman dining by herself in a restaurant, and she feels conscious of the people around her dining with their companions and on their phones. The sense of being alone and the noise from the other patrons' phones becomes too much for her, so she shifts her focus to her own social media feed on her phone. On her social media, she begins scrolling through and liking every picture she comes across, mostly those of idealized beauty standards. Her food arrives, and as she switches off her phone from the social media, she catches her reflection in the blank screen. Noticeably disappointed, she puts her phone away and seeing her plate of food on the table, pushes it away from her as well.

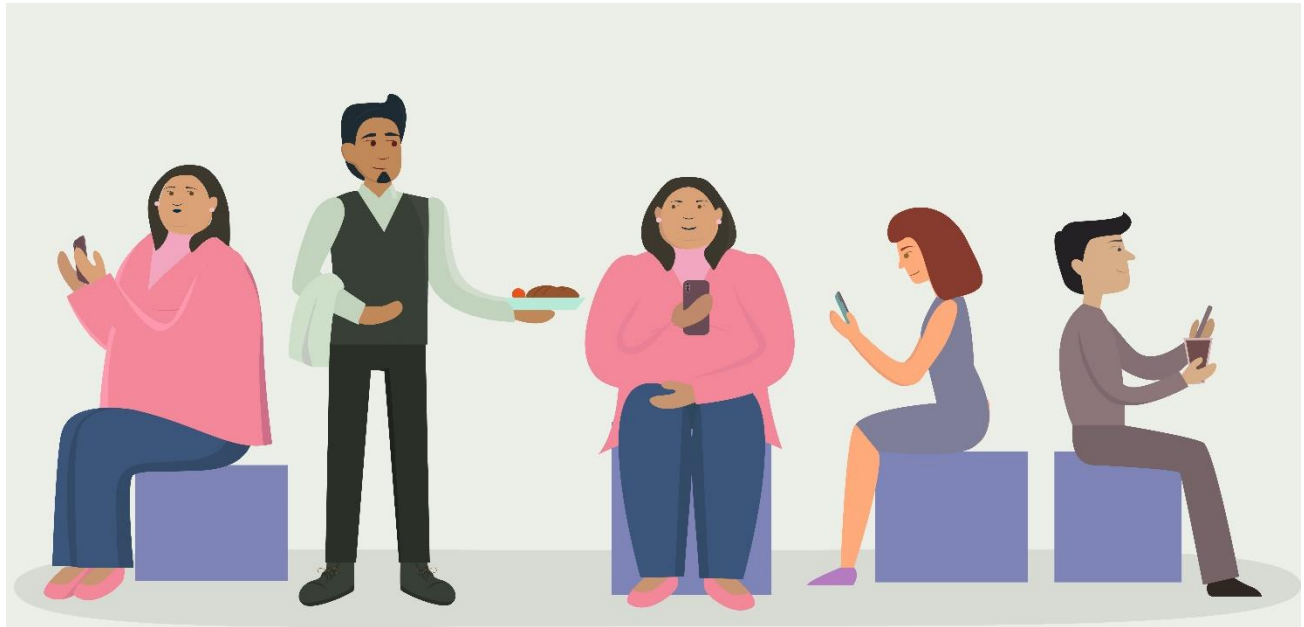
This animated video is set in a busy dining area of a restaurant. The colours are chosen accordingly. The characters include the main protagonist, the other diners and staff in the restaurant as well as the characters on the protagonist's screen. The light settings in the animation were bright, established through the chosen colours, to portray a well-lit restaurant. The supporting characters were all diverse in terms of their skintones, hair colours, facial features and outfits.

Figure 59: Storyboard for Animation Short 2



Source: The researcher

Figure 60: Character Examples Used in Animation Short 2



Source: The researcher

Figure 61: The Environment Design Used in Animation Short 2



Source: The researcher

Figure 62: Screenshots from Animation Short 2



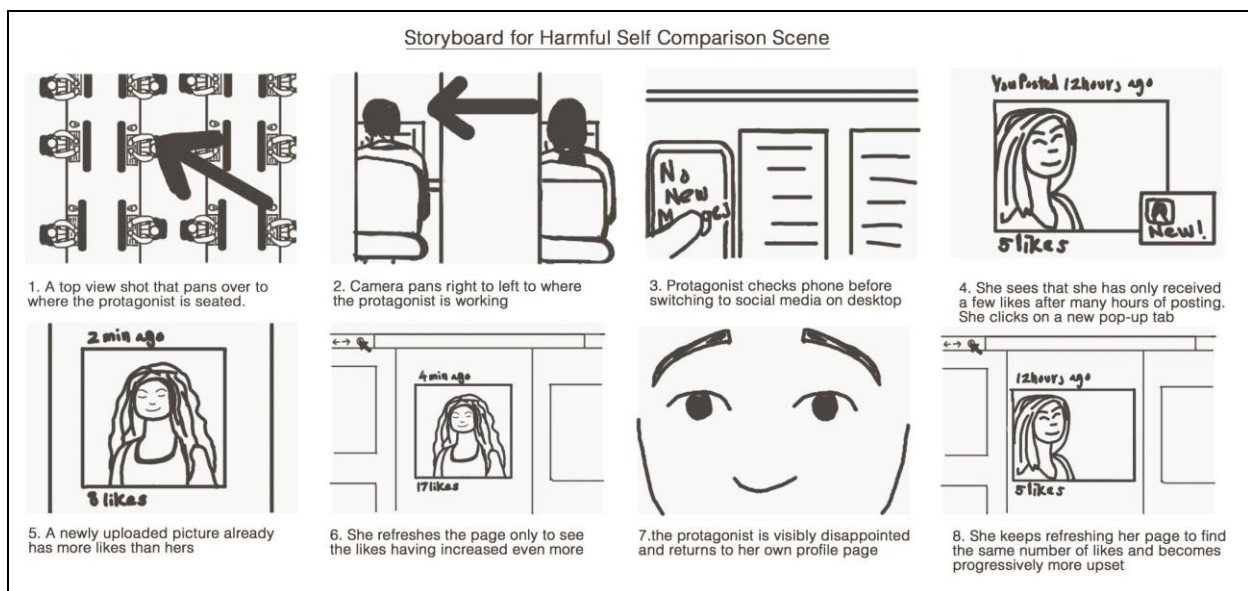
Source: The researcher

4.3.5 Animation Short 3

Animation number 3 deals with Depression from Social Media Use, Stress, Negative Self Comparisons and FOMO. It takes place in an office, where a woman checks her social media profile to see the responses she has received on a picture she posted many hours ago. Her likes are not many, and she notices a more recently uploaded picture by an account she follows already garnering more likes in comparison to hers. This visibly disappoints her, and she goes back to her profile page in hopes of having gotten more engagement, but that is not the case. In the end, she can be seen continuously refreshing her social media page only to see no new notifications every time.

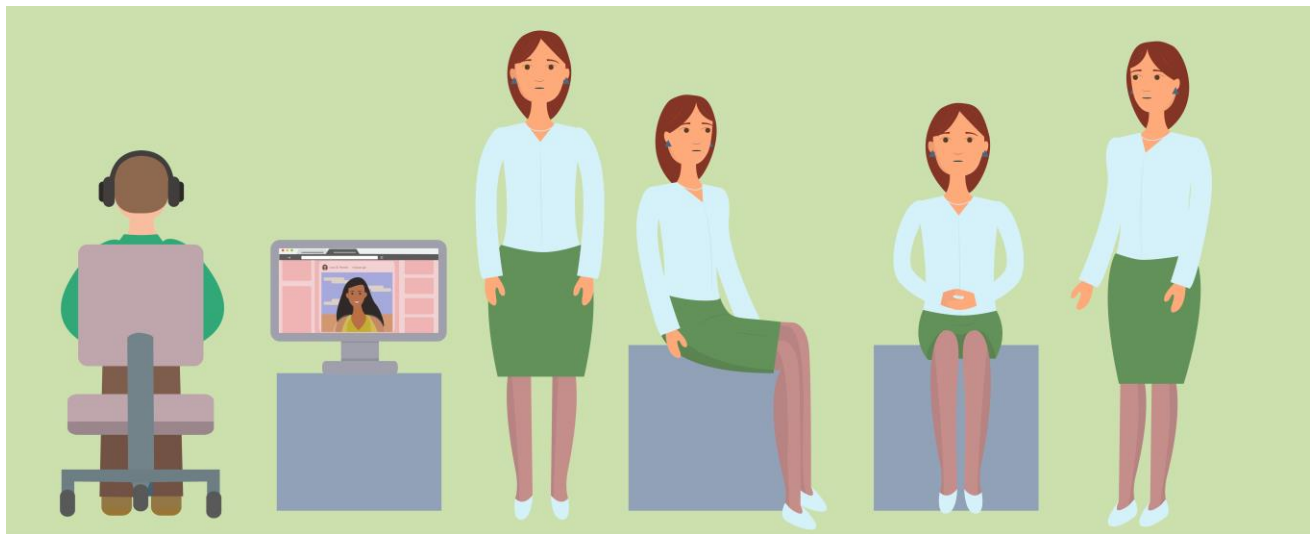
The setting for this video is an office, with all the employees working in small cubicles next to one another. Apart from the protagonist woman, the other characters include her fellow employees, as well as the person she follows online. The colours and light settings were chosen to show an indoors office environment, with shades of blue used for the cubicle spaces and more varied colours for the furniture, accessories and the characters for contrast.

Figure 63: Storyboard for Animation Short 3



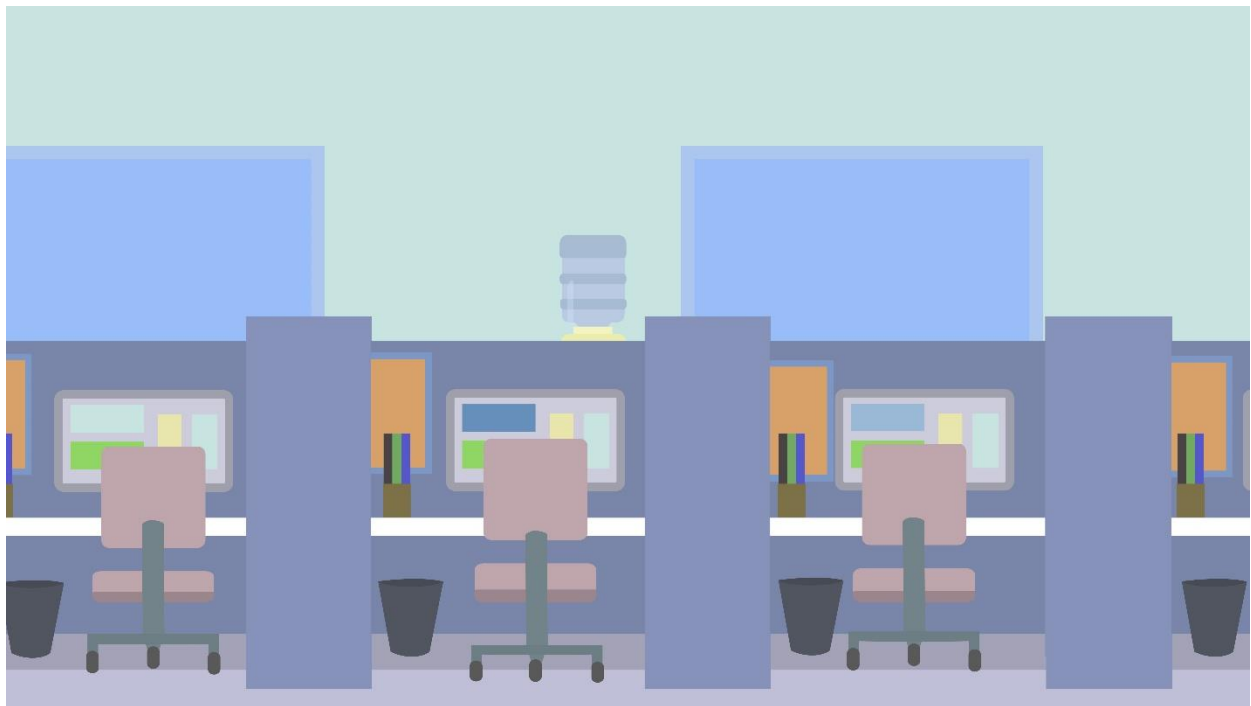
Source: The researcher

Figure 64: Some Character Examples Used in Animation Short 3



Source: The researcher

Figure 65: The Environment Design Used in Animation Short 3



Source: The researcher

Figure 66: Screenshots from Animation Short 3



Source: The researcher

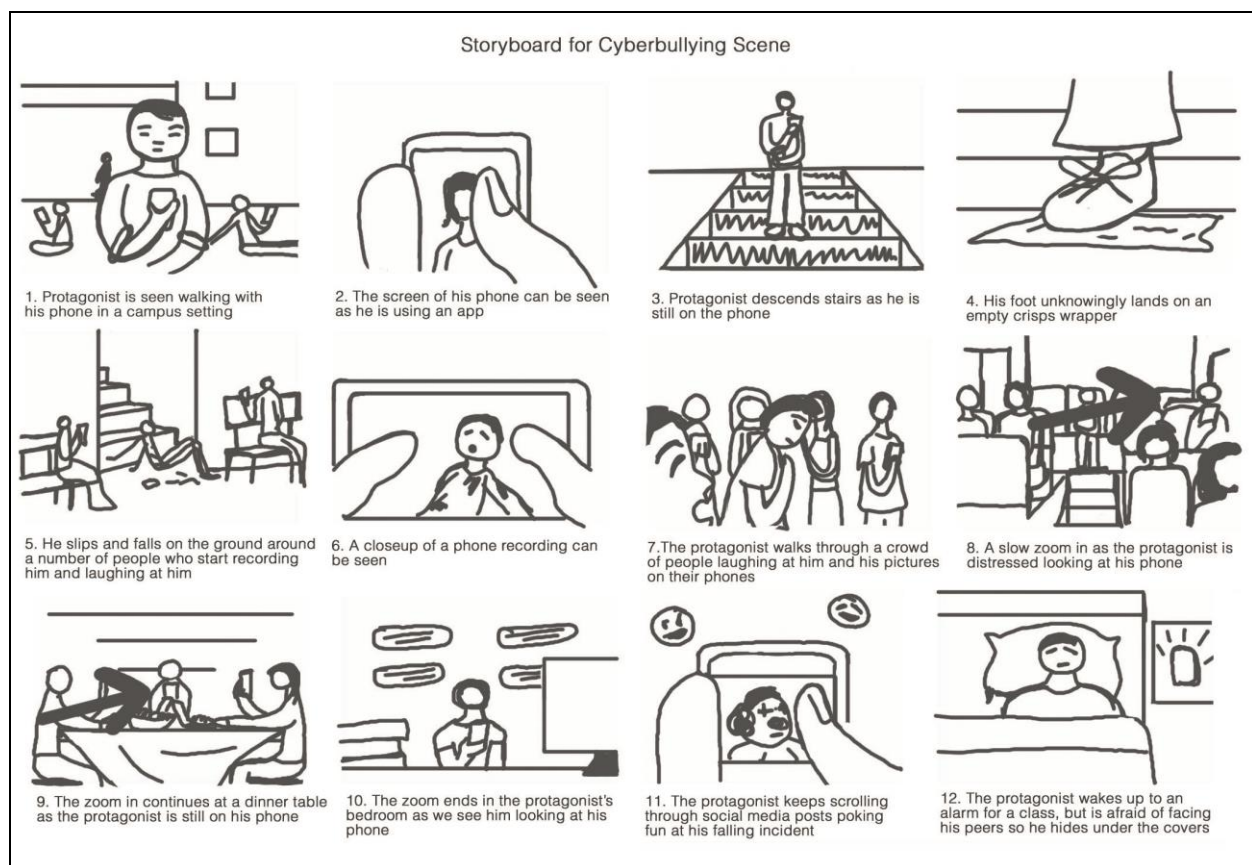
4.3.6 Animation Short 4

The 4th animated short is about Cyberbullying, Social Anxiety, Internet/Social Media Addiction and Sleep Disturbances. It shows a young student slipping onto the floor and spilling a drink on

himself amidst a crowd of people, many of whom record it on their phones. The pictures and video clips of the incident get shared on social media, and he is made fun of in various ways in physical and online spaces. The student feels stressed, humiliated and afraid to face people again, and his sleep also suffers as a result.

This animated video takes place in a number of settings: indoors and outdoors on a university campus, in a public bus, at a dinner table in a house and in a low-lit bedroom. These environments were designed accordingly, with separate colour palettes used for each location to signify the location and its light settings e.g., a sunlit courtyard of a university or artificial light in a dining room in a house. This animated video required the designing of a host of characters which included, in addition to the main protagonist, the students at the university, the passengers on the bus and the protagonist's family at home. The researcher made the character designs to be varied and diverse in terms of their skin tones, hair colours and textures, facial features and outfits.

Figure 67: Storyboard for Animation Short 4



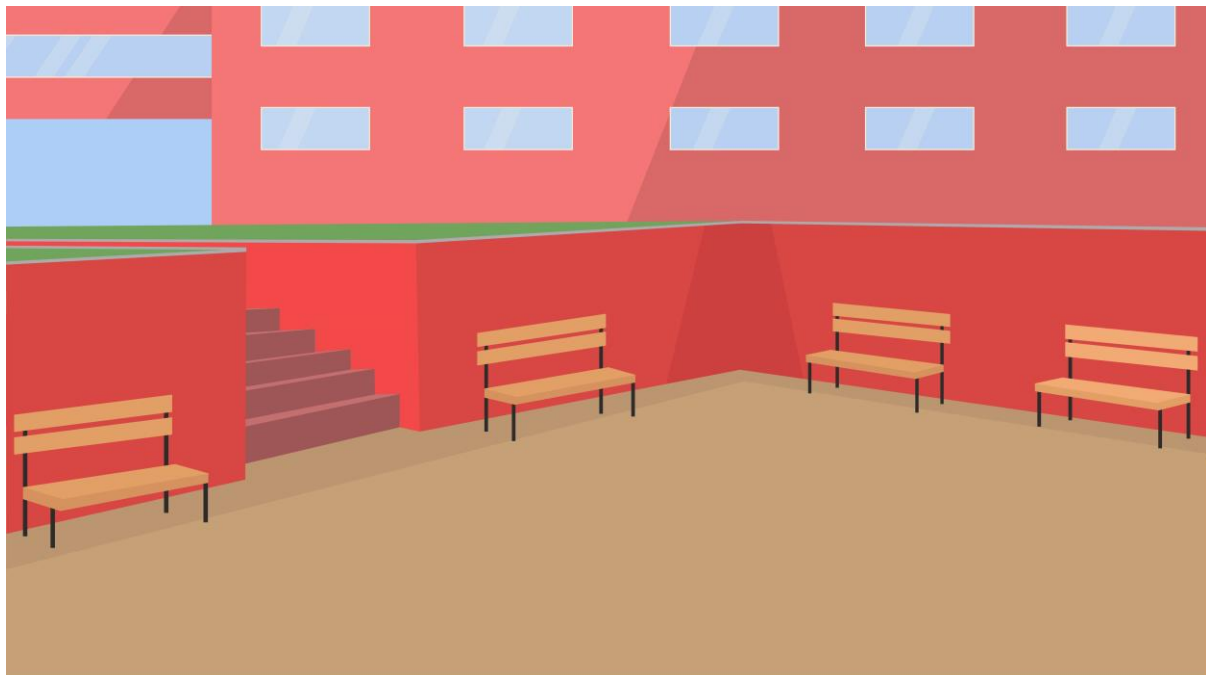
Source: The researcher

Figure 68: Some Character Poses Used in Animation Short 4



Source: The researcher

Figure 69: The Environment Design Used in Animation Short 4



Source: The researcher

Figure 70: Screenshots from Animation Short 4



Source: The researcher

4.3.7 Visual Identity

Once the animated short videos were completed, the researcher titled his proposed ad campaign the same as his thesis title: *Mindfully Social*. The meaning of the title implies that a user should be mindful that their social media use is not having negative effects on their health, both physical and mental, and that they do not fall into excessive social media use and the harmful effects it brings with it.

Figure 71: The Logo for the Proposed Ad Campaign



Source: The researcher

For the visual identity of the proposal, the researcher created an identity which can be seen in the figure above. The logo had the words composed in a stacked manner, and the word “mindfully” has a heavier stroke thickness than the word “social”. This was to set apart the two words to lend some variation and hierarchy to the logo design, with the word “mindfully” stressed upon through its stroke weight, despite its smaller size. Also, in the word “social”, the letter O was replaced with an icon of a cell phone, as a symbol for a social media device. The phone icon was also incorporated considering that, according to Kemp (2021), 98.8% of all social media users worldwide access their social media through their cell phones.

Figure 72: Information for the Logo for the Proposed Ad Campaign



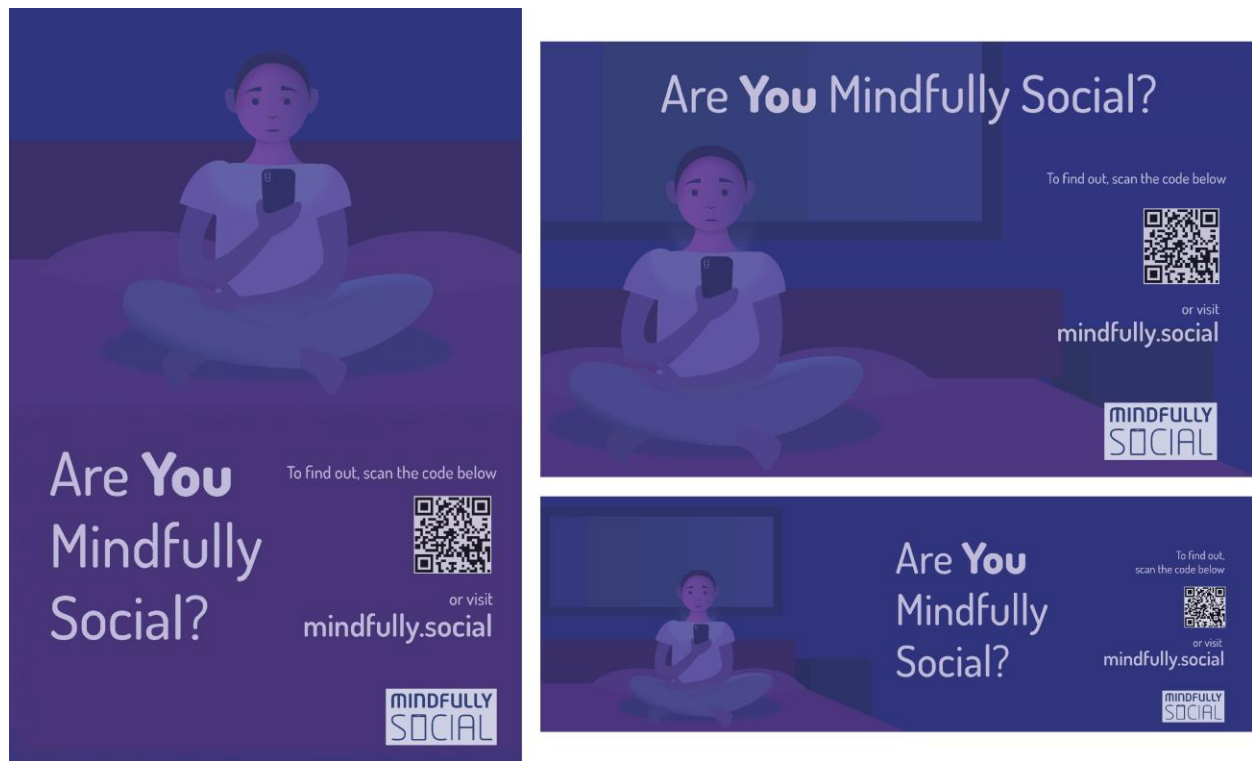
Source: The researcher

The researcher used the colour blue for the logo as, according to Singh & Srivastava (2011), blue is seen as a cool colour which has a calming effect on the mind. It is often used to symbolize trust, confidence and dependability, but at the same time it is used to denote depression which is a topic that this research deals with as well.

4.3.8 Advertisement Poster Campaign Proposal

As part of the design response, the researcher also proposed an advertisement campaign. One part of the campaign was connected with the animated videos, where visuals from the videos were used on the posters. The posters had the words “Are **you** mindfully social?” in prominent letters, with a prompt that said “To find out, scan the code below”. The poster had a QR code on it, and scanning the code would lead the viewer to the website, while the link of the website was also mentioned on the poster.

Figure 73: Poster Designs for the Promotion Campaign in Vertical (left) and Horizontal (right) Orientations



Source: The researcher

This part of the poster campaign using visuals from the videos would primarily be seen in print mediums like newspaper ads, magazine ads and flyers, as seen in figures 74 and 75. These visuals would additionally be turned into ads to be used on billboards, public transport ads for buses and trains and posters for display in public spaces (e.g., cafes). Alongside this, motion posters, banner ads and pop-up ads would be used for social media platforms like *YouTube* and *Facebook*, in addition to blogs and articles related to social media and mental health. These ads would redirect the viewer to the website or the *YouTube* page for *Mindfully Social*. Promoting this campaign in online avenues would increase the chances of getting the message across to the audience demographic it is intended for. This poster campaign would be used as a teaser campaign before the release of the animated videos, and for promotion purposes after the release of the videos to pique the audience's interest.

Figure 74: Proposed Print Ad for the Campaign Shown in a Newspaper



Source: The researcher

Figure 75: Proposed Print Ad for the Campaign Shown in a Magazine



Source: The researcher

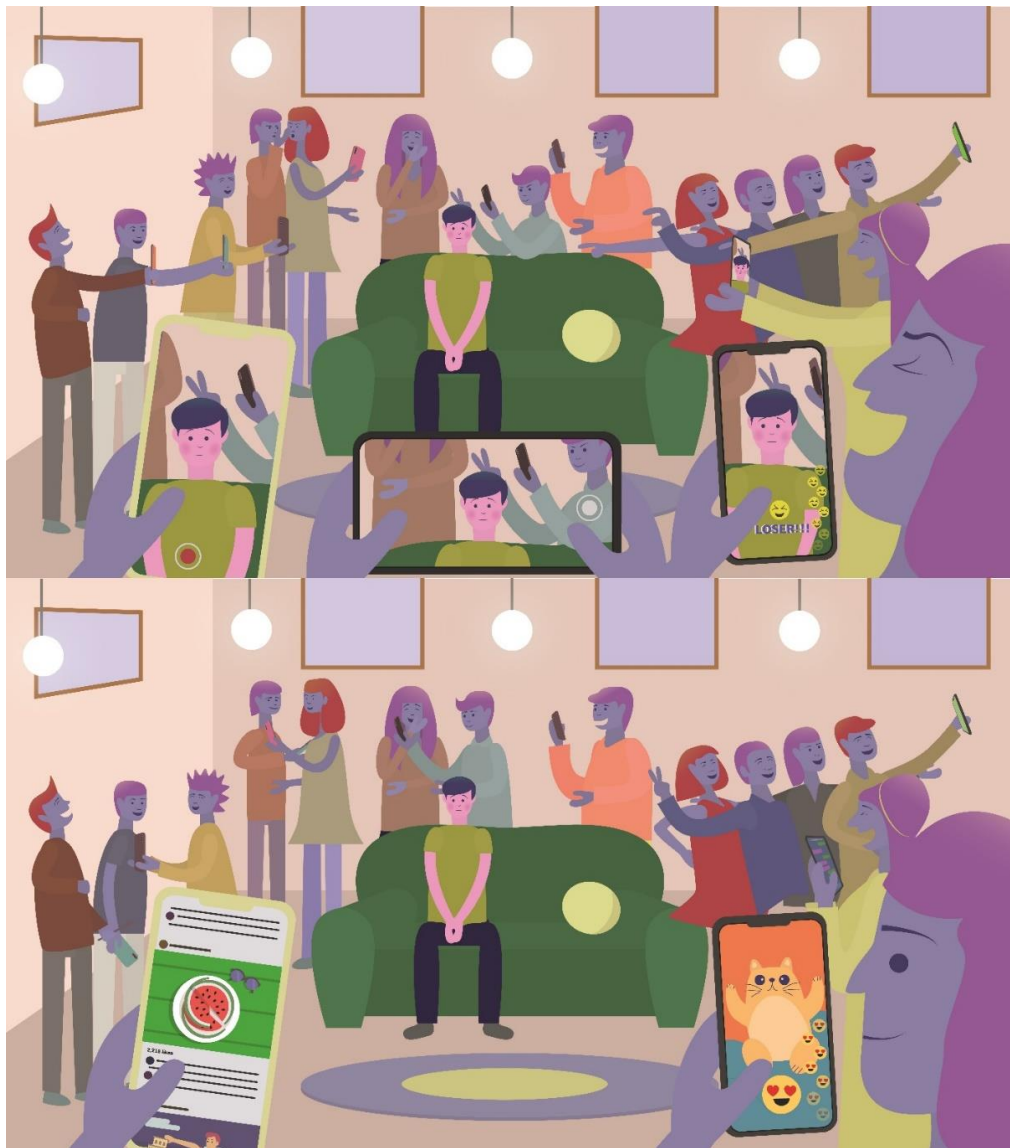
Figure 76: Proposed Ads for the Campaign Displayed on Public Billboards



Source: The researcher

Another design campaign was created for promotion purposes, which is an extension and continuation for the education and awareness of the audience on the topic of mental health issues related to social media use. As an example of this campaign, the researcher created an illustration that depicts two sides of a social situation experienced by a socially anxious person: one that they are thinking is happening around them, and one that is actually happening. The two illustrations were juxtaposed next to each other on the designed posters to have a side-by-side comparison, as shown in Figure 76.

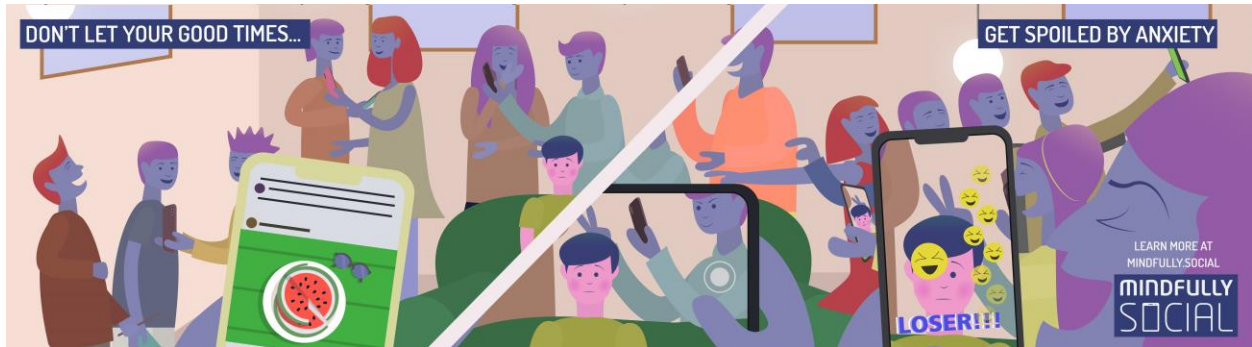
Figure 77: The Illustrations for the Proposed Ad Campaign



Source: The researcher

The designed posters are shown in the figures below, as well as proposed ideas for their public display in physical spaces.

Figure 78: The Poster Design Version 1 for the Proposed Ad Campaign



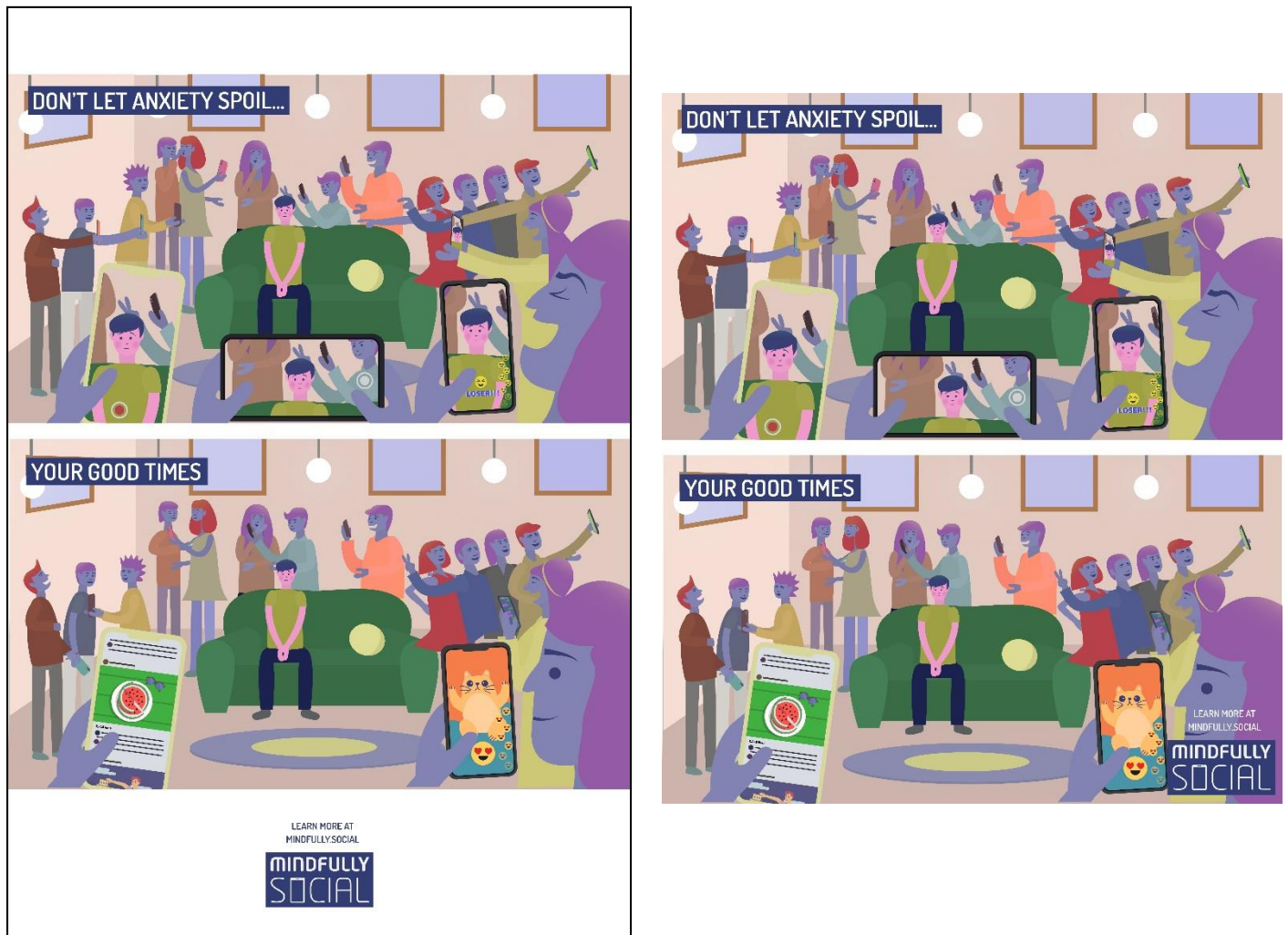
Source: The researcher

Figure 79: The Poster Design Version 1 for the Proposed Ad Campaign



Source: The researcher

Figure 80: The Poster Design Version 2 Variants for the Proposed Ad Campaign



Source: The researcher

Figure 81: The Poster Design Version 2 for the Proposed Ad Campaign



Source: The researcher

Figure 82: The Poster Design Version 2 for the Proposed Ad Campaign



Source: The researcher

One other aspect of advertisement and promotion includes the creation and utilisation of a designed character. This character was created to appear gender neutral, so that a larger audience could relate to it. It has exaggerated features, like long limbs and a light yellow skin tone, and a simple design. This character was proposed to be used as a mascot figure for future promotional advertisements and campaigns where it would be a common and recurring element between the campaigns. This increases recall value and familiarity for the brand, which gives the conveyed message a better chance of being remembered by its receiver. This character was intended to be used in standalone campaigns aimed at educating the general public about negative social media

use and its harmful effects on mental health, and would be separate from the main narrative based animated videos that *Mindfully Social* produces.

Figure 83: A Proposed Informative Poster with the Designed Character (left) and a Proposed Public Display of a Character Poster (right)

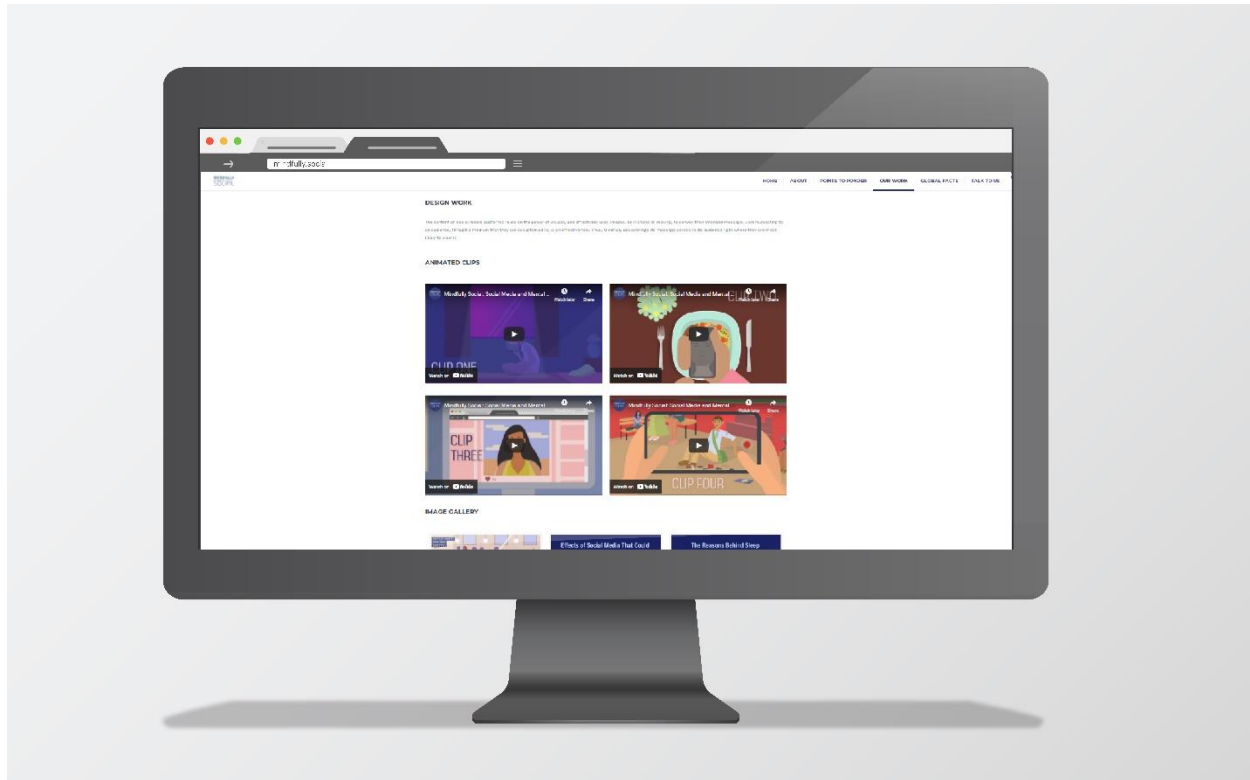


Source: The researcher

4.3.9 Designed Webpage

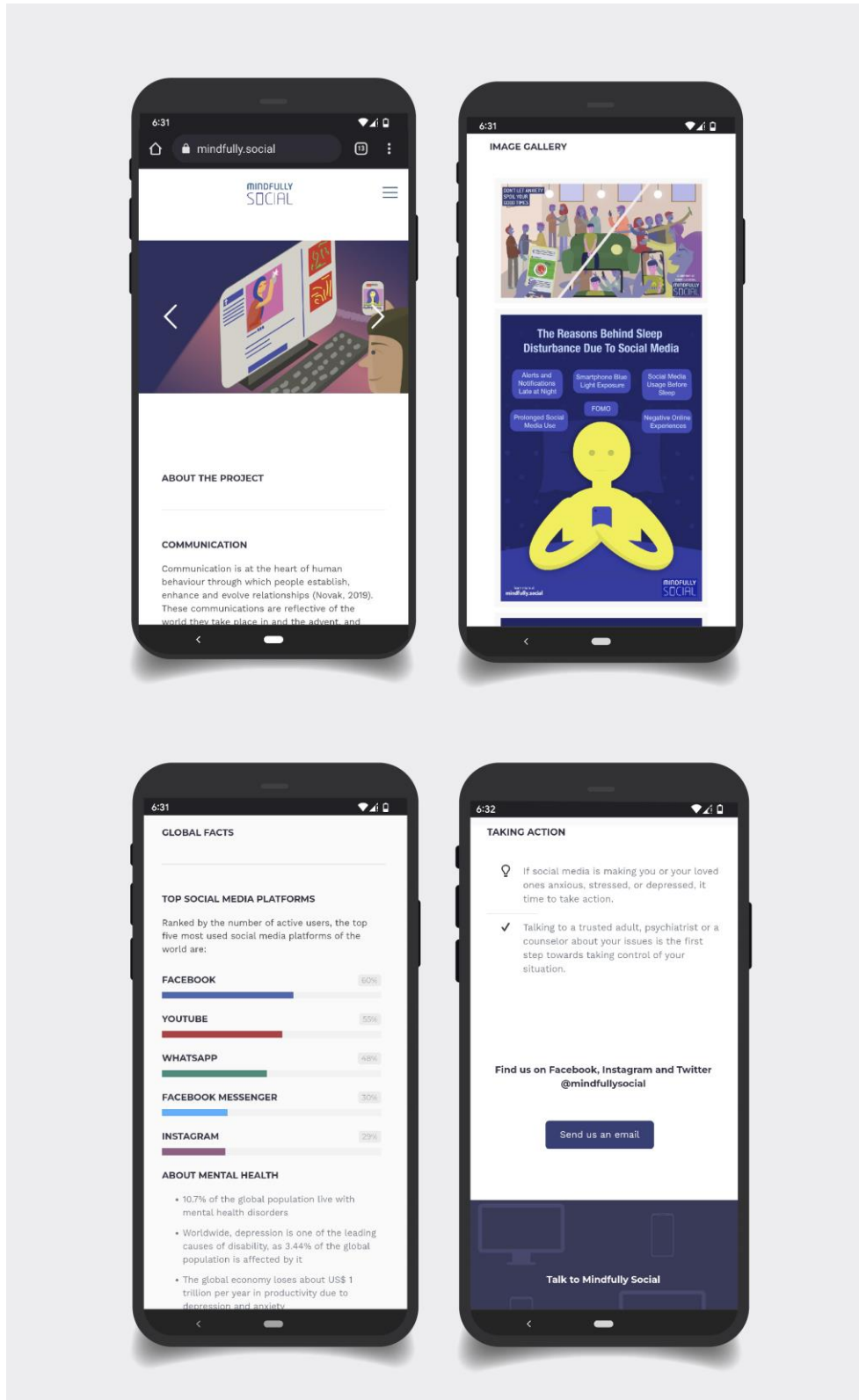
For the project to have a significant online presence and reach a wider audience on an online platform, the researcher created a website, **www.mindfully.social**, for the campaign. Along with the animated videos, the page also has an abstract of the thesis project, as well as statistics and facts from the research data. The webpage also includes an image gallery with the designed posters for the proposed advertisement campaign.

Figure 84: The Designed Webpage for the Project – Desktop View



Source: The researcher

Figure 85: The Designed Webpage for the Project – Mobile Phone View

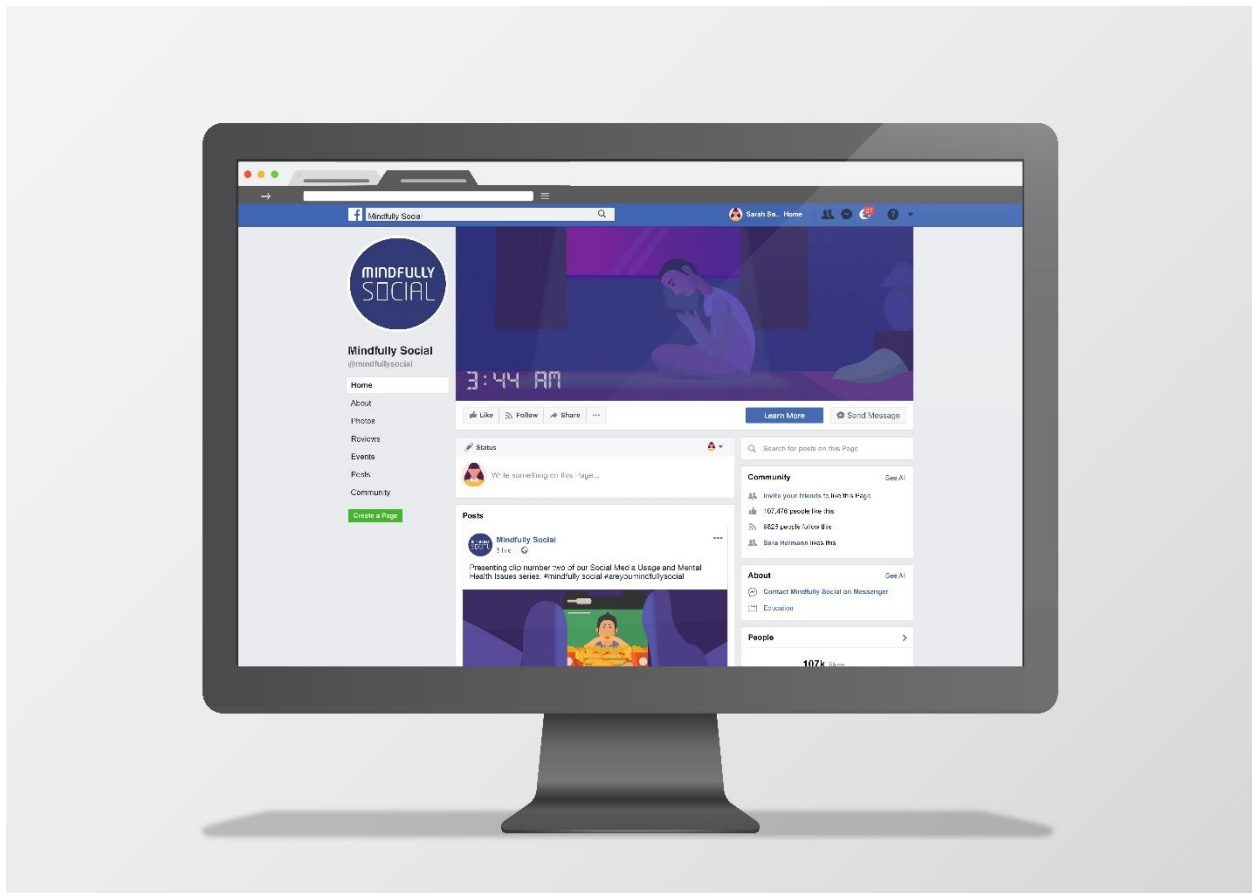


Source: The researcher

4.3.10 Promotion and Communication of the Proposed Design Campaign

Alongside the poster ad campaign in physical spaces and the design content on the website, the proposed campaign also included dedicated *Twitter*, *Facebook* and *Instagram* pages created for the campaign under the name *Mindfully Social*, which would feature regularly created and updated image and video-based content. These pages would also link back to the campaign website.

Figure 86: The Proposed Social Media Presence on Facebook



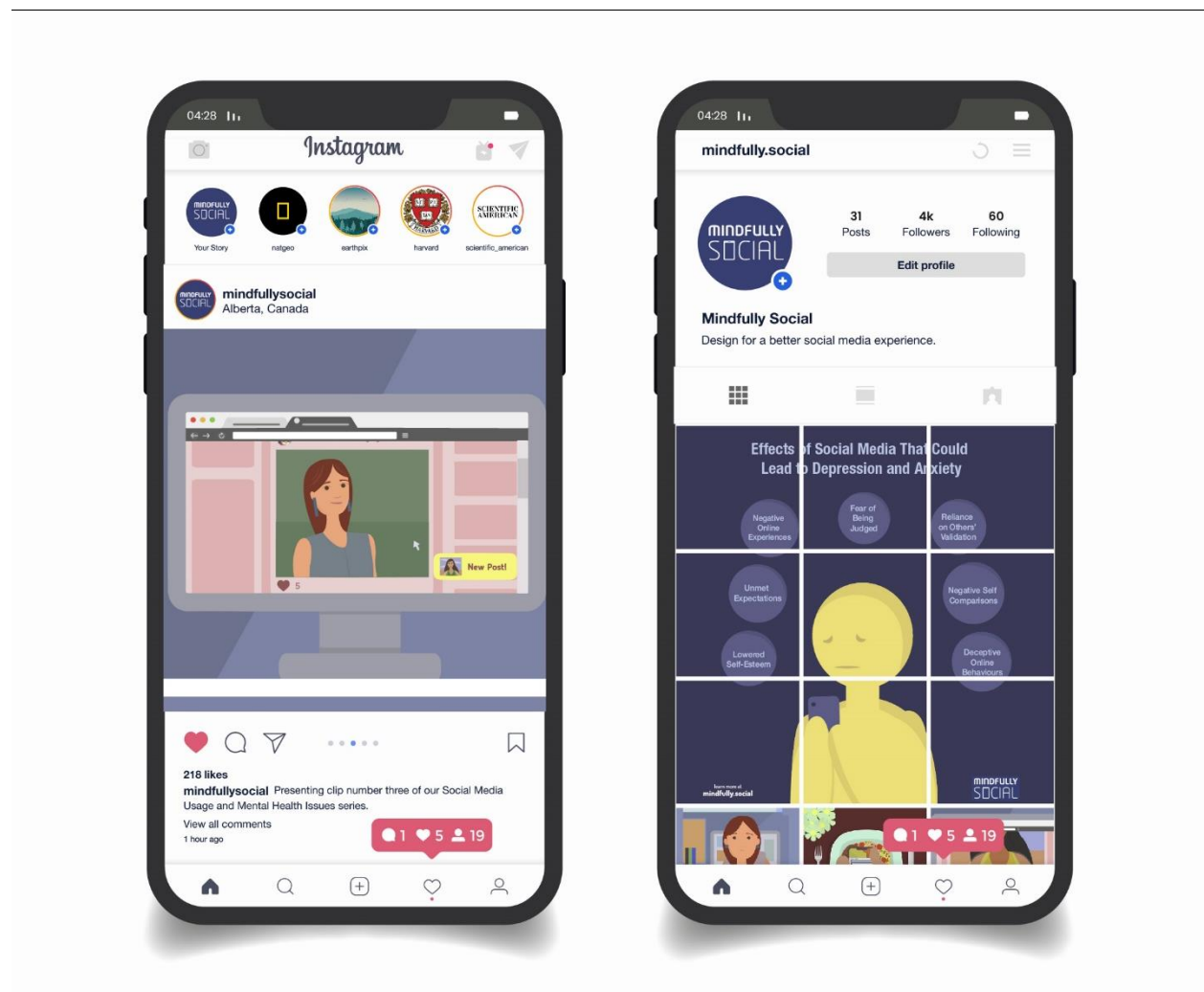
Source: The researcher

Websites like *Facebook* can target very specific audience demographics; hence these online tools can be utilized for maximum impact among intended viewers. The researcher selected the aforementioned social media platforms for digital marketing informed by the findings of the primary and secondary research, which revealed that *Facebook*, *YouTube* and *Instagram* are among the top five most used social media platforms. *WhatsApp*, being another popular online

medium with young people, can be utilised for circulating digital posters, short animated video clips and online links related to the *Mindfully Social* brand.

Online platforms like *Twitter*, *Facebook*, *Instagram* as well as more recently popular sites like *TikTok* are proposed to be used as some of the main promotional tools. By sharing created content like short form videos, posters, updates and posts involving facts about a particular topic related to *Mindfully Social*, these customized pages can support the cause and give the viewers a better understanding of the problem.

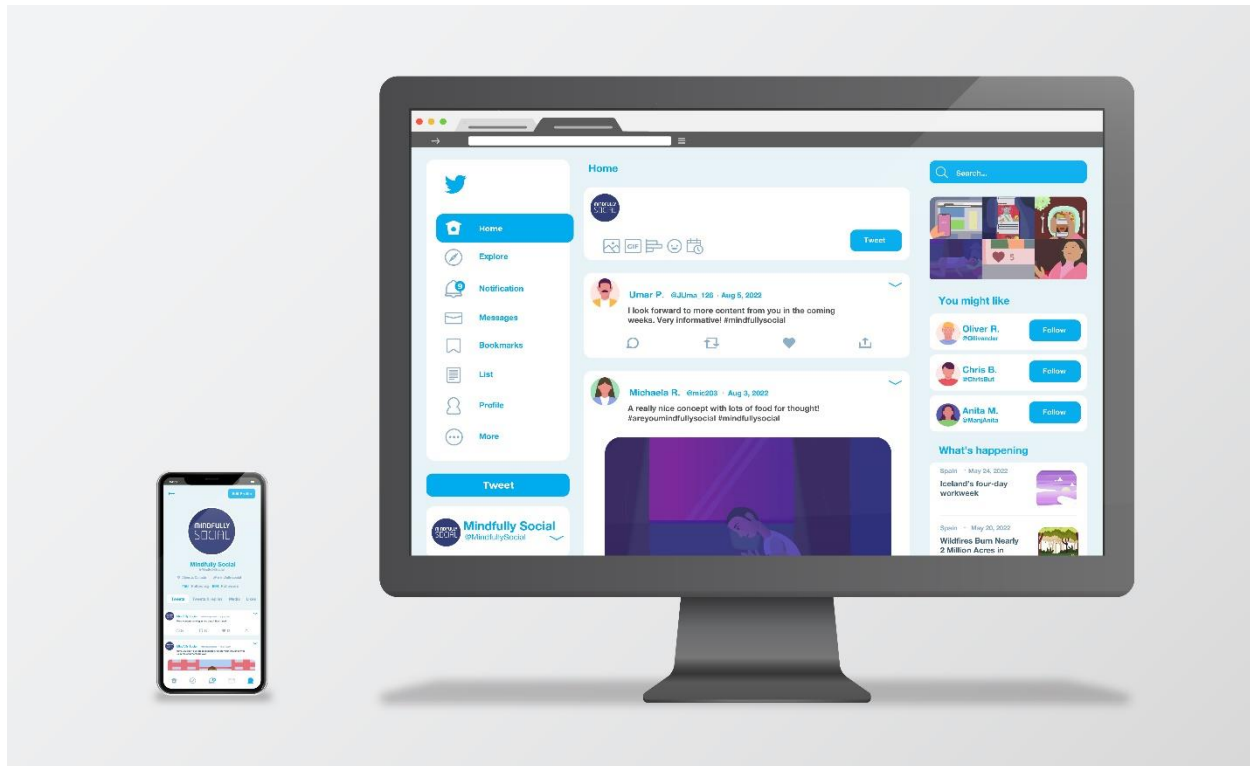
Figure 87: The Proposed Social Media Presence on Instagram



Source: The researcher

Many useful features like story views, polls, ratings and quizzes for websites like *Twitter*, *Facebook* and *Instagram* would be employed to get a better understanding of the audience's expectations and needs from a platform like *Mindfully Social*, which can then be incorporated into content produced in the future.

Figure 88: The Proposed Social Media Presence on Twitter



Source: The researcher

Additionally, a hashtag by the name of #mindfullysocial would also run alongside the content, so that it can reach more people through search algorithms on the various online platforms. Variations of this hashtag e.g., #areyoumindfullysocial, #iammindfullysocial, and #bemindfullysocial will also be used in social media posts and campaigns. The created visual content would be designed to be updated multiple times weekly, with additional video content created monthly as well.

Also, through website message submissions as well as through messages on social media websites, members of the audience would be given a chance to submit their own stories or incidents involving mental health issues resulting from negative social media use. These submissions would be anonymous or with credit, as per the submitter's wishes. These audience

submissions could then be converted into either short form animation videos, short comic strip style visuals or static posters. This would add another level of engagement and have the intended audience become more involved with the brand.

The designed animated content could be played through TV spots as short infomercials on TV channels and streaming platforms (e.g., CBC Gem, etc.), so that the content, and hence the awareness, could reach wider audiences. Advertisements for the content that *Mindfully Social* creates could also be proposed to play in the form of short video ads on sites like *YouTube*, as well as image or video-based banner advertisements on other online portals.

4.3.11 Design Installation Display

As part of the thesis project completion requirement, the researcher also created a design display installation. This installation design consisted of four vertical panels that contained a short walk through of the entire research project, from the collection of the research data and the subsequent findings from the data analysis, to the researcher's design response. Alongside the four panels, there was also a screen that played the four short animated videos. The pictures of this design installation can be seen in Appendix 1.

4.4 Section Summary

In this section, the researcher used the insights from Section 3 to inform the content and design of his four short animation videos. The five most important factors were focused upon in the storylines for the videos, which were then illustrated and animated. There was also a visual identity for the campaign, a proposed poster advertisement campaign as well as a webpage created as part of the design response.

Looking at the results of the research data and the resultant design response, the researcher moved towards the next section for a look at the limitations and implications of the study and some future recommendations for research on this topic.

Section 5: Research Limitations, Recommendations and Conclusion

5.1 Introduction

This section presents a conclusion of the findings drawn from the research and data analysis. The researcher summarizes the study on the excessive use of social media, its resultant negative effects, and their possible connection with mental health problems, particularly social anxiety.

The researcher also shares recommendations for a better understanding of these connections, ways of balancing one's offline and online worlds, and how different stakeholders can contribute to limiting the harms of social media on vulnerable groups. The research and design limitations, the impact of this research, and the scope for future research and design opportunities for this subject are also provided.

5.2 Limitations of the Research

Although the research process progressed as planned, the researcher observed some research constraints during the process. As a Master's thesis project, the research conducted is limited by its scope and application. One limitation was that social media use and mental health problems including social anxiety are a relatively under explored area in the research field. A limited amount of research—partly due to social media's newness—has been done so far on this topic, which made secondary data collection challenging for the researcher.

The scope of the survey was limited to a specific demographic to have a manageable collection of data, as this research was conducted by one individual. A larger sample size would be more effective for a more comprehensive set of data that covers a wider population demographic. A larger sample size encompassing varying age groups, professional groups, geographic locations and societal facets could make for a more wide-reaching data set. The researcher chose to focus on a specific demographic of people between the ages of 18 to 35 for the purposes of primary data collection, but the researcher was aware that younger individuals between the ages of 10 to 18 are equally, if not more, avid and frequent users of social media on a daily basis. Working with research study subjects and demographics under the age of 18 requires a different set of ethics permissions and procedures for conducting research, which is one reason why the researcher focused on the demographic between the ages of 18 to 35. For future studies it would be enlightening to learn about the social media habits and their subsequent effects (if any) on the

mental health of younger individuals. This could also be very beneficial in understanding the effects excessive social media use may have on a developing mind.

Many respondents felt reluctant to complete the survey questionnaire because of the inclusion of open-ended questions, as they were hesitant to put their thoughts into words. So, open-ended questions in the survey also became a limitation. This could be the reason that out of an estimated 180 potential respondents, the researcher only received 110 complete responses. About 75% of the returned survey questionnaires were considered valid as 27 surveys were partially completed so the researcher rejected those responses and did not consider them for the result analysis. For a larger scale research project, the researcher would suggest questions with ordinal or interval scale answers, if the aim is for statistical analysis is to be performed.

Some respondents in the interviews and survey were reluctant to respond to questions regarding their mental health and cyberbullying. This may be the case because these topics tend to be considered personal and sensitive, and many people do not feel comfortable opening up about their bad experiences even when their identity is kept anonymous. The data was collected from the interviews and survey through the self-reporting of respondents, which may not precisely represent respondents' habits and feelings. There may be inaccuracies in the time they reported to have spent online on a daily basis as well as their online activities. For future research studies, the selected demographic of people may be monitored for, or asked to self-monitor and report their social media use and activities for more certain results.

Young people were the target group of the research survey, but young people who already experienced confirmed mental health problems were not contacted for interviews. This is because of the sensitivity of mental health issues. Some people could be uncomfortable revealing and discussing their mental health problems and in the case of socially anxious people, this issue could be worse due to their tendency for social avoidance. So, it was not possible for the researcher to reach out to these individuals for an interview to discuss their disorder and its effects on their social media use. If one-to-one interviews with individuals experiencing social anxiety and other mental health issues was possible, it could have provided a deeper understanding and valuable insights for the research. Therefore, the researcher saw it as a research limitation which could be addressed in future research.

For this study, the researcher created the questionnaire survey in a way that incorporated both open ended and multiple-choice questions. This was done because, based on the small scale of the study and the sample size, the researcher decided to have a combination of quantitative and qualitative data. In future studies, where there is a larger number of study subjects, it would be fitting to use statistical analysis and tools like the Likert scale to analyze the data for a deeper understanding of the responses.

The researcher was unable to conduct full user testing among focus groups and individuals to ascertain the effectiveness of the design work and its intended message. This was due to the short timeframe of the research project in addition to complications from COVID. In future research studies, user testing for design communications would be beneficial for the results of the research. The designed artifacts for this research study are the derived product from the primary and secondary data alone, and are not affiliated with any government organizations. For future design-based research studies, it would be an added asset to partner with an organization that works for the betterment of mental health for youth or the safety of online spaces. The feedback garnered would give another dimension of knowledge to the research and consequently, the designed communications.

5.3 The Interviewed Experts' Recommendations

Mr. Lefebvre, a registered psychologist, shared that being aware of problem can be helpful. People should track their mood, sleep, and how much personal interaction they are actually doing. He added that asking yourself certain questions: “Why am I posting this? What is my motivation for posting this picture right now? Is it because I’m genuinely excited about sharing this with people, or is it because I’m looking for a specific response?” can be very powerful questions to challenge yourself with. They can help the person’s behaviour on social media become less compulsive and unconscious, and more mindful.

He added that social media can be helpful if people are using it to get more social interaction but most of the time people are using it as a mechanism to avoid actual interaction. If a person is less participatory in social events because they are afraid of being vulnerable, they are avoiding the social event which actually is the antidote and treatment for the anxiety. He mentioned that experiencing fear—albeit, in a safe manner—is necessary for overcoming that fear. As a suggestion to reduce social media use, he said that people can do some personal experiments,

like removing specific apps from their phone or going on a social media diet. “We might think that they were using it all the time and have never not used it, but after a break they will realize that they might not need it and wouldn’t miss out on much if they let go of them.”

Ms. Theresa, a social media strategist, mentioned that while social media does have negative parts, do the positives outweigh the negatives? “It’s more practical to learn to live better with it. We have all these awesome communication tools so, why would we get rid of this technology when it enhances our life so much?” She further said that social media is always going to be improving, and if in the future excessive social media use and its negative effects become a huge issue, people will force social media platforms to have a timer or other features. She further suggested that social media use may also be a focus for educational institutes, where they could talk about social media in elementary, junior, and high school levels.

Mr. La Follette, a professional counsellor, stated that from a neutral perspective, social media is here to stay, as we as a society wouldn’t be able to do what we’re doing without it. “We’re now actually seeing the consequences of social anxiety regarding social media in young people. So, we have to make positive changes and influence for change for the generations to come, in order to create a healthy lifestyle that doesn’t control our life but enhances it.” He recalls that similar issues arose when the TV and movies came about, as it is with the mobile phones today. “We’re just seeing different levels of complexity of that situation, but it’s not new just (more) accessible. And it creates isolation within a social context.”

For a more controlled social media experience, Mr. La Follette suggested that individuals should put healthy boundaries in place: what they need to do about it, what they need help with as an individual and how they can help others through it. He also shared that in a perfect world, it is parents’ responsibility to help guide and support children to know and recognize what should and shouldn’t be watched, how much time their child is on social media, etc.

Mr. Greenspan, a registered psychologist, stated that social media usage moderation is key. He noted that social media has been a positive influence for many people, noting the speed at which you can access information. But it also brings with it social comparisons, and the need for validation etc. Hence, he said, there is a balance that needs to come with its use, as there cannot be one strict and fast guideline imposed. He further shared that in his practice, he encourages people to recognize what they do have and to be grateful. “Getting people to see introspectively

what they have rather than what they do not have. To break the cycle, you have to get socially anxious people to recognize their strengths and positives, and not be as worried over what other people might think.” He also mentioned that, because of social media, it is much easier to sign up to support groups online on platforms like Meetup, but “people need to want to change or recognize the problem.”

Dr. Gentile, a registered psychologist, shared that social media use becomes problematic because people spend too much time doing it which results in negative impacts on their life. Anything we can do to make it more difficult to engage in this behaviour is helpful. Moreover, he mentioned that an analogy for excessive social media use might be alcoholism or drug use, saying “For some people complete abstinence is the only realistic option, for others it’s a harm reduction approach where they use strategy to limit the quantity or frequency of that behaviour is much more realistic.” There are apps that log you out of your social media for a prescribed amount of time, so that is one possible avenue of recourse.

Dr. Gentile also stressed that anxiety is an important adaptive healthy practice, as anxiety is a way of being aware of danger. “For better or worse, we have evolved to develop very sensitive anxiety mechanisms,” he stated, “but it’s better to have the signals go off when you don’t need them rather than not having them go off when you do need them. The same way we’d like our smoke detectors to be active for some burnt toast vs. not be active in case of a big burning fire.” So, in a situation where a person thinks that they are likely to be hated, judged, or will feel awful, they experience elevated anxiety. So, when they avoid that social situation, their mind interprets that as being safe from a dangerous situation. He said, based on this pattern, in the next social situation the emotional anxiety response will be increased. To avoid that from happening, “the person needs to face the situation and show their mind that it’s not that bad. Or even if a person ends up experiencing exactly what they were afraid of, they will learn that after about 45 minutes, their bodies can’t maintain the elevated level of anxiety and it will not be as high as it was in the start.”

Mr. Grauwiler, Executive Director of the Canadian Mental Health Association, suggested that there are groups that need to get on the same page and this includes parents and educators. He added that the families that set guidelines (e.g., no phones at dinner) are already doing something counter cultural, sending a message that there are priorities beyond being connected and the fear

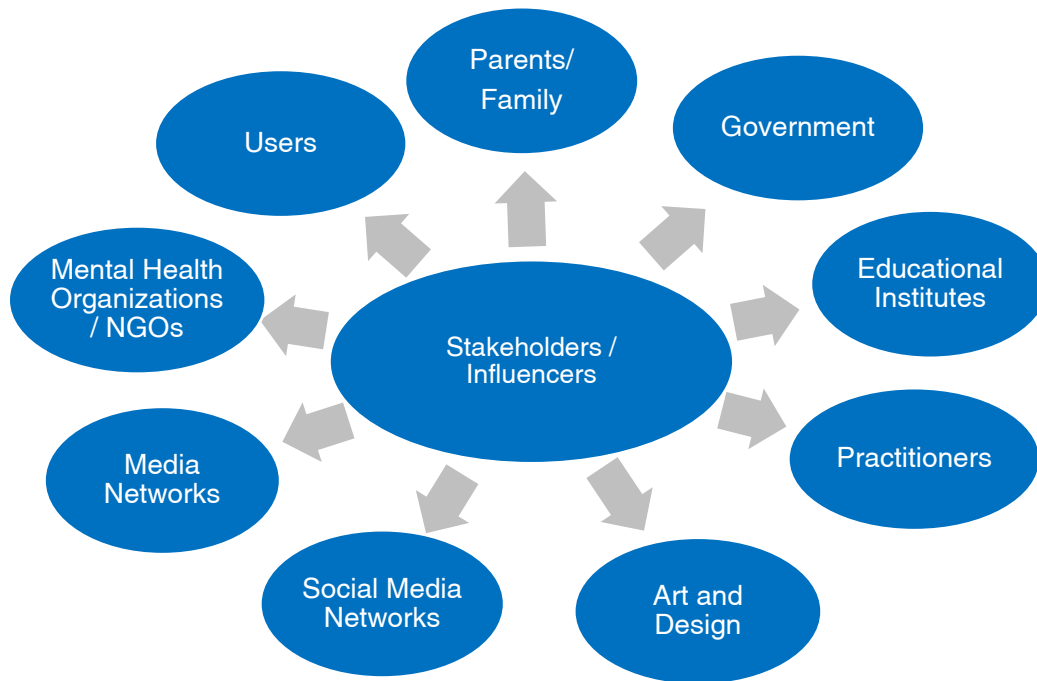
of being left out. He suggested that there is a role for social groups, community-based organizations, and educators to also contribute to this messaging.

5.4 Recommendations by the Researcher

Similar to the view of the experts, the researcher also thinks that social media is here to stay and its necessity and significance cannot be denied. It appears from the findings of this research that relationships exist between the negative effects of social media and mental health issues, as well as links between these negative effects and social anxiety. The researcher is of the view that an in-depth understanding of these relationships is vital to utilize the benefits of social media and limit the harm for vulnerable groups such as young people, teenagers and children. The key would be to ensure and maintain a proper balance in one's offline and online world.

To build the longevity of digital spaces and a healthy and safe online space for young people, the researcher believes that integrated cross-sector efforts are required. All major stakeholders (e.g., parents, researchers, practitioners, educational institutes, government, social media networks, communication design, mental health organizations, and media) have to play critical roles and take necessary action to help young people avoid the negative influence of social media.

Figure 89: Stakeholders/Influencers of Social Media Use and Mental Health Problems



Source: The researcher

5.4.1 The Role of Parents and Family

Time spent engaging with social media usually comes at the expense of time spent on activities such as face-to-face interactions with family or peers, and hindrances in study, sleep, exercise, and routine work. To avoid the influences of negative effects of excessive social media use, the researcher recommends that parents should make note of the following possibilities:

- Parents and other family members should encourage screen-free family and mealtimes, which could habitualize time spent away from social media.
- At bedtime, phones and other social media devices should be encouraged to be left outside the bedroom or at a distance from the bed to avoid potential sleep disturbances.
- Limits could be set for screen time and breaks away from social media and devices.
- Parents and other family members should observe online content viewed by their children which may be distressing, like exposure to hate speech, and violent, graphic or sexual imagery. For this purpose, it is vital that a trust-based relationship is maintained between the child and parent, so the child may confide in their parents if the need arises.

- Parents should familiarize themselves with the online safety concerns associated with various social media platforms and help guide their children accordingly. Different websites and organizations, such as National Online Safety, Australian Psychology Society, Government of Canada, etc. regularly provide free information and online safety guides for parents, individuals, schools, and children.
- Parents/family members should also be observant for signs of mental health issues in their children and, if they detect any signs or symptoms, they should have a discussion with their children and get help if required. The Mental Health Commission of Canada, NHS (UK), The National Institute of Mental Health (USA), Australian Psychology Society, etc. provide effective guidelines for parents about mental health issues.

5.4.2 The Role of Government

To overcome the challenging task of controlling excessive social media as well as technology consumption among young children, governments should play a leading role in taking proactive measures to protect and care for the well-being and mental health of future generations. The researcher recommends the following measures for government bodies to take:

- Governments should enforce strict laws to protect the privacy and safety of social media users.
- A proper Code of Practice for internet companies, social networking sites and gaming companies should be developed and enforced, and digressions from that should be dealt with by strict measures to minimize online use harms.
- Education institutes should be made accountable for providing digital literacy and guidance to students regarding the use of technology. The government should provide standardized guidelines to educational institutes, to support the mental health and well-being of their students. *The National Standard of Canada for Mental-Health and Well-Being for Post-Secondary Students* is a commendable example of the set of guidelines; which is provided by the Mental Health Commission of Canada to educational institutions.
- A strict regulatory body should also monitor harmful content (e.g., sexually exploitative, depressive, etc.) There should also be vigilant monitoring to report, control and avoid cyberbullying activities.

- Research grants could be provided to educational and research organizations to conduct detailed researches on the use of social media, and its connections with mental health and anxiety disorders. The further findings from this research could highlight areas that need to be addressed by the government.
- Free counselling services should be provided wherever possible to address the mental health conditions of social media users, particularly youth.
- Awareness campaigns highlighting the dangers of excessive social media use should be executed. Along with the examples seen in previous sections, the Government of Canada's; "Get Cyber Safe" is an apt example of a national public awareness campaign. It was developed to enlighten Canadians on cyber security and how to protect themselves from harmful situations online. Similar campaigns should be planned and produced to inform and secure users against the potential harms of social media use such as its contribution towards developing and exacerbating mental health and social anxiety problems.
- Countries like the UK, Canada, the USA, and Australia are actively focusing on the harmful effects of technology and social media sites on vulnerable groups. Their initiatives could be seen as examples and blueprints for other governments to follow.

5.4.3 The Role of Educational Institutions

In today's very different teaching landscape, where online tools are relied upon, educational institutions should focus on providing opportunities to make young individuals more well-informed, knowledgeable and digitally literate, and empowering them to develop greater awareness of online spaces. The following are a few recommendations by the researcher for educational institutions:

- Make students aware of the possible negative effects of digital technology on their well-being such as mood swings, mental health issues, negatives comparisons, addiction, sleep disturbance, anxiety, depression, thoughts of suicide, self-harm, etc. This way, if a student actually experiences any of these symptoms, they may seek the appropriate help for it in time.
- Digital technology literacy, information about potential harms of technology, and guidance to avoid falling into harmful online behaviours should be part of the education curriculum.

- It should be important for institutes to educate students about potential exposure to cyberbullying and how to avoid and report it, and to stress upon the risk and types of online exploitation such as sexual exploitation, blackmail and cyber security.
- Take note and special care for young people who are more vulnerable to the harmful impacts of social media's excessive use, like individuals experiencing mental health issues such as anxiety disorders, stress, depression, ADHD, etc.
- Educational institutions should create partnerships with organizations working on making the internet a safer place for users. For example, the *#WakeUpWednesday* campaign by National Online Safety UK provides an informative and useful guide about safe social media use. Educational institutions should share similarly valuable information with parents and students.
- Clinical services and therapies at educational institutions should be provided for individuals experiencing negative influences of social media (e.g., addiction, depression, disturbed sleep, anxiety, etc.).

5.4.4 The Role of Psychologists

The researcher recommends that psychologists should continue to consider the influence of social media and technology use (online games, internet use, and other online activities) as part of a general psychosocial and mental health assessment of young people, as people facing anxiety, depression or ADHD could be more likely to engage in the problematic use of technology. This will help all stakeholders to better understand the extent of influence of social media and technology use on the mental health and social anxiety of vulnerable groups.

There is also opportunity for psychology practitioners and counsellors to focus further on how social media can be used positively for helping young people to cope with anxiety and other mental health issues. Social media provides various avenues for users to make friends, communicate and share their thoughts etc., which can provide an outlet for expression and can be a source for positive feelings.

Easily accessible and affordable clinical services and therapies should be available for people who are facing social media addiction, depression, sleep issues and social anxiety.

5.4.5 The Role of Researchers

There appears to be an association between excessive social media use and mental health problems but further research is required to establish a distinct link. Existing research data on the effects of social media on mental health issues, especially social anxiety, is relatively limited and more research is needed to understand the nature and depth of these relationships, as well as the positive and negative effects of long-term social media use amongst varying demographics.

5.4.6 The Role of Design

The researcher believes that visual communication design can play an important role in supporting the subject matter. Visual design can effectively convey the intended message of the designer to the general masses, often times without reliance on words. This aspect of visual design, as mentioned in Section 4, can also be utilized to bring mental health awareness to sections of society who may not be as receptive or understanding of messages that rely on the audience's ability to read, as they would be to image-based communication. Additionally, visual communication can be used successfully to reach an audience in ways many other forms of messaging cannot e.g., billboards, pop up advertisements and posters. These are ways in which a message can be delivered in a clear, concise and memorable form to its intended viewer.

Visual communication design could play a critical role in creating better awareness about the negative effects of social media use, mental health issues, anxiety disorders and ways to overcome and avoid them. Meaningful advertisement campaigns that effectively convey impactful messages, sensory exhibits that engage their viewers in multiple ways, physical and virtual spaces designed to enhance mental health, as well as the restructuring of online applications with the intent to minimize the harms of social media use are all ways that design can help bring awareness to, and create, a positive social media experience.

Also, these visual communication messages, as with the designed responses for this research project, would be visible to the audiences in the same spaces and portals where the issues with problematic internet use and subsequent mental health issues arise. Having these messages in these spaces makes them much more likely to reach, and get the point across to, their intended audiences. This is because digital media has a significant reach and influence on every age group because of its convenient accessibility, particularly through smartphones.

Successfully executed design campaigns often have a retentive quality for their audience i.e. they affect the viewer in a way that the message stays with them. This attribute of design is very useful when awareness of an important issue, like problematic social media use, is concerned and design can be utilized to great effect for this purpose.

There are many disciplines and fields of research where the research data and findings often remain restricted within the bounds of the discipline, with no engaging way of making its way to the general public except in the form of published papers. Visual communication design can be one way of bringing these important research findings and data to the masses in an understandable way.

Design can provide an effective conveyance of messages by providing engaging design executions for all the popular social, awareness and promotional portals used today. Whether these are conventional mediums like TV ads, billboards, posters, or new digital promotion and awareness opportunities presented by the likes of *YouTube*, *Instagram*, *Facebook*, *TikTok*, and other webpages, design has the unique advantage of having the flexibility to cater to and deliver engaging outputs for all these mediums. This is a unique role which visual communication design can perform.

5.4.7 The Role of Media Networks

The media and communication industry can also play a significant role in generating awareness about excessive social media use complexities and its effects on mental health of young people. Digital media are powerful influencers, and as they can be accessed on a multitude of devices, they can highlight the intricate relationships between social media's negative influences and the associated consequential mental health problems through panel discussions, documentaries, customized shows etc. Media networks can also make the issue known more prominently by providing screen time and space to awareness initiatives such as seminars, research works, exhibitions, etc.

5.4.8 The Role of Social Media Networks

Social media networks should also take the responsibility of highlighting the mental health problems brought about by the excessive use of social media. The researcher recommends some ways in which this could be achieved:

- Social media networks should take serious measures to protect and secure the privacy of social media users, monitor any alarming activity linked to hate speech or acts, racism, harmful controversies, and mentions of suicide on the platform and take the appropriate actions needed.
- These actions should be based on the guidelines and code of conduct provided by government and authorities for online spaces and be driven by research.
- Time tracking apps, as introduced by *Instagram*, to restrict access after a set time limit, should be part of each social media site to give users the choice to limit and monitor their social media use.
- Users making threats to others or exploiting the privacy of others, should be given serious warnings and permanently banned by social media networks. Cybercrimes like cyberbullying, spreading of hate, privacy infringement should all be dealt with as seriously as any other crime, so that the online social space can be as safe as possible.

5.4.9 The Role of Mental Health Organizations

The role of society is also very important in providing a support system to the individuals experiencing mental health issues. The researcher recommends that organizations dealing with mental health and psychological issues could take steps in the following ways:

- These organizations could generate awareness in influential circles about the role of social media in developing and exaggerating mental health issues and how to avoid its harms.
- Collaborations and partnerships with other stakeholders like educational institutes, government, media outlets, designers and psychiatric practitioners could be made to effectively spread the message to the intended audience.
- These organizations could provide guidance to the general public about how to encourage and support people undergoing mental health issues, to make their day-to-day life easier.
- Training, awareness sessions and support materials should be planned for parents and teachers to pick upon the early signs of social anxiety and mental health problems in children, as it was found from the interviews that in many cases, mental health issues remain hidden and untreated for years.

- Support groups for people experiencing mental health issues should be encouraged, as they provide a sense of community and support for a person. These groups also let the person know that there are others like them experiencing similar mental health issues, and there are ways and hope for them to get better.
- Innovative awareness campaigns should be launched to communicate the issue, such as the #Scroll Free September campaign launched by Royal Society of Physical Health (UK). The researcher found this campaign very interesting and believes these types of activities should be promoted by organizations as they can help individuals to analyze the merits and detriments of social media use and habits.

5.4.10 The Role of Users

A user is the individual who is most affected by problematic social media use, and its harmful effects. While other stakeholders also factor into this, the role of users is the key to actual change. Like any other situation, there are three main stages to overcome this issue of excessive social media use:

Awareness Stage: Awareness and understanding of the problem is the first step. As explained earlier, parents/family, the government, educational institutes, social organizations, media and design can all play a positive role in creating awareness among users about the potential negative outcomes of excessive social media use.

Acceptance Stage: The second stage is the user's acceptance of their problem and their willingness to overcome the problem.

Action Stage: The third step is to take action towards the betterment of their situation.

Figure 90: Stages to Overcome a Problem



Source: The researcher

For this purpose, the researcher recommends the following measures for a social media user:

- Monitoring the time spent on social media sites could be useful, possibly through the use of time monitoring and restricting apps.
- If social media is affecting the user's daily activities like studying, sleeping, time spent with their family and friends circle, then consulting and seeking help from parents, family members or trusted individuals is a valid choice.
- Being mindful of the online safety guidelines shared by parents, institutions, and government when using social media. This includes reporting disturbing content such as cyberbullying, hate speech, sexual exploitation or extortion that a user may encounter in online spaces to concerned persons and authorities, which could help control a situation before it becomes too severe.
- To get the proper amount of sleep to avoid fatigue, day time sleepiness, stress and other sleep deficiency related problems, a focus on controlling the habit of using social media before sleep could help.

5.4.11 Recommendations for Social Anxiety

It was found from the expert interviews that an effective way to cope with social anxiety is to face the situation which is making the person anxious. Facing the problem could limit the fear associated with it. In this regard, counselling would be helpful, in guiding the person through facing and reacting in anxiety inducing situations, towards an overall better state of mind.

For some people the process of overpowering social anxiety may require perseverance and time, but the results could be positive if the person's feelings and symptoms are clearly discussed with practitioners and subject counsellors to receive the proper medication, guidance and help.

5.5 Implications of the Research

5.5.1 Importance of the Research

This research could be useful in that it explores the connection between two significant aspects of young people's lives, social media use and mental health. It has been evident from the primary and secondary data that young individuals living with the influence of social media experience many problems in connection with its habitual use. As social media becomes more prevalent in young people's lives, there are indications that it is also more likely to cause harm to their mental health. The increased rise and reporting of mental health issues in young people makes it

important to explore the effects of excessive or prolonged social media use on the mental health and well-being of young people.

Stress, anxiety, depression and social anxiety were found to be prevalent mental health problems among young people. Young people, in many cases, tend to use social media to keep their mind away from stress or anxiety inducing issues as they presume this diversion would lessen those feelings. Research was required to know the effects because in views of the experts, there is a possibility that excessive social media use could actually exacerbate the situation, and fuel a deteriorating mental health condition. There is a serious need to better explore the effects of excessive social media use on the mental health of young people, and this research is one step in that direction.

5.5.2 Contribution to the Field of Counseling

This study also has clinical implications. It has shown indications that social media's excessive use could have negative impacts on the mental health of young individuals. Social anxiety also seems to have positive links with some negative effects of excessive social media use. This may make practitioners and counsellors take note that the assessment of social media habits and use should be considered a standard practice when assessing an individual experiencing social anxiety, particularly young people. Practitioners could also explore whether the controlled use of social media could have positive effects on the mental health and social interactions of socially anxious individuals.

5.5.3 Scope for Future Researchers

This research explores the basis of social media's negative effects on the mental well-being of young people. Future researchers could expand their work related to social media use and mental health problems as this research provides a base to build upon. As the findings point out some positive links between the selected variables, future longitudinal studies can be carried out in different regions of the world to see if this holds true for these regions too.

Future research can certainly provide a broader view of the connections and relations between these variables. Researchers could perform advanced statistical tests to analyze the data with broader demographics, and precisely define how strong the relationship between the selected variables is. This research highlights five key factors that negatively influence the mental health of social media users. However, there are other important factors too. Future research could

widen the scope of research by exploring these other factors. It could be very helpful for young people, parents, governments, policy makers, educational institutes, and practitioners as all of these groups are important stakeholders, capable of implementing and promoting the best practices to ensure the good mental health of young people.

Design work, similarly, could also benefit from employing various mediums that can be image or video-based like advertisements, books and board or video games, audio design, physical spaces like installations and exhibitions that employ visual and sensory design to create an experience for the audience. Also, this study focuses on select factors of excessive social media use, and there are many more that can be focused upon through various mediums of design.

5.6 Summary of the Research

This research study explored how excessive social media use affects the mental health of young people, and how design can help in alleviating the impact. Existing research, experts and participant interviews, and already existing design work related to the research topic were looked at in Section 2. The research framework and data analysis were discussed in Section 3. The research framework described the process selected to execute this research, where both qualitative (one-to-one interviews) and quantitative (survey questionnaire) research methods were used to collect the primary data. Scaling was used as the measurement type with the nominal scale.

After better understanding the extent of the problem, the researcher created an awareness campaign about the research problem by utilizing different visual design techniques. The researcher built a design campaign focused around using the tools of illustration, character design, animation and visual storytelling to convey the research data to the intended demographic audience, for which a series of four short animated clips were designed by the researcher. A distinct visual identity, several poster designs and an online website portal was created for the design campaign in a way that makes it open to continuation as well as expansion in the future. Summing up the results, the conclusion of the study, and the recommendations were presented by the researcher.

This has been a complicated yet interesting research study as the researcher was involved with two primary disciplines i.e., psychology and design. Mental health studies are mostly associated with the field of psychology and design is a powerful tool of communication, which has proven

to have helped in raising awareness on social as well as political issues. That is why the researcher used the study outcomes of one field of study (analyzing the effects of social media on young people's mental health) as the data for a design-based project, exploring how design can effectively raise awareness about this important social issue.

The researcher believes that designers can very effectively create engagement around excessive social media use and its associated mental health issues by communicating messages, ideas and intentions in a creative, purposeful, and imaginative way.

Above all, the researcher hopes that this research study is a step towards further research into this topic, so that the experience of social media use becomes a pleasant and beneficial one for the mental health of users.

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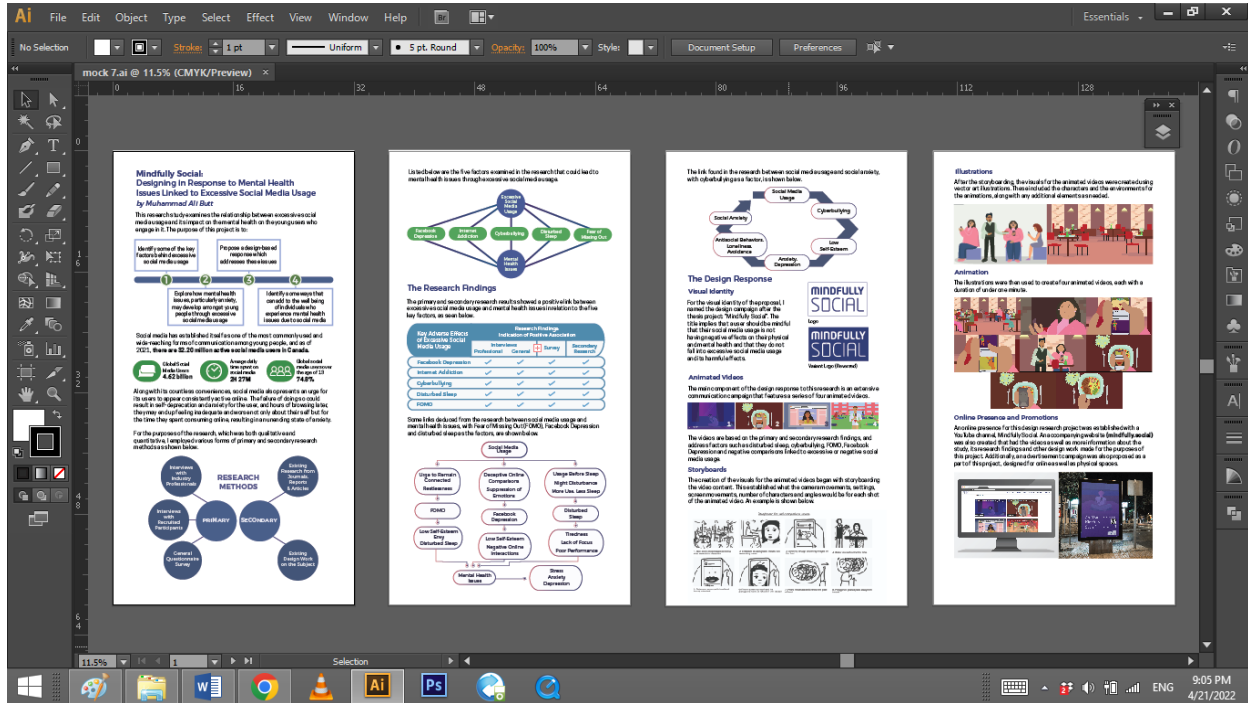
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Appendix 1: Thesis Design Display Installation

Work file in Adobe Illustrator software

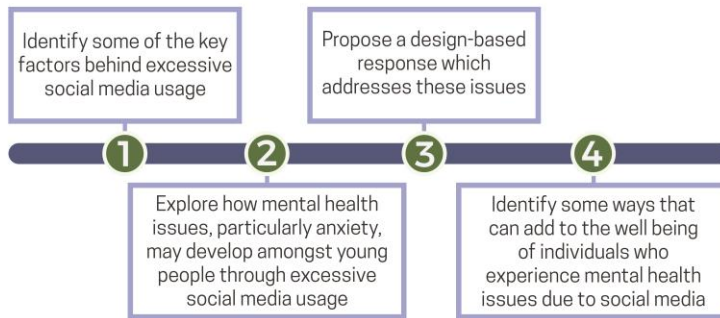


The Designed Panels for the Design Display

Mindfully Social: Designing in Response to Mental Health Issues Linked to Excessive Social Media Usage

by Muhammad Ali Butt

This research study examines the relationship between excessive social media usage and its impact on the mental health on the young users who engage in it. The purpose of this project is to:

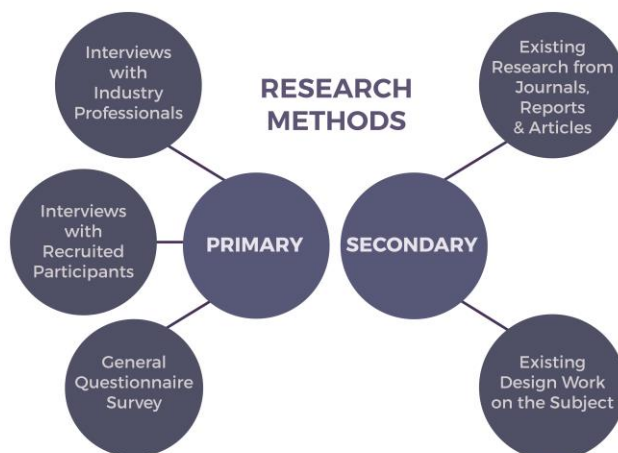


Social media has established itself as one of the most commonly used and wide-reaching forms of communication among young people, and as of 2021, **there are 32.20 million active social media users in Canada.**

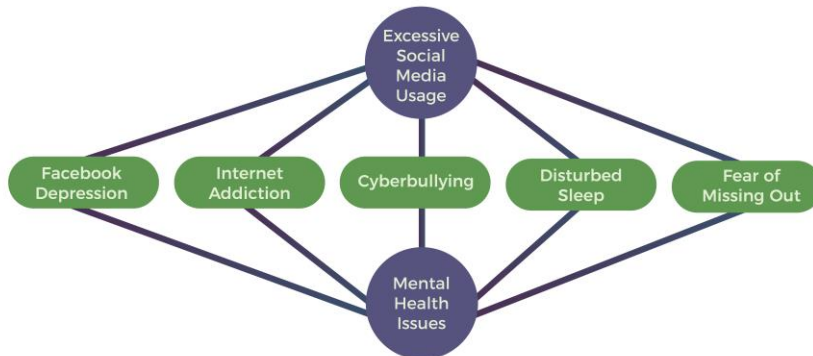


Along with its countless conveniences, social media also presents an urge for its users to appear consistently active online. The failure of doing so could result in self-deprecation and anxiety for the user, and hours of browsing later, they may end up feeling inadequate and worse not only about their self but for the time they spent consuming online, resulting in an unending state of anxiety.

For the purposes of the research, which was both qualitative and quantitative, I employed various forms of primary and secondary research methods as shown below.



Listed below are the five factors examined in the research that could lead to mental health issues through excessive social media usage.

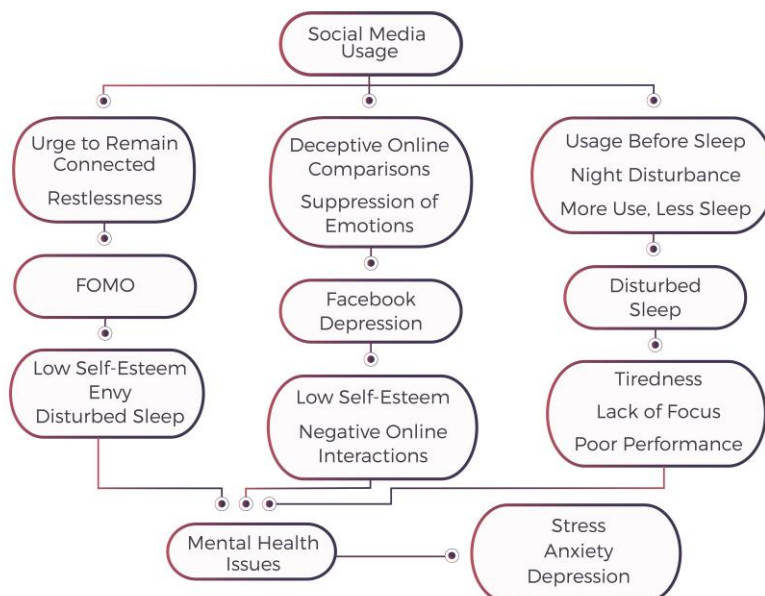


The Research Findings

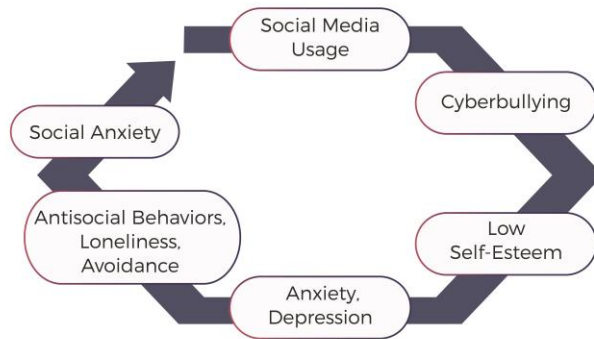
The primary and secondary research results showed a positive link between excessive social media usage and mental health issues in relation to the five key factors, as seen below.

Key Adverse Effects of Excessive Social Media Usage	Research Findings: Indication of Positive Association			
	Interviews Professional	Interviews General	Survey	Secondary Research
Facebook Depression	✓	✓	✓	✓
Internet Addiction	✓	✓	✓	✓
Cyberbullying	✓	✓	✓	✓
Disturbed Sleep	✓	✓	✓	✓
FOMO	✓	✓	✓	✓

Some links deduced from the research between social media usage and mental health issues, with Fear of Missing Out (FOMO), Facebook Depression and disturbed sleep as the factors, are shown below.



The link found in the research between social media usage and social anxiety, with cyberbullying as a factor, is shown below.



The Design Response

Visual Identity

For the visual identity of the proposal, I named the design campaign after the thesis project: "Mindfully Social". The title implies that a user should be mindful that their social media usage is not having negative effects on their physical and mental health and that they do not fall into excessive social media usage and its harmful effects.



Logo



Variant Logo (Reversed)

Animated Videos

The main component of the design response to this research is an extensive communication campaign that features a series of four animated videos.



The videos are based on the primary and secondary research findings, and address factors such as disturbed sleep, cyberbullying, FOMO, Facebook Depression and negative comparisons linked to excessive or negative social media usage.

Storyboards

The creation of the visuals for the animated videos began with storyboarding the video content. This established what the camera movements, settings, screen movements, number of characters and angles would be for each shot of the animated video. An example is shown below.



Illustrations

After the storyboarding, the visuals for the animated videos were created using vector art illustrations. These included the characters and the environments for the animations, along with any additional elements as needed.



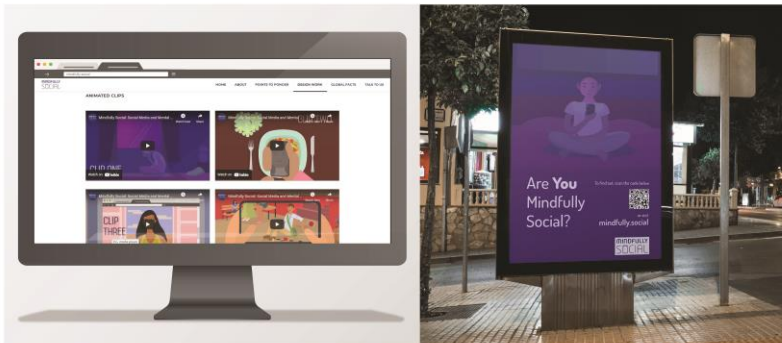
Animation

The illustrations were then used to create four animated videos, each with a duration of under one minute.



Online Presence and Promotions

An online presence for this design research project was established with a YouTube channel, Mindfully Social. An accompanying website (**mindfully.social**) was also created that had the videos as well as more information about the study, its research findings and other design work made for the purposes of this project. Additionally, an advertisement campaign was also proposed as a part of this project, designed for online as well as physical spaces.



Thesis Design Display Installation





Appendix 2: Professional Interview Data

Professional Interview Participants

The six individuals interviewed have been listed below in the sequence they were interviewed:

- 1. Beverly Theresa**, Social Media Strategist and Consultant based in Edmonton, Canada
- 2. David Grauwiler**, Executive Director of the Canadian Mental Health Association (CMHA) in Alberta, Canada
- 3. Jeremiah la Follette**, Registered Professional Counsellor through the Canadian Professional Counsellors Association (CPCA)
- 4. Farrel Greenspan**, Registered Psychologist with the College of Alberta Psychologists
- 5. Dr. Andrew Gentile**, Registered Psychologist based in Toronto with a PhD in Clinical Psychology
- 6. Chris Lefebvre**, Registered Psychologist at Life Mark Health Institute, Edmonton, Canada

The participants' responses to the interview questions are listed in the same order as the numbered list above.

1. What, in your professional opinion, is social anxiety, if it were to be defined?

1. Not asked.

2- Social anxiety shows markers of other disease states and mental health challenges. It is better understood around depression and anxiety as a broader topic. Social anxiety really seems to focus on withdrawal from friends and peers; difficulty to cope in day today activities; coping, managing and addressing challenges as they come; finding contentment and the ability to come back from a bad day. All these things exist in other disease states too, but when talking about social anxiety that's part of what we see.

3- It's basically the inability to function, whether it's with another person or environmentally. This includes experiencing social anxiety when making a phone call. Even though I'm talking to a physical object, if the person answers at the other end I have to talk to them and that might

cause anxiety. There's still a social element to it, and the same goes for being on the computer or communicating by email, even though it's not a direct physical contact with another person.

4- Social anxiety is related to a person's perceived level of fear or worry in social situations, and their subsequent reactions to those fears or worries. If a person thinks there's going to be either a negative outcome or a negative judgment around something that they do, it can create a lot of anxiety, and that anxiety can lead to an avoidance that perpetuates that cycle of anxiety.

5- It is anxiety associated with social scenarios usually related to the perception that the person will be judged negatively by others, which causes psychological distress to the person and an imbalance in their life. It also deals with the avoidance of, or escape from, certain scenarios in their life.

6- It could be described as excessive fear of judgment and rejection from others. Anxiety can manifest in many different ways, so this would be the source for social anxiety.

2. What are some common symptoms and telling signs of social anxiety?

1. Not asked.

2- It can be tied to obsessive behaviours, lack of sleep and an over attachment to electronic devices. Another characteristic is that rather than linking with people, you're stepping away and not seeing people as part of the solution to your challenges.

3- Tightness of the chest, butterflies in the stomach, even headaches. It's just the inability to function within what are known as social norms for people: not being able to make a phone call, go out in public and be with people. This ultimately goes back to isolating. When we look at personality theory: whether a person is an introvert or extrovert, when they're around people they have to hide, run and isolate themselves. There's healthy isolation that includes being contemplative, going for a hike in the forest, thinking about life and then there's the old man hermit type that's unhealthy isolation. That's someone who deals with a huge amount of social anxiety.

4- An avoidance of social situations and places where the person feels they're being judged or publicly scrutinized; avoidance of close relationships or relationships in general; ongoing fear, anxiety, worry if they have to be involved in a social situation; being very introspective and worrying about everything they'll say, do or how they're reacting to things.

5- The most important would be if people find that they avoid certain social situations. Elevated anxiety at the thought of certain social situations or finding themselves preoccupied with perceptions that other people are going to think about them negatively.

6- A big fear of any kind of judgment or rejection, worry about how they would be received by others in a way that's so intense that it interferes with their daily life and well-being. It's normal and typical to have worries and concerns over the perceptions of others as it's built into us, but in the case of social anxiety it's interfering with life.

3. Under what circumstances might a person develop social anxiety?

1. Not asked.

2- In our work, we support a community practice that focuses on post-secondary students and their mental health. We see a high level (in social anxiety) in the transition stages that students, youth and young adults are facing particularly on the onset of advanced education, leaving school and the network of support you've had in high and secondary school. Transitioning into post-secondary is one of the places where social anxiety can develop very quickly. People with pre-existing mental illness whether treated or not treated, once faced with that point of entry into a new social setting or transition can create that kind of anxiety.

3- Ultimately its hurts and harms that have been done to the person, whether it's through social media, actual physical bullying, parenting trauma. There is something called aces the amount of adversity they've had in their life. It includes introvert and extrovert personalities.

4- There's a combination of environmental and genetic factors. Some people believe it is a genetic disposition for those who have parents with anxiety or social anxiety, who are then more likely to be socially anxious themselves. I believe it's a combination of the two. The other school of thought is that environmental factors play a role in how we respond to situations and based on how we reinforce in those situations determines whether we do develop anxiety or don't develop it depending on how things play out and what conspires.

5- With any mental illness or psychological diagnosis there's a combination of genetic or inherited predisposition towards that as well as environmental factors that impact the development of social anxiety. So, to begin with, some people more than others may just have a predisposition towards social anxiety in general or perhaps social anxiety in particular. The

critical factor that makes the difference between someone who is social anxiety in any given moment vs. someone that ends up developing a social anxiety disorder has to do with avoidance and escape behaviours. So the person that goes on to develop the disorder at a clinically significant level is most likely going to be someone who, in the space of that social anxiety experience, will go on to avoid certain social situations. In doing so, their minds may have generated some hypotheses about how they're going to be perceived by others, things that are going to happen that will be catastrophic. If they face those situations, it will habituate and our bodies are not very good with high levels of anxiety over time. Anxiety is a very important adaptive healthy thing for any person, and if a person has no anxiety, it can be very dangerous. That is because anxiety is a way of being aware of danger. For better or worse, we have evolved to develop very sensitive anxiety mechanisms, but it's better to have the signals go off when you don't need it rather than not having it go off when you do need it. The same way we'd like our smoke detectors to be active for some burnt toast vs. not be active in case of a big burning fire. So, in a situation where a person thinks that they'll be hated, judged, and ashamed or will feel awful, they experience elevated anxiety. And based on this when they avoid a social situation, their mind interprets that as being safe from a dangerous situation. So the next time the emotional anxiety response will be increased. To avoid that from happening, the person needs to face the situation and show their mind that it's not that bad. Or even in some cases if a person ends up experiencing exactly what they were afraid of, they'll learn that after about 45 minutes, their bodies can't maintain the elevated level of anxiety and it will not be as high as it was in the start.

6- There's lots of different ways to it and we don't really know the cause or reason. Part of it can be a history of judgments and rejections, so they might have a sensitivity to that. There could also be some genetic and environmental components, as well as upbringing.

4. What are some ways that come to mind, where social anxiety can worsen for a person who is already going through it?

1. Not asked.

2- The turns of ordinary life, financial challenges, relationship disintegration, and transience can all exacerbate what people are already feeling. All of us experience anxiety; it's whether we can come back from it and find ways to cope and reframe some of these things.

3- By continually doing what they're doing. Inactivity is a huge factor. Sometimes just having to get up and move forward is still an action, an event, a motion that can help to break that cycle of anxiety, but the question is how do I actually get up and do that. That's where counselling would come in, with something as simple as visualizing, working through what that hurt is, what is that deeper primary feeling that that person is dealing with. Isolation again is a big huge factor.

4- For a person who already experiences social anxiety, when you increase the pressure, expectation or need for them to do something that they're uncomfortable doing, or they have perceived it as more important or a bigger opportunity for judgment and scrutiny, their social anxiety will increase. It's their perceived level of stress in a situation, and their anxiety increases based on their worries and fears.

5- Answer within previous answer.

6- Lots of different things, for instance other mental illnesses like depression, struggles with addiction, too much stress on a particular day or moment can exacerbate the condition.

5. What are some factors that may drive a person to feel inferior to another person? Are there any common factors, or do they vary for every individual?

1. Not asked.

2- Mental health challenges and mental illness are very individualistic. That being said in certain broad populations there are commonalities. There are certain common threads in the post-secondary world. Competitive environments could be anywhere. Inferiority as a driver for social anxiety, in the sense that they're not well connected or don't have human support etc. This withdrawal leads to them thinking that they need to be more self-reliant and when they're not succeeding in that, feelings of inferiority arise. The trap of comparison can lead to feelings of inferiority.

3- It comes down to vulnerability and what past hurts have happened to someone. That trust, relationship and having been hurt a certain way will make the person have anxiety about that. Once bitten twice shy holds true here, especially with the hurts of the past can stop someone from being mobile with their activity on their social connections, becoming immobile instead.

Therapeutic imbalance of power or power differential can easily create social anxiety around someone feeling less than another. If someone is continually bombarded with that throughout

their life they can easily view themselves as insignificant or unworthy, even though everyone tells them they have skill and talent. If their core inner belief system tells them that they're no good, nothing else matters. It could be as simple as a childhood situation, all of which leads to consequences that we will ultimately find ways to be able to cope with. If someone's dealing with an inferiority complex, what may have worked for them as a seven year old would not work as a 24 year old as it's a different world altogether.

4- They vary between individuals. It often comes from a sense of insecurity where someone worries that they're not good enough. If someone is worried about their number of friends, they will feel inferior to people who are more confident, socialable and outgoing than them. So it's rooted in those fears and insecurities.

5- It relates a lot to a person's upbringing, and the people in their life who may or may not tell them that they are inferior in one way or another. Also, we all have a set of values that we think are important to live up to in the world and what makes a person valuable or not. When the way we live deviates too much from that, we end up experiencing feelings of inferiority towards the life that we stand for.

6- I'd say they vary for every individual. We all have our own insecurities and baggage which can lead to feelings of inferiority. Comparisons with others is a big source and can come from all over the place. Typically it's going to be from our upbringing and environmental factors. Feelings of inferiority and insecurity don't come genetically. We can be genetically predisposed to some things, like height or even depression and feel insecure about that, but whether we do feel insecure about it is environmental.

6. What are your thoughts on social media websites and applications?

1- I love them. People are used to outbound marketing like billboards, but social media gives opportunities for inbound marketing.

2- As a society we are not keeping pace with or being able to adapt to technological innovation as it's been moving very quickly. When the telephone was invented 100 years ago, it took 60-70 years for everyone in North America to have a phone in their home. They had time to get used to that technology, and there were changes made to that technology that made it more adaptable. At the onset of smartphones, it's been very rapid. Telephones were the realm of adults but smartphones are the realm of every age group. We think as a society that were adapting but were

actually coping with technological innovation. There are many efforts to create right out of wrong, like there are apps that support mental health and mindfulness. But the fact is that the device is also the driver of your anxiety, so its hard to say if there's benefit to that. It's not just young people hooked on this technology, but their teachers and parents are as well. We're caught in the tension of finding ways of using this technology to improve mental health while the onslaught of things that are not good for our wellbeing are also attached to our relationship with technology. So it's going to go in either of two directions: either our society realizes what we're going to have to figure out to restrain ourselves and put parameters around it or for the emerging generations, the phone would become like a part of their anatomy. How do we accelerate adaptation with the necessary precautions? What we do know about neuroscience and development pathways is that children, infants, adolescents and even men approaching 30, the brain is quite elastic. What we're doing to our brains with overdependence on technology and over usage is yet to be seen but it's clear that our society is immersing itself in technology that it's not adapted to.

3- I view them as neutral, however from a social sciences perspective what was meant for good has turned out to be very bad with very negative ramifications. Although there's some great value to it, what we all perceived and thought things would be even 20 years from now have a whole different level of consequence. Better connection, better emails and texting; it's almost too much information. That's creating more disorganization and less communication, which is ironic.

4- It's the way people choose to communicate now. It's easy, quick, and convenient and is here to stay for a long time.

5- It seems to be a pretty critically important part of young people's lives. For a lot of them, it'd be difficult to imagine living without them, in a way that they interact with their peers groups outside of social media. There seems to be a lot of pull towards these things.

6- They're useful. In relation to this, there's definitely a connection in terms of feeding into anxiety, social anxiety and depression in general according to research. There's obviously a use for it and the aim is connectivity, but people have to ask "at what cost is increased connectivity worth it for me, the community or the population in general?"

7. How important do you think they are for young people today?

1- I'm sure it's really important for young people to keep up with the world. It connects them with people they don't necessarily connect with in real life.

2- Not suitable

3- It's become the newest trend to do. It's a part of life. The rapidity in the growth of technology over the last in the last 20-25 years hasn't give us a chance to fully adapt to that.

4- I don't think they're necessarily important or needed, but given that everybody uses them it becomes needed. That's how people are communicating, staying in touch and sharing information. I don't know if social media has an added benefit to getting more information between relationships but it's quicker and more convenient, so that may be considered a benefit.

5- Not asked.

6- It seems to be very important. Whole lives and careers are built on it, so you can't really go anywhere without seeing it. It can greatly increase your life and well-being and it can greatly decrease it too.

8. Do you believe it is possible to lead a successful life in today's world without having a social media account?

1- Anything where you're connecting with people online is considered social media, even WhatsApp, Reddit and other social forums. When applying for a job, people want to know what you're like behind the scenes, so they Google you. If you have a very polished social media presence then you might have a greater chance of getting the job vs. someone who doesn't have an account at all.

2- Not suitable

3- Yes it's always possible but there are consequences to that action either way. It's possible to conduct business but that means actually talking with people and meeting with them.

4- On a relationship level, if someone doesn't have a social media account its either because they're confident to pick up the phone and contact people that way and they're okay with being outside social media's realm and not knowing everything that's going on. It's definitely possible to be successful, as there are many successful people with no social media presence.

5- Every person has a different idea of success. I think it's absolutely possible for an adult to function in a way that's healthy for them without engaging in social media.

6- Definitely. It might be challenging to step away and remove yourself from it because once we've experienced something, it's hard to go back and have something taken away from us. But it is possible. We were doing really well 20 years ago and we didn't have any social media so there's no reason why we can't do it now.

9. Do you think the excessive use of social media exacerbates feelings of incompetence, inferiority, self-consciousness, embarrassment, humiliation, and depression? Could you elaborate on that?

1- It is not necessarily social media's fault. If you do feel like that in general, social media might help magnify it but blaming social media is not the issue or the resolution to this. A lot of people have the fear of missing out if they see someone doing something and think "I wish I could do that" or they compare themselves to other people on platforms like Instagram because their life looks perfect on social media. But it's not social media fault, it's the person not remembering that people only post good things on social media.

2- Yes, it can in present times. Adolescents are uncomfortable around their development and appearance. Being judged on their appearance on Instagram or Snapchat could exacerbate pre-existing insecurities. It leads us to comparisons which aren't always healthy, and to quantify and transactionalize a lot of our life based on the numbers that lie behind our social media accounts. It's dire.

3- It's mutual between what is perceived and what is being projected: what that person is allowing to be projected with or what other people are projecting onto them. You still have your own choice. The biggest issue I see in my work in terms of social media are cyber bullying and pornography, both of which are self-conscious choices.

4- If people are already feeling those feelings, then social media can impact that negatively. If a person is depressed, they'll log onto social media and see what others are doing, and being in a negative, pessimistic state of mind, anything they see is thought of negatively and comparatively from their own perspective.

5- I think there is research to support that social media usage, through self-comparison and such, can make people feel worse about themselves. This is particularly because people don't generally post on social media about all the things they feel miserable about. People post things that present them in the most favorable light, leading viewers to misperceive how other people are living and feeling worse about themselves in comparison. So it seems by some of the evidence out there.

6- Yeah, I really think so. If someone is really insecure, I think that's where there is potential to do greater harm. The more insecure a person is, the more likely they might be predisposed to experience negative effects from excessive social media.

10. Do you think comparison culture reinforces the idea that validation of one's life can only be sought from the evaluation of others? Please elaborate.

1- Yes, even basic examples like children wanting their parents to be proud of them. The child could be to be the most accomplished business owner or the president, but if the parents aren't proud of them their work doesn't feel validated. On social media, having so many likes on posts can reinforce that feeling. But again, social media is just a tool; it's how the person is using it.

2- In the under 30 crowd, it would be hard to find somebody who's finding their validation in other places. They'd be exceptions. Technology tells you where your achievements lie, as even the marks that students receive and their interactions with teachers are tied to technology. You'd have to be a fairly confident thinker with more life experience to say that your validation comes from other places. There is simultaneously a longing for community and connection, while were being driven into more isolation and dependence on that technology.

3- If you're using it to compare, then absolutely. It's easiest to blame and not take responsibility, so you look at someone's life and think "I'm better than them" or "they're so much better than me". That creates a feeding frenzy of insecurity.

4- That's how the way people think it turns out and it reinforces the cycle that I have to do this because someone else is doing it. It's a never ending cycle, so the goal is to move people away from these comparison validations and start valuing themselves. If someone can compare their own growth and improvements in their comparisons with others, it makes a huge difference.

5- It's an empirical question, but I can answer speculatively. It's plausible and it makes sense that it would happen.

6- Perhaps. It's not making it less likely, surely. A lot of the validation we get nowadays seems to be from others and we might forget that it's not the only source. It seems to be like an easy gratification source for some validation. And when looking at other people's lives through social media, there's this idea that everyone should be able to have that as well. That idea is one of the main culprits as well I'd argue. This idea that "I should be happy all the time and that there's no reason for me to not be successful." That belief, right there, can be very hard to deal with, even though it's positive to be hopeful and successful and happy. But the idea that "I should never be unhappy or unsuccessful as it's not acceptable" is hard on the ego.

11. What sort of pressures, in your opinion, do these young people feel when making these social media posts?

1- They just want to be popular and that's what everyone wants, not just young people. But being forced to be perceived as perfect and 'my life is better than yours'. But now you see lots of people doing posts where they are honest about mental health, their flaws or something like that and that's getting more popular than the typical influencer perfect life content.

2- Not suitable

3- The persona or image that they're trying to project of themselves can be good or bad. It's determined by where that person is in their life. Their inside life is more worrisome than what their outside rejection is, as everyone can fake it.

4- For some it's wanting to be like others and stay mainstream. The pressure comes from wanting to be included and not left out, and it sometimes becomes problematic when a person feels pressured to do something they don't want to. If looking at it from a social anxiety perspective, some of them may benefit from the use of social media and some would be negatively impacted from it, depending on what they use it for. It's very individualistic.

5- I know anecdotally of people who would be devastated if they didn't get enough likes for a certain post. They feel a need to maintain a consistent social media presence, whether it's due to

personal pressure or something that's related to their career. In these cases there's a lot of pressure to put out content that's received positively by others.

6- If a person is aware whether the post they're making is for others or themselves, it becomes a conscious decision and they can be much more in control of what they do next. I guess also the pressure to appear better than how they're actually doing. The pressure to be like others, the pressure to follow the rule of always being happy and if you're not happy people wouldn't like you.

12. For someone with social anxiety, what type of effect do you think these images of projected perfection have on their emotional state?

1- Unsuitable answer

2- I think there's a level of pressure. Social anxiety is not the end for people with psychological challenges who are not getting the help they need leading to depression, other forms of anxiety. It seems like a fairly logical pathway unless people are aware of their condition already and are tackling it in some way.

3- It just reinforces it, and a false belief system of needing to look a certain way. I have to keep up with and follow what everyone else is doing rather than being an independent person who makes choices about how they want to do what they want to do.

4- Socially anxious people are more concerned with what they are doing and being judged, over worrying about what others are doing. So social anxiety and social comparison are two very different things. Someone seeing a perfect picture is very different than someone feeling obligated to post a perfect picture for fear of judgment that it's not good enough.

5- So there are causes and elements where a person thinks "people will think poorly of me, they'll see me as an impostor, maybe I'm not good enough" these thoughts mediate the social anxiety in conjunction with avoidance. While I think the avoidance is really critical, the social media and this comparison effect could exacerbate these cognitive elements that maintain social anxiety. This seems like a possible connection.

6- It is negative. It's reinforcing that they should be perfect and happy. And if you're not happy, not okay or sad, it's not okay. Humans have all sorts of emotional expressions and states, all significant in their own way.

13. What effect, do you think, this ‘comparison culture’ has on a young person’s sense of identity, and does it in any way feed their social anxiety?

1- There’s definitely cyber bullying and bullying in general, and social media has an effect on it. And the struggle to always post something perfect instead of flawed. Again it’s up to the person using these tools to manage that. And why are we blaming social media tools, when even our parents’ generation had something similar to this, like TV or magazines (to make them feel bad about themselves). So would we blame magazines or TV, or try and work on things ourselves?

2- I think it’s becoming harder and harder for young people to find other sources to check their development and identity so the go to norms are being dictated by technology and their peers’ experiences with technology. Somebody may not have a Snapchat account but if their peers all have it then suddenly they’re drawn into that and there’s a different expression about their identity across the whole domain of technology. I think there are less and less opportunities to identify, to learn about your identity outside of technology. It seems to be narrowing instead of getting larger. In the past, there were other avenues in the community to explore and discuss identity.

3- It absolutely has an effect in the way it has the potential to reinforce it.

4- It is individual based. If someone is predisposed to feeling anxious, they’re naturally going to compare and worry about whether anything is enough or substantial, depending on the context. But I don’t know if it would change their sense of identity as there are so many more factors.

5- For people to whom personal relationships are very important, this lack of authenticity that especially bleeds into real life relationships would, I think, have a negative impact on them. It’s because to have intimate emotional connections with others, which most of us value a lot, we need to be real, whole people. But it’s not a black and white thing. If they were to go suddenly on the other extreme and be posting about their most unhappy things and oversharing personal information is not adaptive. So ideally you’d hope that there’s a (middle ground) somewhere.

6- Nowadays kids have the sense of identity that’s transmuted through the internet. When they’re at home, they still have to be on and can’t step back to take a break from the social world that’s still going on. Our social identity never leaves, it’s a visible social side of ourselves. It’s exhausting to feel like you always have to be on and appear perfect.

14. In lieu of appearing perfect and happy, many young people choose to hide and suppress their unhappy thoughts and feelings. Do you agree, and why? Please elaborate. How do you think this suppression affects their emotional health?

1- If you're suppressing those feelings, you should talk to someone. I don't think social media is forcing you to do that. A lot of business owners talk about their struggles so people can relate to them and those posts actually sometimes get more engagement than the typical 'my life is perfect' posts.

2- It could be that that's the case. Simultaneous to all this maladaptation (to technology) is a growing, broad sense of mental health and mental illness being a part of life. Growing up, my generation and people older than me didn't have that; many cultures don't have that. As much as there is a discussion, the cultural norms being identified on social media, so are other things being identified as norms i.e. mental illness, depression, anxiety are also being talked about. The problem probably is that they are self-diagnosed, self-declared and that in itself means that there is a dialog without a lot of direction.

3- From an emotional state, the issue with happiness is that it leads to vary surface secondary emotion. Happiness is viewed by many as a secondary emotion, while a primary emotion is joy. Happiness is a fleeting emotion, and social media is a very happy place to be in for secondary emotions but it doesn't build upon primary emotion like joy, so that's a concern of mine.

4- People suppressing their unhappiness and putting on a brave face because it's not okay to share that you're not functioning well can be really problematic. The more people suppress their emotions, it can create long term impacts. For about 70- 80% of people, it's important to have an outlet to share how they're feeling instead of pretending that everything is okay. If they don't have that and never learnt how to potentially communicate well, they become emotionally intolerant later on if they're not actively allowing themselves to feel what they're feeling.

5- I'd guess that at least some people are quite careful about how they present themselves especially in the context of how in real life you say something and it vanishes into the ether but there's a record of what you do online in some way. So that gives certain people pause about that, it's easier to sneak a more vulnerable authentic expression into a regular conversation with a person than it is to broadcast on social media. But I don't see it as a bad thing, because being vulnerable is very important to be a healthy, fully functioning person. But it's also important to

be selectively vulnerable and not necessarily healthy in all cases to broadcast personal information on the internet. With vulnerability, you put yourself out on a limb with a potential to be shot down or rejected, so it behooves us to be cautious about that. It helps us understand why this cycle happens because it seems like a runaway train creating more and more content that shows people in unrealistically idealized ways and people feeling pressurized to maintain that status quo. It becomes even more unrealistic with people carefully curating and editing their photos, presenting a carefully selected portion of reality in the most positive way. It can go on to new levels that are almost impossible to achieve.

6- I would think so. Our culture has adopted this belief that it's not okay to be feeling any unpleasant emotion. So that belief itself is hard because if a person actually feels unpleasant but shouldn't be feeling unpleasant, the difference between 'we should' and the actual self, causes the suffering, pain and turmoil inside. I believe that emotions all get expressed but if we're not able to express them when they come up or in the appropriate way, they tend to squeeze out in other ways. Maybe it's an explosive emotional reaction two weeks later, or getting sick. It can show up in lots of ways, but we don't get to control how that happens in this way. It oozes out the sides and makes a mess.

15. With this suppression also comes the fear of being vulnerable, because young people know that they would be evaluated and judged for their social media activities. Do you think this causes young people to become even more careful, and thus, more sheltered? Please elaborate.

1- I guess there are polar opposites. There's people online who post racist or ignorant things with their faces and names visible. So it's again up to the user, not social media's fault.

2- I think so. What we see anecdotally is that those who risk and are vulnerable on social media the outcomes are generally not positive. How can people be supportive through an electronic means when we're wired for connection? It does generate, in a certain percentage of young people, a tendency to bury and hold back. That being said, you would hope that they're connecting outside of their social media with people they are able to check their assumptions against. But I'm not sure if it's actually happening.

3- It depends on the development. If the frontal cortex of the brain is still developing, there's a possibility for them to make an impulsive choice and put up a picture that they're going to regret

later on. If they were 30, they would know better and not do it. We all make mistakes, but a developing teenage brain lets things happen without realizing the consequences until afterwards. That's when the issue comes into play, where it reinforces that negative emotion and the different feelings that a person is dealing with. That in turn reinforces that social anxiety, especially if as a consequence they get picked on or cyberbullied.

4- When a person first expresses their feelings, the way those feelings are reinforced or received would really dictate whether they're suppressed or not. If they get positive support for it, they may share their feelings more, and if they are reprimanded for it they would be likely to not share their feelings again. I don't know if it necessarily makes them more sheltered but the way that suppression may or may not happen can interfere with how things play out.

5- Answered in previous answer.

6- Yes. This difficulty with being vulnerable leads to avoiding certain situations and doing certain things, which leads to more anxiety. That's because we don't do the very same thing that's needed to be done in order to learn that I can be safe in this situation. So avoidance is at the heart of anxiety, and being unable to be vulnerable will lead to avoidance in a lot of cases.

16. How does this, if at all, factor in with social anxiety?

1- Not asked

2- I think it comes back to comparison and being told that something is normal, in trend and comparing it against the realities of your life. In many cases the gap of that discrepancy is a very tough place to live. Human beings don't handle discrepancy very well and if your day is filled with identification discrepancy i.e. my life looks like this and everybody else's life looks like this, I can maintain some image management on social media but when I go home and I'm interacting with my family or in my community I'm not that same person. That discrepancy, unresolved, leads to dissatisfaction and disconnection and that is a cruel pathway.

3- Answered within previous

4- People with social anxiety would be far less likely to share how they're feeling. They would be more likely to share their feelings on blog sites where they have a little more anonymity because that would remove some of the judgment that they fear, thinking 'it's not me, it's my web name. But when posting online, they might scrutinize what they say, and if they receive one

negative comment among ten positive ones on a post, they will ruminate on that one negative one wondering why the person didn't like it or agree with it. That's what happens with anxiety: not focusing on the positive but a fixation with the negative and trying to stop the negative.

5- This fear of vulnerability might make us avoid situations or being vulnerable in ways that we need to be happy. That in turn can reinforce social anxiety and increases it over time.

6- If a person is less and less participatory in social events because they're afraid of being vulnerable, they're avoiding the social event which actually is the antidote and treatment for the anxiety. It's unfortunate, but (experiencing) the fear is necessary to overcome the fear.

17. Are you familiar with the term F.O.M.O?*

1- Yes

2- Yes

3- There's always a sense of wanting some form of relationship, as we are wired for that. Social media creates a secondary relationship, not a primary one. So it can easily lead to an ongoing sense of the fear of missing out, which is a terrible way to live. A feeling of your exercise of will and choice to healthy isolation, vs. a feeling of compulsion to go or be seen somewhere so as to not feel excluded or isolated negatively.

4- Yes

5- Yes

6- Yes

18. How closely, do you think, this feeling is linked to social anxiety? Do you feel that the excessive use of social media exacerbates these feelings? Please elaborate.

1- It might amplify that feeling. You might be best friends with someone and they'd be going out without you, and you wish you were invited.

2- I think looking over the years I've been alive that the fear of missing out has always existed for adolescents. Perhaps we had less windows and opportunities to look at what was happening out there so it wasn't felt quite as intensely. I think that at the same time you're moving towards the idea of forming new relationships: romantic and more meaningful relationships in general but

at the same time we have always been uncertain of whether we fit in, whether we are a part of that group or this group. Maybe more broadly or globally through social media there's opportunities to identify with communities that look like you or with whom you can in some way identify with, that didn't exist in the past. You can imagine youth living in rural communities in Alberta or in the far north and trying to find identity and could not find it in their community. So maybe there's a positive aspect to it. That being said, how that translates into a meaningful human connection, which we know is a driver of mental health: the jury's out on that.

3- It depends on the individual again, but social media has proven to be enough of an influence to agree with this. If you can't be away from your phone for some hours, then it's a problem that's affecting your life. It's a direct influence on your life.

4- I don't think the fear of missing out is related to social anxiety, because social anxiety is more of a worry about judgment. Missing out is a symptom or after effect of social anxiety. If somebody is clinically socially anxious, they're not going to go to an event and going to find a reason to avoid it. Whereas, someone who has a fear of missing out may not like going to the event but they'll still go out of a social pressure of being there. So there's a big difference between the fear of missing out and social anxiety, as in the feeling of not going and wondering what you missed versus the feeling of how you would react or how the people there would accept or tolerate you, or even want you there. Social anxiety can exacerbate the fear of missing out especially when these days so much of what you missed out on can be seen through the posting, talking, liking and commenting online. So there's an "I should have been there" feeling constantly as it feels like it may have been better. But there's an aspect of the fear of missing out where someone can't rest until they have seen every new post there is. On a Facebook or Instagram account, they press refresh and new information pops up. They'll log in but then read back to see everything they've seen again, out of restlessness.

5- I see a potential connection between social media and the fear of missing out because you see people worldwide doing these amazing things and you want to do that too but miss out on all these opportunities. I don't see a link between social anxiety and the fear of missing out, I see a greater connection with difficulty to commit to relationships or activity. Not being able to do everything and then not ending up doing it out of feeling overwhelmed. I can still see the fear of missing out being potentially exacerbated by social media, and affecting people negatively,

which in turn could have an effect on social anxiety. I'm not sure I see the connection between them.

6- Perhaps, but for socially anxious people, they don't want to go to these events and gatherings so even if they look at it later, they're indifferent. But in some cases, they do want to go and experience an "I could have gone" sort of regret of not going, later. The fear of missing out is very common.

19. Do you believe that excessive social media usage and consumption causes young people to fixate and dwell over the amount of engagement (likes, shares, comments) their posts receive?

1- There's definitely an addictive element to it because there's some study done that says dopamine is released when you get lots of engagement. Even business owners wonder how to get more followers and how to get their posts to get more likes, as they think more likes would contribute to getting more business or higher profit, but they actually don't. That stuff should be taken with a grain of salt but people focus on it so much that it becomes addictive and it can consume their life. But it often consumes their life if it's all they have.

2- A word that's showing up a lot is transactional. Living our lives in a transactional and numerically driven way. If you are given a metric, you're going to use that metric. I still look at how many people I'm linked to on LinkedIn. I don't necessarily dwell on it but I can see that in certain social platforms it's very much front and centre.

3- Especially for someone 24 and under, absolutely. And even if they're older but have been through that culture, it's just a part of their life now and it continues to reinforce itself.

4- Someone who has more issues might worry more about getting the likes whereas someone who is more self-assured wouldn't really go back to check the engagement on the post too often or fixate over it. A person who doesn't have that sense of confidence or being self-assured is going to be looking to what sort of feedback and validation they're getting from that post to build up their sense of self-esteem or self-worth. The problem here becomes the potential that they'll have to keep doing that because they don't have a solid sense of self on their own.

5- Yeah.

6- If that becomes the goal, end result, hope or fixation, that's starts building into a problem. If that's the source of validation, then it's going to lead to unhealthy ways.

20. How is the individuals' ability to focus/concentrate affected by F.O.M.O and excessive social media usage?

1- Our attention spans have definitely decreased, as with social media and micro blogging sites like Twitter you don't have to spend a lot of time to read things or long articles. But is it so bad that we want to read things quickly, or just read what we're interested in. Should we not take advantage of convenient things? What were people doing before smartphones? They were probably doing something in addition to watching TV, like eating or having something else to distract them. A phone can be a distraction if you let it be one.

2- What we're hearing is that sleep is being impacted. We take our technology to bed with us and we use it to get a sense of when to go to sleep. All the brain science says that it's not very helpful for that. We're driven by, and in some cases obsessed with, our notifications. We hear anecdotally from teachers no longer feel they're running classrooms but they're running group homes, and behavioural issues are escalating even among those who would not be typically coded in the system. There's only a few things we can point out that have changed in the last ten years in our society, but definitely one of them is the acceleration of apps etc. that target adolescents and young adults. So I think that the implications of lack of sleep, over usage, overstimulation (were in relation to) a drug that did that, you'd say that's a pretty bad drug and shouldn't be taken long term.

3- It effects it in the way that all that energy is being spent on a surface level, secondary emotion, rather than focusing on themselves and finding things that are actually effective and help them grow. Without it, you're left with a very shallow life.

4- Difficulties in focusing and concentrating due to worrying over what their friends are doing while they themselves have to study or sleep because they're constantly scrolling are more indications of other unhealthy patterns and behaviours, potentially ADHD where people have this impulsiveness where they want something immediately. So much of social media is on this rule where were constantly being rewarded with new and novel information which is never-ending. So it's more ADHD than social anxiety.

5- It seems like a possible connection. Thinking about all the experiences that we think would be better than what we have now and the excessive social media usage where we're getting prompts all the time, I think naturally could make it more difficult to be present in the moment. It's because we're getting these constant interruptions and preoccupation with things that maybe would be better than what you have at the moment.

6- Not asked

21. There is a theory of a dopamine effect that a person receives every time their social media post gets a form of engagement. How accurate do you think that is?

1- Not needed

2- There is definitely science that supports that and that effect drives you back to technology, likes and comments etc. it does become transactional and probably excessive.

3- Dopamine receptors are the pleasure centres. The part of the brain that's emotion based is connected to the dopamine area, and there's a constant reinforcement of pleasure. At the end of the day if I don't have that, you get very grumpy with no emotional control because you don't have the coping skills. That's because all the pain and hurt are coped with a shallow secondary device called social media. If you're already dealing with social anxiety, past traumas and hurts, adding social media to it makes it a very scary cocktail.

4- I don't know the research on this but I have no doubt that there is a correlation or link between the two.

5- Dopamine is the neurochemical that we have in our brains that is used to reward us for adaptive behaviour in general. So any persistent behaviour can certainly be explained on the biological level as the continual release of dopamine, also known as the do it again chemical. It'd be difficult to understand why social media usage is such a persistent behaviour if we weren't getting a dopamine release from those behaviours. So it almost certainly is the case here.

6- I'm not too familiar with the research, but I've heard in general that there are lots of dopamine circuits involved with social media usage. It makes sense because these are social rewards that we collect and notice when we receive engagement. They act as these social rewards, feeding into increased social media usage, which is the whole idea.

22. How do you think these individuals get affected emotionally when they don't receive the amount of engagement they expect? How much do you think this affects their state of social anxiety?

1- Not needed

2- Everybody would come at it with different levels of expectations but if you were already doubting your identity or aspects of your life, if there are already things that are challenging you, it would only serve as a confirmation that you're an outsider, a loser etc. Things that you're already fearing, (would be backed by) the data.

3- If they don't have a way to cope with their anxiety, social media will reinforce that negative belief at their core being over and over again.

4- There are people who don't care about the number of likes on their posts, but those who do have anxiety or worry, or they derive evaluation and worth from that will always have a benchmark raised a lot over their actual likes. So it's an ever increasing wedge, and they'll never really feel satisfied. It's like an empty shell that props people up for a while and then breaks down again because of that unassured sense of self.

5- I'm sure there's many people that get devastated, and this could potentially a factor that people misperceive and misconstrue through these maladaptive thoughts e.g., 'people don't like me', and similar thoughts. These could mediate the avoidance behaviours which also in turn reinforce social anxiety.

6- The expectation is a depressive, lowering feeling. Posting something with the goal of having a certain amount of likes and shares, and not receiving that can be very deflating.

23. Do you think that the fear of rejection, being left behind or forgotten is stronger now more than ever, because of the excessive usage and prevalence of social media? Please elaborate.

1- Maybe, because in business you want to remain at the top of the mind of people so if you're not on social media you don't have a lot of opportunity to appear at the top of their mind or newsfeed. So it does attribute to that.

2- Not sure, as I think those feelings are quite developmental. It's always been there.

3- Yes, because it's a false sense of community connection. It might not have been as prevalent in the past decades, but now you're always with people but on a secondary communication level. A physical meeting and presence changes perception and everything with that.

4- Not suitable

5- I'm not certain.

6- We can definitely notice correlation, but it will be hard to have causation. It seems that younger kids are having more of a struggle with social anxiety than before. I remember talking with several teachers and they would definitely say the same thing and attribute it to social media and cell phones. Teachers that have been in the field for 30 years can see the difference from the 80s and 90s to the 2000s and 2010s.

24. Sitting behind a screen can offer a sense or feeling of safety to an individual with social anxiety, giving them the confidence to express themselves better. Do you agree with this statement, and why?

1- I agree with this statement. It's a lot easier to be able to edit what you're saying as you're writing it out whereas in person you can blab away and be awkward. Online, it's not weird.

2- I think we're still exploring that. E-mental health seems to make sense in theory. A person with social anxiety or chronic depression finds it very difficult to get out of their home and go to an appointment so it would logically make sense if you'd provide those supports through the anonymity of the screen that in some way it would be helpful. I don't know if it's necessarily doing everything that we hoped it do. There are certain countries and regions of the world where E-mental health is the only option. That being said, there's not enough data to say whether it's doing everything it could do.

I guess there might be a sense of safety but there have been many anecdotal stories where things have gone haywire and not worked out well. We all use technology as a shield and as a way to remain anonymous when we're exploring topics, ideas, things that would not be embraced by our community or workplace etc. I think we have adapted to that in our culture and may accept it as safer.

3- From a therapeutic perspective, my observation has been that social media, from a neutral perspective, could be a legitimate way of breaking social anxiety's barriers down when it's used intentionally. That takes that fear away, which is again a good or bad thing.

4- I don't know if it necessarily gives them the sense of safety. A socially anxious person will never 100% comfortable with what they're posting, but it's safer than just going and speaking your mind in a public forum, or face to face. Online there are no time constraints. Someone can spend ten seconds or a socially anxious person would read it and then delete, edit and post again. One of the strategies is to give people the skills to communicate what they want to say more effectively. So from that perspective it does help those socially anxious individuals feel more prepared or able to put their thoughts out there or share their feelings. For someone who is very social anxiety they could use social media as a stepping stone to getting more comfortable in expressing their thoughts, slowly progressing to the smallest face to face thing. So in this context, it's not an avoidance mechanism. But it can also be an avoidance mechanism at the same time, as a lot of people would give in to their anxiety because no one wants to feel anxious. So they would naturally find ways to get around that anxiety, and the more they engage in those patterns, the more likely they'd be to use them again as they work for them. If they don't publicly speak the anxiety goes away, so the next time they choose not to speak at all. That's problematic.

5- There's been some research on this, and you see a breakdown of different reactions to this. Some people do feel safer about the way that they're able to present themselves when they express themselves online because they have control over their wording and how they proceed. On the other hand, there's another chunk of people who probably feel more anxious about expressing themselves on social media because of the permanence and widespread nature of the message being shared online.

6- To a certain extent, it's very likely to be used as a crutch. "I feel safe behind a screen and when I'm expressing through Facebook or Twitter" but in person, they don't.

25. Do you think this a good sign for socially anxious individuals, or does it reinforce their fear and avoidance of real-life interactions?

1- It can go both ways. It depends on the person.

2- It comes down to the mix. Simultaneously you could be having your identity, credibility torn down by a number of applications on the same phone that you're using to build up and recreate your psychological profile and well-being. Abstinence doesn't seem to be the solution. If you're aware of a number of apps on your phone that are creating anxiety and making you question who you are as an individual and it's not in some way balanced out by technologies that are helping you adapt and cope. It comes down to the mix.

3- It's a bad thing, as there needs to be more control and more influence from parents. If we get to a point where we recognize that as society and make choices, it could be a case of too little too late.

4- Answer within previous.

5- The question is very context dependent and may be the case for certain individuals, but I don't know if it would be the case for all people with social anxiety.

6- It can reinforce that, but it can be helpful if they're using it in a helpful way as a stepping stone to get to more social interaction. Most of the time I'd imagine people are using it as a mechanism to avoid actual interaction.

26. What does this excessive social media prevalence mean for peer to peer interaction, as it is and as it will evolve in the future?

1- I think it'll be less person to person. It's not necessarily a bad thing, but people are getting better about being on their phones when around actual people. It doesn't happen as much as it used to, the more we got used to the tools. There's always going to be a new platform, like TikTok which kids are obsessed with.

2- The opportunity is there and the technology exists. There are nationally and internationally approaches to build peer support. But is that peer support capable of holding back the tide of feedback coming from other media and apps? You might have connection to a peer who's affirming your growth development and recovery. But if the advice is where you never have to learn to control these things that are causing a detriment to your wellbeing, you don't have the internal capacity to do so or you are addicted to it, I'm not sure simple peer to peer support is going to make a difference.

Science points in the direction that we do need to have interpersonal interactions with human beings as it has a number of benefits including finding a sense of belonging. It's a great new world and we don't know if those same things can be met. For instance, for an LGBTQ kid in a rural community, if they can find a community of peers they can identify with virtually, maybe it is better for them than nothing.

3- We'll see both positive and negative effects.

4- While there are meetings online, people are still making real world connections in schools, workplaces and I don't think one has trumped the other. But in certain cases, you get to know a person through their online social media than you ever could through many hours of face to face conversation or hanging out with them. So it's different in that perspective.

5- I think that the youngest cohorts that are coming of age right now do more interaction with their peers over social media than the older generations. So certainly this means that people will be spending a greater amount of their time interacting with people this way. I wouldn't be surprised if we see studies that show that the base rate of social anxiety in the population could be higher than it used to be. That's because at least some people would be choosing this way of interacting over the base interactions which they may have less control over and in turn, feel more anxious about.

6- I'd be surprised if the studies don't show that there's less peer to peer interaction now than there was 30 years ago. I can see it going down because we are able to interact easily and conveniently with people online, in a relatively safer way. It's being reinforced, encouraged and built into our society.

27. Is it true that a large number of young people choose to seek companionship online, over the real world, and why? Please elaborate

1- It is prevalent, but why do we always have to have face to face meetings for everything? Young people still want to hang with people in real life as that adds 'street cred' to their social media because they'll appear popular if they're hanging out with people. I don't think it'll get any worse than it is already.

2- There's a tendency to look for online connection, but my observation broadly is that adolescents are also connecting with each other in meaningful ways outside of technology.

Technology may assist or create deficits around how those relationships. The phones are out, but there's also connection.

3- Not asked.

4- Not asked

5- Not needed

6- Not asked

28. Could excessive social media usage be considered an addiction? If yes, how? How, do you think, would excessive social media usage affect a person's emotional health, and their socially anxious state, over time?

1- I think so. There are people addicted to their phones in general not just social media. People wake up to check their phones, they check their phones on the toilet and it's something that's become an extension of them. There's a study about how social media is more addictive than drugs... because it's so accessible.

2- Yes, as addiction is tied to neuro pathways so there are interactions happening in your brain that create the desire for certain effects including dopamine that draw you in, so anything that has the power to alter our neuro pathways has the ability to change into an addiction. And there's science out there that supports this.

3- If I'm thinking of using it, it can create a seeking out behaviour and it's not healthy, and not being able to let it go becomes an addiction, if you're not able to let it go.

4- From a fundamental base perspective anything has the opportunity to be addictive. With people who are turning social media into careers and feel like they have to post or share every second of every moment, there are definite addictive qualities. If you look at research on addiction, there's natural tendency to need or want more and it's not always perfectly linear. So if someone is a social media addict, it's going to keep increasing: they spend more time, get more likes, and share more things. The question becomes where is that breaking point for these individuals? In order for people to have an addiction they have to recognize that they have a problem and are spending too much time on it. But because it's such a validating environment people may not see it as easily as an addiction as people who are using drugs or alcohol, where

they can see the problems first hand. So they don't see it as negative as it is, so you'd really have to see the impact of such usage on their emotional health. Their health might deteriorate if they're giving up other activities or their time for family, friends or even themselves. The anxiety of it I'm not sure if it connects with the addictive part of it, as the addiction is checking in on others. Unless social anxiety people are posting stuff that addiction would manifest in, like scrutinizing a post and worrying over it very regularly as an ongoing behavioral cycle. In terms of checking and sharing, that's not necessarily very social anxiety.

5- Within the world of psychology and psychiatry, addiction means something very specific, and the ideas as to how to define that are much divided. In the case of psychoactive drugs, it's a very clear case of whether its addiction or not, because there's elements of physical dependence on them. Many people do find it useful to define the word addiction to include things that are entirely different but quite similar like gambling, sex, video games and some, to a certain extent, talk about social media usage. Whether or not we call that an addiction is more of a semantics question based on how people define the word addiction. But it could also certainly function like an addiction. As with the dopamine hypothesis, drugs hijack our brain and tell it to do it again and again because it causes so much dopamine release in our brains. In a similar way social media is engineered to be as reinforcing as possible so people spend more time on it. Especially for very young developing brains, in particular their prefrontal cortex which we use to inhibit impulse and so on. So they're especially vulnerable to not being able to stop themselves from using it, as they keep on getting reinforced with their use. Even more problematic is when people use social media as a way to avoid other difficult feelings so it becomes extremely reinforcing that way. In a way, it's not so similar to drugs as in someone takes a few drinks and gets a sense of relief for a short period from the things that are painful in their life. It can be very reinforcing because it's a way of avoiding things in their life. But persistent avoidance of any kind will almost always lead to very unhealthy psychological outcomes, when it's done in a way that takes them away from a life that would be meaningful and important for them. There are two ways where it can have this sort of addictive property for people and the way it can be problematic is in that they use it to a point that causes problems in their life, relationships, responsibilities etc.

6- It could be considered an addiction if it's quite extreme and excessive. The person would have to be not functioning, not able to work, going through great lengths to be able to interact online. I don't know if it'll get to that point, but it could be problematic for a person's life in some

capacity. It will compound over time where it doesn't seem like a problem but your dependency and validation is growing more and more dependent on social media usage. Without awareness, it can really sneak up on a person and they are in a place where the only way you know to feel good about their self is go on social media. That is the very thing that's leading you to feel depressed and anxious.

29. Can you recall any cases where excessive social media usage resulted in, or aggravated, social anxiety in a young person?

1- Not asked

2- Unless there are interventions that can help us curtail our use, be more thoughtful about our usage which is not the typical of adolescents, it can lead to more extreme forms of anxiety.

3- It reminds them why they justified why they are the way they are. It reinforces core values and belief systems which then causes negative and positive behaviours.

4- I haven't seen it manifest in an addictive, life altering form. People do fixate and spend time on it but I don't think it aggravates social anxiety.

5- Not needed

6- Not needed

30. Keeping our discussion in mind, do you think it is possible for a young person to cut ties with social media, especially if their mental health is being affected? Please elaborate.

1- No. If they cut ties with social media they'll feel more left out. I don't think it'd be positive or if it would even help if people would be taking about something and the person has no idea what they're talking about.

2- Abstinence or stepping away seems almost inconceivable, based on our society here in Canada. So the idea of cutting ties would only be attractive in the short term as people would be consistently drawn back to it. It's more about finding the valance. I can't get rid of my phone, but curated content makes a difference. It's about levelling it out somehow but the problem is there's always something new.

3- Observationally, I have observed that in the way cyber bullying is happening.

4- Yes, but unless someone recognizes the problem nothing's going to change. Realizing that their social media usage is problematic it's one of the hardest hurdles to overcome and that something needs to change. It's not a need or a vital thing that needed in everyday life, so there are healthier ways to connect with friends, like going out to meet them instead of spending hours on their page to see what they're up to. There are people who get triggered through their use of social media, in cases where they were assaulted or victimized and come across something similar on their newsfeed. So you get them to disengage from social media for a while. So it would certainly be possible for them to create that break.

5- (This and next question together) Yes I do. There are many people who do it. For younger people that's rarer. If I had a patient with social anxiety and was excessively using social media, to specifically target their social anxiety I'd focus more on the behavioral piece, getting them to face their anxiety situations in real life. I think that'd be a much faster route to reducing their social anxiety. That being said, it's possible that social media usage exacerbates that and also that social media usage is problematic because they spend too much time doing it which results in a negative impact on their life in general. Anything we can do to make it more difficult to engage in the behaviour, (and there are apps out there that log you out of your social media for a prescribed amount of time) you can stop yourself from engaging in the behaviour. That's one critical way. Rather than focusing on what not to do, I think it's healthier to focus on what's missing in their life and how to get more of that.

6- I think it could be good. They can even do some personal experiments, like removing a certain app from their phone or going on a social media diet or cleanse. Along with this, tracking things down on paper, noticing how often you feel depressed, how often you engage in personal interaction, how you sleep. This tracking for a month and looking for differences or changes, and they'll most likely find some. And it'll also help them realize how much they need it. We might think that were using it all the time and have never not used it, but after a break they realize that they might not need it and wouldn't miss out on much if they let go of them

31. What measures, in your professional opinion, can be taken to break this cycle of excessive social media usage, in a bid to alleviate social anxiety?

1- Just remembering that it's not real. It's important, but it's highly edited. If you wanted to cut back on your social media usage, turn your phone off or leave it on your desk when you go, don't have it in your bedroom. Instagram also has a timing tool that shows how much time you spent on the app in a day. You check that and set a limit for yourself. Unless you're a hard-core addict, it's not that hard to put your phone away. You can uninstall the apps if you want to.

2- There are groups that need to get on the same page that includes parents, educators and community based opportunities and resources that identify that some constraints or restraints are beneficial. The family that makes the rule that phones go away at supper time is already doing something so counter cultural, impacting and sending a message to their kids and themselves that there are priorities beyond being connected and the fear of being left out, because here and now is where we connect. And it would be similar for social groups, community based organizations. The educators are going to have to get on this in a big way.

3- That's where, in a perfect world, it's the parents' responsibility to help guide and morally support them to know and recognize what should and shouldn't be watched, how much time they're on it etc. If there's an issue of safety, then absolutely even though there are rare cases, where it needs to be done in checks and balances.

It's not about the kid but it's about the parenting now. The same thing happened when the TV and movies came about decades ago, as it is with the tablet. We're just seeing different levels of complexity of that situation, but it's not new just accessible. And it creates isolation within a social context.

Parentally, it's about teaching the reasons whys and how's to a child, so a child knows what to do in a situation when encountering different situations. Just putting healthy boundaries in place. What I need to do about it, what do I need help with as an individual and how can I help others through it, firstly my family and then my community.

4- It includes two things that aren't necessarily related. If you take those who do get affected by social media through their social anxiety, are always looking at what they don't have or should have. We practice for people to recognize what they do have and being grateful. Getting people to see introspectively what they have rather than what they don't have. To break the cycle, you have to get social anxiety people to recognize their strength and positives, and not be as worried over what other people might think. Easier said than done.

5- See previous

6- Tracking your mood, sleep, how much personal interaction you're doing, trying a social media diet. I also think being really aware can be helpful. Asking yourself certain questions: "why am I posting this? What is my motivation for posting this picture right now? Is it because I'm genuinely excited about sharing this with people, or is it because I'm looking for a specific response?" those can be very powerful questions to challenge yourself with. They can help your behaviour on social media become less compulsive and unconscious, and more mindful.

32. How much do you think the fact that every internet post is permanent (in some way) plays a part in the formation and/or exacerbation of social anxiety in young people? Please elaborate.

1- Technically it's not true. You can make a post and delete it. If people care enough to take screenshots of your mistakes or something they find offensive, then maybe it contributes to that. If anything it helps diminish anxiety, as looking up people online and informing yourself about them gives you a better position when introducing and acquainting yourself to them in real life meetings.

3- It is a terrible tragedy. With teenagers, the lack of self-control and impulsively putting something that they'll regret later on, the consequences of that in later life would potentially be devastating. So where's the legislation to protect minors from making mistakes like that? I don't think people realize or want to admit how lasting this stuff is; there's always a secondary something. It exacerbates long term social anxiety as well, as it haunts you. It's easier to counsel a family that had a physical affair as opposed to one that had an emotional affair, as it can never be finished or done. It's not new, but the consequences are becoming more rampant.

4- In terms of social anxiety, the person would be worried about making a post that is permanent and then worrying about what people would think of it. The context as to why it was shared would become a new level of anxiety. So much of the forms of anxiety are interconnected, so social anxiety could definitely play a part as being one of the mental health areas affected by that action, but I don't think it's the major factor in it.

5- It is personal to any individual. I'd guess it's a part for some people, but it seems distinctly different than the social anxiety phenomenon, but it could be a reason why someone would be reluctant to engage in social media. Or it could be engagement in a more passive way, just

scrolling and looking at posts but never posting anything themselves. My suspicion is that this type of social media use is probably the most problematic and harmful. There's lots of reasons why social media might have a positive impact on some people, helping them connect with others, share interests and hobbies with loved ones which would otherwise be difficult etc. But this passive engagement that doesn't provide the benefit of connecting with others but gives them ample opportunities for negative self-comparison and avoidance from other things that could be important in their lives and the potential of reinforcing as it's difficult to stop the behaviour. I think that type of social media usage has the potential for the most negative mental health or general impact on people's lives.

6- There could be a connection. There might be some people who are excessively worried about it coming back to bite them, when they really don't need to be.

33. In today's world, where social media is so deeply integrated in young people's lives, is it practical to idealize a life without it, or to learn to live better with social media? Please elaborate.

1- It's more practical to learn to live better with it. We have all these awesome communication tools. Why would we get rid of them and go back to the Stone Age? It's always going to be improving and I'm sure that if in the future it becomes a huge issue people will force s. media platforms to have a timer or something. And they're already, with Instagram's timer, being aware of it and trying to make it better. So why would we get rid of this technology when it enhances our life so much. It does have negative parts, but does the positive outweigh the negative? It may just be also an education piece, because I don't know if they talk about social media in junior high or elementary, so that could be the education piece that they need to add to the curriculum.

2- I'm not sure we can get to the idea of being a social media hermit and pulling completely away. It is finding what are the proportions that make sense, that do not impact us negatively or recreate our neuro pathways.

3- From a neutral perspective, it's here to stay and not going anywhere. We wouldn't be able to do what we're doing without it. We're now actually seeing the consequences of social anxiety regarding social media in young people. So we have to make positive changes and influence for

change for the generations to come, in order to create a healthy lifestyle that doesn't control our life but enhances it. But it's easier said than done.

4- Everything in moderation. Social media has been a positive influence for people, with the speed at which you can get and access information as compared to earlier is phenomenal. There's also social comparisons, need for validation. So there's a balance that needs to come with that and you can't have one strict and fast guideline as that wouldn't work. So usage in moderation is the key. Being able to connect with your contacts everyday despite being in other locations gives social media a lot of value. There are many people who have friends through websites and gaming together but they live halfway across the world. Those 100% real friendships but it'd be interesting to see the level of closeness and intimacy between in-person formed friendships vs. online formed ones. A lot of people who have social anxiety are not believed when they tell their friends they experience it. It's because often at a gathering amongst colleagues, they are so worried that people are going to notice their social anxiety and see them worrying, so they make sure that they're not seen in that state. So they go out of their way to talk to people, pushing through it despite the difficulty. That social anxiety often goes unnoticed by people because it in itself manifests in people not being that. What that ends up in is this discrepancy of the fear of being judged when you're not actually being judged. So much of the anxiety experience is a subjective one. It's much easier to sign up to support groups online on platforms like Meetup, but people need to want to change or recognize the problem. But without social media, that support group couldn't be made available.

5- For some people certainly, for most others not. More and more careers demand that you are active on social media, so for those people it's a price they're not willing to pay because if they did they'd be worse off. For the rest, it would be the simplest way. An analogy might be alcoholism or drug use: for some people abstinence is the only realistic option, for others it's a harm reduction approach where they use strategy to limit the quantity or frequency of that behaviour is much more realistic. But it really is a very personal (subjective) question.

6- We'll have to learn to live better. We can't deny that social media, apps and certain websites have advanced our culture and connection in our community. It's the case with any new technology, where there are aspects and parts both helpful and unhelpful. We're going to have to live with it in a healthy way.

Appendix 3: Recruited Participant Interview Data

Participant Recruitment Poster

Social Media Usage Study!

Do you have a social media account?

Do you spend time on your social media account(s) everyday?

Does the number of followers or likes on your social media matter to you?

Do you ever compare your number of likes or followers with another person's?

Do you often get distracted or lose out on sleep due to your social media activity and/or notifications?

Did you answer yes to two or more of the above questions?
If yes, you are invited to take part in a graduate research study examining the excessive use of social media and its relationship with social anxiety in young adults.

For this study:

- You would be requested to take part in an anonymous, personal interview based on a series of questions related to your social media usage
- You should be a present/ former university student between the ages of 18 to 35 years
- The duration of the interview would be 40-60 minutes, and the interview would be conducted in English

For your participation, you will be receiving a \$10 value Amazon.ca giftcard.

This study has been reviewed and cleared by the University of Alberta Research Ethics Board (Pro00093424).
For further questions about the study, or your eligibility as a participant, please contact

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A total of 15 general participants were recruited for the interviews, and their only identifying information retained from them, (as explained to them before the interview) was their age, gender and current occupation. The participants were as follows:

- 1- Female; 19; Student**
- 2- Female; 29; Research assistant**
- 3- Female; 20; Student**
- 4- Male; 22; University student**
- 5- Female; 22; University student**
- 6- Female; 20; Student**
- 7- Female, 19, Student**
- 8- Female; 27; PHD student**
- 9- Female; 28; PHD student**
- 10- Female; 28; Student**
- 11- Female; 19; Student**
- 12- Female; 21; Student**
- 13- Male; 19; Student**
- 14- Female; 21; Student**
- 15- Female; 28; Research assistant**

The participants' responses to the interview questions are listed in the same order as the numbered list above.

1- At what age did you join your first social media network? Please speak about that.

- 1- Around 10 years of age. It was Facebook.
- 2- - I was maybe 15 or 16. It was Myspace.
- 3- 13. It was Instagram and Facebook. I was in junior high

4- 16. It was Instagram and Facebook.

5- 15 years.

6- 12 - 13 years. YouTube

7- 11 years. Instagram

8- 14. Orkut. I joined because my friends asked me to.

9- 14. Orkut

10- 16. Facebook

11- 14. Instagram

12- 16. Facebook

13- 12. Facebook

14- 12. Facebook

15- 15-16. Facebook

2- What are some of your clearest memories/recollections about that experience and time?

1- When I first joined I didn't really care that much about it. I joined and forgot about it for maybe a year.

2- I remember there were not that many people that joined it. There were 3 or 4 people who followed my page and we left messages on each other's pages. I had fun on my page with putting music, decorating the page to my tastes. It was a positive experience.

3- It was new back then. Gathering all my friends on Social Media.

4- I was starting out in high school. All my friends were on it, so just to keep up to date with what they were doing.

5- I remember that it took up a lot of my time and I remember noticing it too. I would be excited to go online when I came back from school, because I wasn't used to having something with so much stimulation in the way of videos, photos and stuff that would always catch my attention.

6- Having a Facebook account was cool. I used to friend people and see what they're doing. YouTube was just accessing videos.

7- I've always liked to take pictures, so I mostly posted my photography.

8- I remember talking with other people about similar interests. I spent much of my time on it.

9- It wasn't as easy as it is now, as we didn't have smartphones, only computers. I only used it on weekends.

10- I didn't have many friends online, so I just posted pictures of my travels and talked online with friends, but it was not very regular.

11- I remember my friend made me the account, and I was unsure at first, but my friends helped me out with it.

12- I remember the excitement of it. I could watch short videos, and post it on my profile too. I found it redundant pretty soon and I only started using it to chat with friends.

13- I added a lot of family members from other countries and it was very good to talk to them.

14- I was in elementary school abroad, and all of my class registered for Facebook in our computer class. I used it to create an online album where I only used it to take pictures, very different from how I use it now.

15- It was a new world and so was internet for me. It was away to connect with family and friends, and to share what we did every day. I noticed that friends were keener to communicate online than in person, in part because we lived in a cold city and people referred to stay indoors than go out. I somewhat realized then that the internet is going to take over our lives at one point or another.

3- How has your relationship with social media changed since then? Do you think social media networks have become an important part of life today? If yes, how?

1- My relationship has gone from I don't care about it to seeing it as a useful tool. A lot of companies, especially start-ups promote it as a cheaper form of advertising. It's also a great way to connect with people, catch up with old and long lost friends. It unfortunately is an important part of life today. I have seen some people who are obsessed about Social Media and stuff. But it is very useful when used correctly.

2- It hasn't changed much except for the fact that I'm now using LinkedIn and Facebook. They come with a format and there's not much I can do to modify or customize them. So I find that a little more limiting than before. It's important for business, career advancement, and many different reasons.

3- I use it a lot more now than I did back then. It's more to pass time than connect with people. I think so. Even as a student, for networking and opportunities. Every club on campus has a Social Media account and it's good to reinforce relationships with people. It's pretty important for everyone these days.

4- It has become a bigger part of life. Joining Instagram later on LinkedIn, Facebook; it's all a lot. I feel like I use it a lot more each day. Back then I used it once a day maybe 20 to 30 minutes. There are days now where I'm on social media for 2-3 hours. So the time I spend has increased. They're important in terms of that they're an active part of people's lives, but important in the sense of being beneficial I'm not so sure about.

5- It is still very much a part of my life but it's not very new to me anymore. In terms of what social media are a part of my life that has changed. In the past there was Facebook, but now Instagram takes up more of my time. It's more routine and more a part of my life now; more integrated.

I'd say for the majority of people, they have. Social media gets a bad rep, and understandably so as it reduces the attention span of a lot of people, but it also is a really good way for keeping in contact with people. For instance people abroad, whom you can still keep track of and get their life updates. Also. News updates, and very important events, and using social media you can make a huge impact as well as raise awareness. That also often snowballs into bigger things like making tangible change.

6- It is not fun or cool anymore, but more information based. Something to let my mind be calm, get information and be entertained.

Yes, with transitioning from TV news to online news, a lot of people get their information from there. A lot of entertainment is moving towards this as well. It's a big form of communication as well now.

7- When I first started, I didn't have many friends online so it was mostly my family so I posted whatever I wanted. But now I think a lot before I post, so sometimes I post a picture I took but after a few minutes I delete it thinking nobody would like it.

Yes, for some people although I don't think it's an essential thing. Some jobs require you to have a social media account but for people my age it's not completely necessary.

8- My usage has definitely increased, I use two different platforms now, where before I only had one. Yes, they're important. Everybody feels a pressure to use social media and post about everything nice that's happening in your life.

9- A lot. It's the first thing I do when I wake up. I'm always using Instagram and spend a lot of time on it. But I post every week. They're important, because people feel closely connected through it. Many people work through social media as well, so it's really important.

10- It changed a lot. Now I use social media whenever I have free time, while waiting etc. even the way I use social media has changed. I now have instant messaging, whereas before it was just posting and liking pictures. I can connect with friends and family abroad too, so I'm using it all the time now. Yes, they're important for establishing yourself as someone. You can see through social media what people are doing, are into currently in terms of trends as well.

11- It's taken more of my time now, and I use it much more now. They're important in the way of putting yourself out there, communicate and sharing, it is a big part of everyone's life nowadays.

12- I read novels online a lot, so I think I use it a lot more. They're very important now, as that's how people get information, build connections with the world and stay relevant. If you feel left out, you might feel under pressure to join in. It's almost a way of life now.

13- It's become much scarier in terms of privacy. Instagram has a right to your pictures, and I'm very uncomfortable with that. I'd rather keep those pictures to myself, that's why I'm not as active on social media as I was before. I don't use it to post, but mainly use it for private messaging and keeping in touch with friends. Yes they're very important. I think they've become too associated with our lives. For instance, if you're going to an employer, they can check up on your social media presence, which can work for or against you. So it has become very integrated with our lives.

14- Not just for me, but I think everyone has become way ore attached with social media, and spend way more time on it. It's become a part that's hard to separate from us. They've become important in the way that everyone uses it, and if you find someone not using it you might think they're a psychopath.

15- With more devices available like the iPad and smartphones, faster computers and internet I do realize that social media is part of our lives from the moment you wake up to the moment you sleep. It's also a factor that might interrupt your sleep, as you might constantly be thinking about something you saw or wondering about what your friends are up to. So that becomes a problematic issue. I notice that many children nowadays have social media, as young as elementary students.

Social media is an important part of life, because it's the best way for people to communicate nowadays, as compared to TV, radio or newspapers. That's regardless of age. Social media isn't just a personal use tool, but it's very much work related too. People often are on social media all day every day, and that hinders a lot of social relations for people.

4- Do you think it is possible to not have a social media account and successfully live life in today's world? Please elaborate.

1- I suppose it's possible to live without it, but it would make things like networking a lot harder. Social Media does provide a lot more opportunities to find networking events like LinkedIn.

2- It depends on the idea of success but if you want to be an active member of society you must have a Social Media account. I personally don't have Twitter or Instagram, and I see how limiting my Social Media experience is because of that fact. I sometimes feel pressured to join those Social Media accounts because everyone around me has them. I don't really succumb to those peer pressures, but I can imagine younger generations being forced into those.

3- I think it is but it might be harder. If you don't have the personal relationship that you do with people, all your other peers. I think it's important to form relationships with people. I don't think it helps that much with professional success.

4- I think you'd be able to. It'd be a fairly different life but it's possible. Having social media gives you the fear of missing out and that's what keeps me looking back at my phone, even

though I might not be missing anything. But that the fear of missing out is what keeps people on it and using it all the time. It's almost a mental thing.

5- Yes, definitely. I do have friends who are not so active on social media. There's other ways of getting information. For my friends who don't have social media, their connections with their friends are more meaningful and not so superficial. As in they get their friends' life updates from talking on the phone as compared to seeing a social media post. And those are the friends I myself have more genuine connections with. As long as you can get your news from other sources, it's possible. Sometimes you might feel like you're missing out, but it's still possible. In terms of LinkedIn, there's a chance that you might miss out on job opportunities.

6- It depends on who you're connecting with. If you're living in a home and your main communication is with those people, that's fine. But when working all over the place it's a lot trickier to not have social media as you'd be so out of the loop without it. So it depends on who you socialize with.

7- Yes I think so.

8- No, I don't think so. Because nowadays there's so much communication and exchange on social media, you'd be left out from social groups, family and friends.

9- it's not possible for myself personally, because I use it to connect and keep up with someone who I can't contact on the phone. It would be possible to give it up, but also very hard.

10- I'd like to think so, but in reality, no. without it you can't even communicate with many people. Like I'm here and my friends here talk through social media, as we don't even have each other's phone numbers. We would otherwise be excluded from a lot of opportunities.

11- Yes, because there are even famous people who aren't on social media, but it's easier to communicate with people and see what everyone is doing, and even messaging.

12- Yes, most definitely. I feel a messaging system is necessary, but something like Instagram can be avoided.

13- it's difficult but not impossible. It's not necessary.

14- It depends on how you define success. I think you wouldn't be as updated as someone with social media, and their social circle would be smaller. It would be difficult to live without it, as

social media is not just for entertainment. It's also a part of people's careers through LinkedIn etc.

15- It's possible to an extent but very difficult. Almost everywhere you go there's an app you have to download, or a page you have to follow in order to get something. A lot of places require you to log in from their own network to use their internet. So in this day and age, a lot of life relies on it.

5- Social media applications include Facebook, Snapchat, Instagram, Twitter, YouTube and LinkedIn, among many others. Do you actively use any of these social media platforms? If yes, please let me know.

1- Facebook, Instagram, have a Twitter account but not used, YouTube, Whatsapp

2- Facebook, LinkedIn, YouTube, Whatsapp, WeChat.

3- Facebook, Instagram, LinkedIn, YouTube, Snapchat, Whatsapp

4- Facebook, Instagram, LinkedIn, YouTube, Snapchat, Whatsapp,

5- Facebook, Instagram, LinkedIn, YouTube, Snapchat, Whatsapp, Messenger

6- Facebook, Instagram, LinkedIn, YouTube, Snapchat, Whatsapp, Messenger

7- Facebook, Instagram, YouTube, Snapchat, Whatsapp, Messenger

8- Facebook, Instagram, YouTube, Whatsapp, Messenger

9- Facebook, Instagram, YouTube, Whatsapp, Messenger

10- Facebook, Instagram, YouTube, Whatsapp, Messenger

11- Facebook, Instagram, YouTube, Snapchat, Twitter, Whatsapp, Messenger

12- Instagram, YouTube, Snapchat, Tik Tok, Whatsapp, Messenger

13- Facebook, Instagram, YouTube, Twitter, Snapchat, Messenger

14- Facebook, Instagram, YouTube, Twitter, Snapchat, LinkedIn, Messenger, Wechat, Whatsapp

15- Facebook, Instagram, YouTube, Twitter, LinkedIn, Messenger, Whatsapp

6- What are your favourite and least favourite form of social media? What are some things you like and dislike about them?

1- I use Facebook the most, because that's what most of my friends or groups I'm in use. I also have Instagram because a lot of my peers have that. Instagram is my least favourite because I feel that there are issues among some of my friends, with people posting the highlights of their life. Some of them know some people who have lower self-esteem and don't really measure up to this ideal image that people portray. That's problematic for some of my friends.

2- I don't personally like Instagram or snap because I don't understand the purpose of it. Facebook and LinkedIn, especially LinkedIn has a practical purpose of networking and connecting with people you know at work. Facebook is for connecting and sharing your ideas and posts with people. For Instagram, I don't see the point of it. It's just more of what I don't understand.

3- I like Instagram and Snapchat which are platforms for video and photo sharing. I'm not a fan of wordy things like Twitter.

4- I like the diversity of content on YouTube, but it takes up a lot of time. Least favourite may be Facebook, because it just felt bad and it didn't feel productive but only mind numbing.

5- My favourites would be YouTube and Instagram. In terms of YouTube, I like its set up and how if I'm interested in a topic, it can send me down this journey of recommended videos and you end up learning a lot about something than you originally intended to, or you can sometimes diverge and stumble on a topic that's completely new topic that's very subtly related. I enjoy that. For Instagram part of it is that it's the most popular one out there as there's so many people on there. There's also the way its set up which is very efficient and uncomplicated.

6- My favourites would be where you'd get information and be entertained. My least favourite would be Tik Tok, where people get famous for doing stupid things and some of those people are horrible people. Ones that make insignificant people famous. I really like YouTube because I watch YouTube videos before bed.

7- My favourites would be Instagram as I've had it for so long and I just really like posting pictures. And I send messages to my friends on it and that's how we stay in touch. I use Facebook the least because I don't really like its features.

8- My favourite is Whatsapp, as it connects me with friends and family. I don't like Facebook because there's too much personal information that I don't want to know and lots of ads.

9- My favourite is Instagram, as people are always posting on it. So there's always something new to learn about someone or someplace. I don't like Facebook as much as I used to.

10- My favourite is Instagram, as you can talk through messages and also post and view pictures, so it has the functions of both Whatsapp and Facebook. My least favourite is Facebook because it's more complicated to use and, nowadays only old people use it. So I only use it so my mother and grandmother can see my pictures.

11- My least used is Twitter, as it's more about posting thoughts, some of which could be just petty or absurd. I use Instagram the most, as I like how diverse it is, and I can filter it much more.

12- My favourite is Messenger as I use it the most.

13- My least favourite is Snapchat as most of its exclusive features like stories are now available on other platforms as well. My favourite is YouTube as I enjoy watching videos, be it entertainment or information.

14- My least favourite is Twitter as it becomes too political, and on Twitter there's usually a hot topic being discussed, and you go on it to check the public's opinion on it. My favourite is Instagram as I can post pictures, stories, watch videos, and chat with people.

15- I've used Facebook the longest as my family members use it the most and it's the best way to connect with them. The one I use the most is Instagram as it's easy to scroll, the videos are shorter and the sponsors they suggest on there are useful to me. Twitter is very hit or miss for me, and it's my least used even though I check it daily.

7- What type of content do you like to see on your social media feed?

1- Cat pictures on Instagram. On Facebook things like marketplace are very helpful, and posts from groups that I'm involved in, in making connecting easier.

2- My favourite is posts on LinkedIn from Harvard business review. They post self-improvement tips.

3- Funny things, whatever my friends are up to. Nothing too political.

- 4- Mostly things from my friends. Seeing their photos, connecting with them, using it as a messaging service and stay in touch.
- 5- Funny things. Memes that make me laugh. I follow educational pages as well.
- 6- Catching up with friends and family primarily. A lot of space related stuff and sports news that interest me.
- 7- I follow photography accounts and people who inspire me like makeup artists as well as meme accounts.
- 8- I like pictures of travelling, food, animals and landscapes.
- 9- I like pictures of beautiful places and good colours. I don't follow journals or news sites because I don't like to see sad things.
- 10- I like to see friends' pictures, and other pages of my interests as well as pages related to my profession.
- 11- I like to see friends' activities, and I follow a lot of quotation pages as well.
- 12- I like something inspirational, interesting and something I can grow from.
- 13- I like to see my friends' posts, and video game and sports content.
- 14- I like to see my friends' posts, and food pages.
- 15- A lot of local pages, restaurants, giveaway pages and events and some celebrities.

8- What type of content do you post on your own social media feed, if described in some words?

- 1- It's been years since I've posted on any platform. I just lurk around, and see what's going on. I only really post birthday messages.
- 2- A lot of rants, complaints about the world. Gathering opinions from friends.
- 3- Whatever I'm up to or doing on that day.
- 4- I don't post on Facebook; on Instagram just photos of myself. Not very often, but just photos of me doing stuff. On Snapchat just my day to day life.

5- Pictures from events that I've attended. I'm someone who prioritizes friends and connections a lot, so lots of pictures of me and people.

6- I post pictures that I take, on Instagram.

7- I post pictures of my photography, as well as pictures of me with my friends on Instagram.

8- I post pictures of myself, the places I travel to and food.

9- I post about my life, what I do and people that I meet.

10- I post about personal things, nice pictures of the places I visit. Just things I want to be remembered by, milestones and such.

11- I post my pictures with friends and family.

12- I don't post anything at all. I'm very private that way. When I did post years ago on Facebook, I never got into the craze of getting likes. But one time, I got three likes on a picture I posted and I felt really good. That made me realize how people could keep posting for that one feeling.

13- I don't post really. I used to post when I was younger, when I didn't really know what I was doing.

14- I post about hanging out with my friends.

15- Mostly local and promotion based stuff, and some personal content.

9- In these online posts, do you think you have ever projected a certain image of yourself, that wasn't very true to who you are in real life?

1- Some people whom I really don't care for, I still wish a happy birthday to.

2- I try not to, but when I look back on my feed, I see that I've been filtering my ideas, and the posts that I shared. It's all very specific to show the positive side of me. I do question myself as to why I talk about things I'm familiar with. So in a way I do project a certain image.

3- I'm more professional on my social media, so yeah I guess. The way I write captions, compared to my other posts. I feel pressured in the way that I know a lot of professors and

employers check social media before they call someone in for an interview or go through their application. So I try not to post anything stupid, so there's a pressure that way.

4- Yeah in a sense. On Instagram I only post 3 or 4 times a year but they're all positive or good moments in life. When I'm not posting on Instagram, people don't know what's going on, so you're only seeing the best.

5- I know that's something that a lot of people say happens. I wouldn't say it's not who I am but if someone saw my page it would look a little more exaggerated and look like I'm going to events all the time, when in reality I'd be going once every two weeks. So it's just a more extreme, slightly bended version of myself, but I would not say it's not who I am.

6- Not needed

7- No, I don't.

8- I usually make posts that show that my life is great, and it's not true all the time. Its social pressure to show that I'm successful and live a happy life, because I see everyone doing the same.

9- Not really because if I'm not feeling good, I don't post at all. That's why I don't post a lot. I only do it when I'm really feeling it.

10- No, I think I identify with the pictures I post. I don't post when I'm not feeling happy, so my posts are pretty true to how I'm feeling in real life.

11- No.

12- No, most of my posts were about pranks and other people doing stuff. Just fun jokes and other peoples content.

13- No, if I ever posted, I'd do it with my humour, and be myself.

14- Yes there are beauty apps with filters that make your eyes bigger or your face slimmer. I've used them for most pictures. I want to show my best self, and since it's going to be posted online forever, you don't want people to catch something bad about you. My female friends do that too. At least when I look at my edited picture, I allow myself to post it because I'm happy with it.

15- I mostly post things that make me happy and social media has a way of making you think that you should only post things that are happy. I feel like you don't want to share the bad moments of your life because it doesn't seem cool. So in my Social media you'd find all happy things but not everything that I go through in a day. You might oppose or address a photo a certain way when you're not feeling that way.

10- Do you, or have you, ever felt a pressure/obligation to post regularly on your social media account? How do you feel/react if you do not post online for some period of time?

1- I suppose in some cases, but I've made a rule for myself to not post too many things as it can come back to bite you. I feel indifferent because I don't really post in the first place.

2- Not really. I won't call it pressure, but I do like to regularly visit social media. It's a habit now. When I'm not posting, I'm usually busy with work. But when I do have time I go right back to it. It's a routine thing.

3- No, I don't it very often. I post when I can, and do not actively look for ways to post. I don't post every little thing that I do. I don't feel the need to post constantly.

4- Not to post regularly, but I feel an obligation to like photos. On Instagram, I check twice a day and like a friend's post, for no particular reason.

5- I don't feel a pressure to do it, it's mostly out of boredom. It's just me doing it for myself. I feel bored if I don't post for a while. Instagram culture is all about people posting about themselves. If I'm being honest here, it makes every single one of us a lot more narcissistic because we feel the need to show stuff about ourselves.

6- In high school, I felt like I had to post just to prove that I have self-esteem and prove to myself that I was good looking, but after a while I just grew up. The social environment in high school is a lot different than when you leave high school. I only post when I want to, not out of an obligation.

7- No, because I like to post. But sometimes after a few weeks I think maybe I should post something so people can know that I still exist. I sometimes fear that people might forget about me. But it's more of a passing thought.

8- Yes, but now I've stopped posting too often, because I felt the pressure to post every day. So about 4 months ago I stopped posting as much. I was having a lot of anxiety seeing other people's lives while mine wasn't great at the time. I felt a little left out as a result, but my mood felt better due to not seeing other people's feeds.

9- Yes, I felt pressured when I had a makeup page where my friends told me to post more often but I couldn't because of my studies. It wasn't too bad but I often thought about posting so I would stop work to post something. But I never just post, I always end up scrolling, so I spent a lot of time on Instagram that way.

10- Yes, when I used to follow famous people, I would see their nice pictures and feel pressured to post. So I just deleted those profiles and don't really feel that way now. I find it easier to post regularly on stories compared to the feed. After unfollowing the celebrities I feel better as my Instagram has become more personal and related to people I actually know and things I actually like. I have also stopped idealizing body types or clothing. It feels more real. I sometimes feel like I should post but then I wonder who I'm posting it for or why. So if it's something I want everyone to see, I post it. Otherwise I just send a private message to the person I'm thinking of. I do think of why I'm making a post.

11- No, I only post if I have something that isn't random but actually has meaning to it. Not posting too much doesn't bother me.

12- Never

13- I went to Europe and wanted to post about it because it was personally special to me. But I procrastinated and I hadn't posted in a long time anyway. I also struggle with thinking of captions, as some people follow guidelines for posting, which I know nothing about.

14- I used to have that feeling, but I feel much more satisfied with my life. It depends on the occasion now.

15- Yes. When you see a friend acting doing a certain something, you want to do the same so as to show other people that you're doing something cool as well. And wanting to prove to people that you're a social person requires that extra effort. I mostly do it on the weekends, when I'm not busy with too much work. If I haven't posted in a bit I try to find something to post about. I feel

this need occasionally, typically on weekends a need to share even a cup of coffee or the weather is really nice so you click a picture and post.

11- Have you ever been away from, or been unable to post on, your social media account for a period of time? If so, when? How did this experience make you feel?

1- When the Wi-Fi is out I guess. It's a little annoying at times but the worlds not going to end.

2- I lived in a foreign country for a year without any internet access. It was very liberating to be free from everything on the internet, not just Social media. So it made me become much more present in the reality that was facing me. It was a very happy time. There was however no change once I returned in my social media habits.

3- I was off social media for about two months, and I was fine with it. But when I logged back in, the posts I missed and the follow requests were overwhelming. I didn't feel like it negatively affected me, but it was hard getting used to the first couple of days after that.

4- No

5- Yes. I was abroad and just didn't post. I was completely fine with it, and I think many of my friends would be like that too if we were distracted enough by life's happenings. That's when you're in the real world.

6- We used to go on trips and we often didn't have the internet. Even at other people's houses, I stay for hours and I often don't ask for their Wi-Fi. I'm mostly okay with it unless I'm expecting a correspondence.

7- Sometimes on vacation I don't have access to Wi-Fi and it feels a bit annoying as I feel I might be missing out.

8- Not really.

9- Yes, for a few days. But it wasn't very hard for me.

10- Yes, twice. I felt like I was away from what was going on, what my friends were doing and what I was missing. I felt left out in a way.

11- No.

12- I never really had that drive to consume Social media, because I primarily use it to read novels.

13- Yes, in Europe it was hard to find good internet in the beginning. It made me feel bored and made me realize how much I rely on the internet for entertainment.

14- Yes, when I went to china, I had issues because most of the popular social media networks are blocked there. I had to use VPNs to access my accounts. I found it boring to not have access, and I was worried if I missed a message or update from my contacts.

15- Yes, the longest time was a week when I was moving and didn't have internet access. I still took pictures and when the access was back, I posted everything. Posting about my life was constantly on my mind despite not having internet access, which shows that it's very hard to separate yourself from social media. Living everyday wanting to post or share with people. I was thinking of finishing with moving so I could get my internet back.

12- Do you ever feel a strong pressure or compulsion to remain/appear active on social media? If so, why? How does this pressure make you feel?

1- I haven't posted in a long time, so that answers it.

2- Not really, no.

3- No, never.

4- Yeah, in the sense of liking photos. Or even posting on Snapchat, where I'm a lot more regular. I'll see something cool, and feel like I should take out my phone and share this with people on my snap story. It's situation dependent for me. Some of my female friends do post in a regular cycle, every few days.

5- No, if I'm on Social media, it's because I want relief from boredom or a distraction, rather than a feeling of pressure

6- No.

7- No.

8- Yes, from family and friends. They ask after me a lot, so I feel a pressure to post for them. It often disrupts me because I have to think of what I want to post: what picture I'm going to take, of what and where. But I usually reserve social media usage for lunch time or at night.

9- Yes, from family I get questions about my activities, so I post for them.

10- Yes, I started feeling that way after it became possible to see who viewed your stories. So unconsciously I would keep checking to see how many people viewed it, and wonder why some people viewed one picture more over the other. So that felt like a pressure to find what people would be more willing to like etc. so I started posting more of what people want to see, but something that I'm comfortable with showing them.

11- No, because even nowadays I don't check social media a lot.

12- No. It's just when friends text me, I feel the need to reply quickly and expect a quick response from them.

13- Yeah, it goes back to not posting, even though my friends keep asking me to post. But I don't feel the need.

14- If I see my friends not being active, I call them up to ask if they're okay because there might be something going on with them. So I try to post regularly, so they don't get a chance to think that way.

15- Yeah even though no one nudges or asks me to be more active, it's the desire to be more active. So it's more from me than external factors. It does result in a little anxiety if I haven't posted or been online in a while. Even if you don't want to post, you want to leave a comment or see what others are up to.

13- Do you ever feel that you should only post 'positive/happy' posts on your social media? Please elaborate.

1- If I did post, I would lean more towards positive things because I know of some cases where something negative or controversial can come back to haunt you.

2- There's always that element. My idea of positive is thought provocative, something that's intellectually stimulating. So I feel the need to post something like that over something trifling

like what I ate or did that day. Even though I sometimes want to, I find it a little too much. So I try not to do that.

3- Yeah I do. I think these days a lot of people try to use social media to get sympathy for themselves for every little thing that has happened and I don't think that's healthy. I think social media should be more about the good things that happened to you, like going out with friends rather than a sympathy fest. If you're sad to begin with and you see a bunch of sad posts, it will only (make it worse). It's a cycle. When you do post, you shouldn't be bragging about anything. At the end of the day, people post what they want to post.

4- Yeah definitely. It's all you really see. So when all you see is positive, you want to post positive photos and videos. And when you see negative stuff, you don't enjoy it so you don't want to contribute to it either.

5- No. I prefer and choose to, but if I feel the need to I would post a sad or depressing post.

6- I do in a certain way. You're putting your problems out to people that you shouldn't necessarily be projecting to. I'm annoyed when people keep posting about their problems. After a while it seems like they're doing it for attention.

7- Yeah. Sometimes when I'm not feeling very good, I would like to post about it but I like to keep everything positive. I do this to look like a positive person because I think I like that image more than a negative one.

8- Yeah. Sometimes when I'm not feeling very good, I would like to post about it but I like to keep everything positive. I do this to look like a positive person because I think I like that image more than a negative one.

9- Yes, always. Because I don't like seeing sad or bad things, so I don't want people to see them through me either.

10- Yes, all the time. I don't know how the person viewing it could take to the picture, so I just post happy things. If I'm feeling bad on a day, I'll just post a nice quote or saying, so at least the person who views it wouldn't feel the way I'm feeling. I always try to post good things.

11- Yes, I personally post only positive thoughts, as something like depression would be very personal to me. So I wouldn't share it on social media as it's private.

12- No, I post whatever I feel like. I don't care how the viewers perceive it because there's no personal affiliation with me and how I am as a person.

13- Yes, because social media is a place where people come to escape reality and be more positive than they'd usually be. It's hard to find your own space on the internet because there are little groups that you can go to whether you're feeling sad or happy. Everyone should have the choice as to who they want to talk to.

14- Yes, I think most posts on social media are positive, and if you're the only one being negative it would seem that you're seeking attention. So you just follow the norm and not be the one that stands out. If you're positive all the time, people would think that you're being fake. If you post something negative, they'd assume that you're doing it for attention.

15- Yes, I do find that positive posts get more likes and people vibrate towards these kinds of posts.

14- Have you ever posted about a failure, feeling sad, or have you been emotionally vulnerable on social media? If yes, could you please talk about it?

1- It's the reason why I don't post. I'm a very private person and don't like my life out there for everyone to see.

2- Yes, and I regretted that experience. Not because I didn't receive any support from my friends, but because I realized a couple days after posting that it was unnecessary for me to do so. It was compulsive, so I removed that post.

3- I'm extremely against that, so I've never even considered it.

4- Yeah, in snap stories. About exam stress or student type struggles.

5- No. and I don't think I would. That says that my image, even though it's more extreme, is that of the fun one. So in retrospect you wouldn't see me posting something sad. And if I do, it wouldn't be a permanent post, but something on my story. And I do that a lot. People reach out to if they feel the need to, and it disappears after 24 hours. I don't post this on my actual feed because the way I am as a person, I get through and move on from the sad and unfortunate events in my life. I don't hold onto them as a person anyway, so why have it on my permanent timeline when it's something that I've moved on from personally. I want my timeline to reflect that.

6- I had a Beyoncé fan page on Instagram. I had suffered from depression for years and I made it as a means of support because it was difficult for me to find support.

7- In earlier years, for some of my picture captions, I would post quotes or lyrics that were sort of sad or depressing. I was kind of feeling that way when I listened to the songs, but it was always implied never outright written.

8- In earlier years, for some of my picture captions, I would post quotes or lyrics that were sort of sad or depressing. I was kind of feeling that way when I listened to the songs, but it was always implied never outright written.

9- If I'm ever feeling ashamed or worried about something, I put it on my stories for my friends to see.

10- Never. It's not that I don't want people to see me sad, because my close friends know about my feelings through private chats. Posting my sad thoughts might make someone else sad, so I avoid it. It's more to not impact another person than not showing my true feelings.

11- Never. If anything, I look through posts that inspire me.

12- Never. That's also part of why I don't post on social media. I'd rather do it in person with a friend.

13- Yes, in high school I was feeling down, so I became passive in my interactions and delayed my responses to people or was ignoring them. That passiveness, I think, was a call for help.

14- Yes, but only with close friends.

15- Yes I made one such post but over time I thought that I don't want to be pitied so I deleted it soon after. It was on Instagram. If I do need to share I do so with close friends that I meet in person, rather than posting online.

15- How did this experience, and the responses/reactions you received from it, affect you/make you feel?

1- Unneeded

2- I felt disappointed in myself for being so impulsive. I've done it a few more times, and experienced the same feeling again.

3- Unneeded

4- It's not any different from the usual responses, because I'm being playful. As much as it's me being vulnerable, I'm not really being vulnerable. It comes across as a joke. Social media feels like a weird place to post about something serious like that.

5- A couple of months ago a friend of mine from high school committed suicide and I posted about it. It wasn't a post targeting her specifically, but more about the general issue of mental health. I still did mention her, so I put it on my story as a PSA but also as a reflection on the whole thing. I had friends reach out, it brought conversation topics to the table but also they reached out because they care. It was everything I expected and wanted it to be, so it was a good experience.

6- There was one person from Germany who reached out to me and he gave me nice empowering messages which helped me out there. So that was a source of support.

7- There were never any comments, but people sometimes talked to me about them or asked me if a post was about something. It was nice to know that some people cared about me, and now I know that even more. So maybe it was a subconscious thing that I wanted somebody to reach out to me.

8- There were never any comments, but people sometimes talked to me about them or asked me if a post was about something. It was nice to know that some people cared about me, and now I know that even more. So maybe it was a subconscious thing that I wanted somebody to reach out to me.

9- My friends always talk with me in response.

10- Not needed

11- Not needed

12- Not needed

13- It affected me in a good way because people reached out to me and I opened up to more people. My other friends did help too.

14- It's good as most of my friend are supportive and I have someone to talk to, which would maybe give me the confidence to talk to other friends too.

15- The likes were really low and the comments didn't seem too nice. So I didn't do it again.

16- Have you ever made a social media post based only on what you think your friends/followers would want to see/expect from you? If yes, please elaborate. How did this make you feel?

1- Happy birthday and New Year posts probably. There's only a few times I actually want to do it. I mostly don't want them to think that I don't care about them (so I make these posts).

2- Yes, I don't post everyday trifling things because I know my friends wouldn't appreciate those posts from me. I want to be helpful to people, so I try to post things that are helpful to my friends. Things related to my field of study, as that's what they like. I feel like I'm serving my purpose, that's what I'm there for.

3- On Facebook I share articles with my professor that cater to him. I feel kind of phony, but I try to divide and cater to all my audiences. I don't do it for the sake of sharing.

4- No.

5- No. It's more about what I want, than what they want.

6- No.

7- Yes, a lot of the pictures of myself. I get the most likes on those pictures, so that's how I keep people following me.

8- Yes, a lot of the pictures of myself. I get the most likes on those pictures, so that's how I keep people following me.

9- Mostly. I don't post things that I feel they wouldn't be interested in. I post if I think something is different (unique). In my feed I mostly post what I like, but on my stories I post keeping them in mind. It's because I want to interact with them.

10- When I travel, I post more often because I know my followers would be interested in the new things I'm experiencing. It's also because my friends keep asking me to. I do like doing it, but sometimes it feels like a task. I do it because it's new to them, and I like making them happy, as it strengthens our friendships.

11- No, I post what I think is nice.

12- Not needed

13- Yes, but not in a boastful way.

14- Yes, for instance how to take pictures of food to get the most likes. And then thinking of ways to make posts that would get the most likes. And then thinking of captions and hashtags to add in the end. It usually takes me a day to finalize everything for the post and think about it.

15- Yes, as in following trends like dance covers, Instagram filters etc. You see them and you want to try it too. I've done it as well.

17- Does the amount of engagement (likes, shares, comments) on your social media posts ever affect you in any way?

1- Unneeded

2- I used to care when I was younger, below 20 years. I don't care anymore. It came from my personal life and I began to prioritize what was important. I stopped caring about what people perceived me as, and their judgments as well. This mentality transferred to my life on social media as well.

3- I only add people that I know on social media, so I'm definitely not looking for likes.

4- It used to in the past. In high school, we used to compare likes on our Instagram photos, and when we figured out that photos like this get more likes, we would post a photo with a nice background scenery because it's likely to get more likes. So that effected the photos we'd take. At a point I just stopped caring as I didn't see a purpose to it anymore. It was mostly because of the people around me and doing what they were doing.

5- It used to in the past. In the beginning of high school, I joined social media. That's when it affects you a lot. Not as much now.

6- It used to when I was younger. I'd be jealous of those who got more likes and nice comments on their posts, but now I'm indifferent as I barely know these people anyway.

7- Not asked

8- It makes me happy to receive nice comments. If I feel the picture isn't that great I delete it.

9- It matters in a good way.

10- I only care about the stories I post, never the amount of likes. Sometime I do check to see if a specific person saw my post.

11- It used to before, as it was like a popularity contest when I first started, but now I don't. The numbers do somewhat matter, but they're not a focus of mine. The feeling of having a post liked is still a self-esteem booster, so it affects you that way.

12- It used to before, as it was like a popularity contest when I first started, but now I don't. The numbers do somewhat matter, but they're not a focus of mine. The feeling of having a post liked is still a self-esteem booster, so it affects you that way. As mentioned earlier, upon receiving three likes, I recognized the good feeling over it, there was also a downside to it. I began to wonder why more people didn't like this content like these three people did, and why they didn't feel the need to do so. It started a negative cycle as well.

13- It does a little, as it seems like a normal thing to compare with other peoples likes. But it's not very important to me.

14- If I don't get a lot of likes on a post I delete it, as it doesn't seem consistent with my other posts. There should be an average number of likes on each post, so I check it time to time.

15- It has, but over the past year I've started to disengage from it. There are certain social media that have started to make the likes visible only to the owner, so you can't compare yourself as much as you previously could. So that helped.

18- Do you judge if a social media post is good or bad based on the likes and comments it has received? If so, why?

1- I don't judge them based on likes. But on Facebook they have angry emojis and when you look at those you can bet that the post is controversial and might actually be more interesting to look into.

2- No

3- No.

4- Yeah, I still do. Especially with celebrities, when a post gets a lot of engagement it gives them a higher status.

5- I would say so, to be honest. Not so much my friends', but with a comedy page, I assess the outreach based on the likes.

6- I look at the actual content, rather than the likes.

7- Yes. I don't get many comments on my posts but I judge a lot of my photography based on the people who like it. If I get over 200 likes, I think it's a very good picture, and under a 100 means it's not a very good picture. I never really care about it for other people's posts. If I like it I'll like it and if I don't, I don't. For friends, I always like their posts, but for other pages, I like it based on the content.

8- Yes. Even though the likes don't show anymore, but if a post has a lot of likes it means that's what people want to see.

9- Sometimes if I see someone with a lot of followers on Instagram, I follow them thinking they would have interesting content on their feed. After that I determine if I really like it or not

10- Maybe for someone famous, if it's a difficult or has two sides, I look for how many people have liked or disliked it. I check to see what the response of the people is to that post, for instance on something like diet trends, political views etc. that can influence a lot of people to follow suit. For example a celebrity in Brazil who has no knowledge of dentistry was making videos on how to make teeth whitening toothpaste and getting a lot of likes, which is dangerous. So many people will do it, because she's famous. She's better than a dentist because she's famous.

11- Not asked

12- No.

13- No. I don't focus on the numbers, and the hidden likes is a great step by Instagram.

14- I determine whether a person is social or not based on the engagement on their posts. I don't care about it in terms of liking a post, as that depends on how close I am to that person.

15- Yes but it's not a factor in whether I like it or not. I basically look at things that I enjoy.

19- Have you ever found yourself comparing the number of likes on your social media post to that of someone else's? How did that make you feel?

1- Unneeded

2- I limit the number of people I have on Facebook, so the likes I get are not too many in comparison to people I follow. So there's no comparison.

3- No, but maybe in my junior high.

4- Yes, in high school. It felt good sometimes when you get more likes than someone else. When you get less, you wonder why and overanalyze things.

5- Yes, when I was younger. But the fact that Instagram removed the number of likes that a post gets really boosted everyone's self-esteem. Because they have the number there, you're going to look. So not so much now. In high school when my friends got exponentially more likes than me, it wouldn't be earth shattering but I would feel bad and let down about it. But it wouldn't stick in my head.

6- Yes, when I was younger. People would get 60 likes and I'd have 20, I'd think I'm not as important as other people. Nowadays I don't care. Mostly because I discovered things as I grew up and matured.

7- Before the hidden likes feature on Instagram, I would. I would post pictures that looked similar to those that got a lot of likes online in comparison to mine.

8- Yes, it's usually with friends where each of us post the same picture of us together. But I don't think about too much.

9- No

10- Sometimes, but I don't feel sad about it.

11- Not asked

12- No.

13- Yes, more between me and my friends. I don't see a point in the comparison of numbers, when I know what I really value.

14- Yes, it hurts if you compare with influencers. I'm pretty satisfied with my posts, especially since Instagram has removed the visible likes.

15- Yes, I have. I'd think of ways to make my posts better than yours. In terms of trends where everyone does the same thing, and you'd get lesser likes than your friends, id wonder if I should change the lighting on the photo or redo it entirely.

20- Does the number of followers/friends you have on social media matter to you?

1- Unneeded

2- No, but it matters in the way if I have too many and makes me wonder why I have this many contacts. It's different on LinkedIn, as it's for career advancement.

3- No

4- It doesn't bother me now but it used to in the past. I used to feel bad.

5- It doesn't bother me now but it used to in the past. I joined social media very late, so by then everybody had so many friends and followers, which is why they got so many more likes than me. But now I prioritize real life connections over social media friends, and it has to do with the fact that one of my close friends does not have any social media so that's teaching me too.

6- It used to at one point, but now I'm only friends with people I actually know.

7- I do care a little bit, but it's not a major concern. I follow a lot of people, and don't have as many followers. So I often contemplate unfollowing some people.

8- Not needed

9- No

10- Not needed

11- Not needed.

12- I sometimes wonder why I don't have as many followers as others, but then I realize I don't have the same appreciation for, and activity on, social media as them. So I really shouldn't expect as many followers, as I'm not as invested as them.

13- Not anymore. What matters is who follows me.

14- It's more to do with the balance between the numbers of people I follow versus the number of my followers. If I follow a lot of people and not as many follow me it's a problem. I unfollow them if they become a spam account or I don't remember them anymore.

15- It doesn't right now but it used to. You'd want to seem more social by having a big number of friends and followers. You imagine that you're above everyone else if you have big numbers. As you get older, it doesn't matter as much because the number of online friends doesn't mean you have as many in real life.

21- How, if at all, have you tried to gain more followers on social media?

1- Unneeded

2- No

3- No

4- I've heard of people using computer algorithms, but I don't do that myself.

5- In high school, I added just about anybody who would add me. Now I don't, obviously.

6- Not needed

7- Not needed

8- Not needed

9- Not needed

10- Not needed

11- Yes, when I first joined. I looked through all my friends' accounts and followed anyone I knew for the numbers. When the numbers got bigger, it made me feel more popular compared to my friends. It was the high school mentality back then, but I've matured now and don't have much time now anyway. Now I'd rather hangout with someone in person.

12- No.

13- Not really.

14- Not really.

15- Yes, I noticed that people do giveaways where people ask for a follow in order to compete in the giveaway. So I've done that before.

22- How do you feel when you don't receive a lot of comments or likes on your social media posts?

1- Unneeded

2- I don't really check until a few days after.

3- I feel relieved because I wouldn't have to reply to the comments.

4- Not asked.

5- I'm fine, especially since Instagram removed the visible likes thing which I think is one of the best things they ever did. I care a lot less now, though I appreciate it. It's not something my life revolves around.

6- In high school, when pictures of myself didn't get many likes, I wondered if I didn't look good enough but nowadays it doesn't matter.

7- I usually think that people didn't like my picture or think that it's bad. So it doesn't feel very great because I expect some people would like my pictures. I don't get many comments, but when it's for a picture of myself, it feels a lot more hurtful. It sometimes makes me feel insecure about myself.

8- Not needed

9- Not needed

10- Not asked

11- If they see it, they see it. I don't ask for likes.

12- I'd prefer no comments over a comment, because if I do, I wonder why the other people saw it and didn't reply to it.

13- Initially I'm put off by it, but as long as my friends see I'm good with it.

14- I delete it if I don't get enough likes and remind myself to make my next post better to get more likes. I know the words to use, hashtags to use and the best times to get the most views and likes, because I used to manage a work account. So I just use that knowledge for my posts.

15- Depends on what it is. On giveaways the goal is to get more engagement, so I notice a spike in that. But a day later or in less busy hours, you think of ways to increase engagement and ran up the numbers again so it becomes kind of obsessive. I think it's quite dangerous as it kind of controlled my social media usage.

23- Do you think, consciously or unconsciously, you have compared your life with someone else's life on social media? If yes, how did this experience make you feel?

1- Thoughts about them graduating and moving into the workforce, which will be me in 4 years.

2- That happened when I was younger, it was a big thing for me. I'd unfollow a lot of people, maybe out of jealousy, competitiveness, judgment of people. Their selfies used to annoy me, prompting me to unfollow them.

3- Yeah, I was supposed to go to university with a friend but I came to a different school. So now I see her having the time of her life at her school through the posts she puts up. I question my judgment of coming to this school sometimes, in the moment that I see those posts.

4- All the time. Comparisons with close friends and what they're up to. Especially now on LinkedIn, I find myself doing it. Seeing other people in my program and even in other universities, to see as to where they're at in their life and what opportunities they've had. Sometimes what goes through my mind while looking at all this is "Why am I doing this?" This competition and comparison mindset doesn't feel positive, and feels like you're doing it for no reason. It feels like it shouldn't matter but it does.

5- Yeah. If I see that someone I connect with goes abroad a lot, as seen in their pictures, I would pay attention to that. I'm mostly impressed by those people, which is probably what their intention is. Social media of course is an image of a person, so I learn whatever I can about the person from it.

6- Yeah, especially with depression when you have people appear all happy, achieving their dreams, and you're thinking why my life doesn't work out that way. Or people with their boyfriends looking all happy.

7- Yeah, I've compared myself with people I know based on what they post. I sometimes get a little jealous of what they're doing and it seems like they're achieving so much. There are also people who I don't know at all like influencers with amazing lives. But I mostly envy people I actually know. It's not a very happy thing, but I sometimes stop myself from thinking very negative thoughts and remind myself that they have their own issues.

8- Yeah, both ways. It makes me feel anxious, because people usually only post good things. So if my life isn't going great at a certain time, and theirs looks great, I wonder when I'll get to that stage.

9- Yeah I sometimes I feel like I have to lose weight or go to the gym, as everybody is always thin and beautiful with makeup.

10- Yeah, in the past I used to do it with the famous people I was following. They seemed to have awesome lives, getting things for free and going out etc. It's an easy life but then I realized that it's not a real life. So I stopped following them. I don't make comparisons with my friends though.

There was a local famous celebrity who gained weight and altered her appearance. She later gave an interview saying she felt bad because people were saying mean things about her online, despite her still appearing healthy and beautiful. I imagine it's a lot of work for celebrities because we only see the good things about them, living life travelling and taking good pictures. But how many photos do they take before they post that one photo? I'm here and all my friends keep asking me for photos when I sometimes don't want to. Imagine someone who's famous who needs to take photos to maintain their image. It's hard for them, but it's hard for us too, as they are major influencers in the public's life.

11- Not asked.

12- It depends on my mindset. Sometimes looking at someone else's better life gets me depressed and other times it works as a motivator to make my life better. So it has both sides to it.

13- Not needed.

14- With influencers, yes. They post about their travels and shopping. I feel a little annoyed when I see that post, but I forget about it later.

15- Yes there are certain groups or influencers who post about vacations and things that are glorified. Sometimes when you scroll past these, you might think about your 9 to 5 job vs. their glamorous lives, despite being the same age and qualifications as them. For my peers, most of them are very similar, so not so much with them.

24- Do you know what the ‘Fear of Missing Out’ (F.O.M.O) is?* Based on your previous answers, do you think you have been through some form of a Fear of Missing Out during your use of social media? Elaborate, if possible.

1- Slightly, yes.it makes me think that I should be doing something other than studying all day and actually encourages me to be more socially active.

2- Heard of it. From social media, before I used to have a lot of feelings like that. If I saw my friends having a good time, I’d get jealous. I now see things differently. There’s a lot of phoniness and pretense going on. I talk to these people in real life and online, and when I ask them how it’s going. Even though their photos show them smiling and happy, but they tell me that they’re not happy for whatever reason. So now I can filter and know that what they’re projecting is not 100 percent true. So it’s different now. Before, I’d see the photos as they are and get jealous, especially if I was already in a miserable state.

3- Yeah, I have the opposite of that. The joy of missing out. I am social but I don’t actively get involved in things. I feel relieved when people don’t ask me out. I get stressed when I get asked to do things that don’t necessarily fall under my interest. And I think of ways to not go.

4- Yes. I experience it all the time, social media or not. Social media may have amplified it, by the way that you feel this feeling every time you open an app.

5- Somewhat. Probably, but more so in real life rather than social media.

6- Somewhat. I’ve accepted that I’m a hard-core introvert. In earlier years, I used to feel bad about not being invited to parties where everyone hung out and took pictures together, but I realize that I don’t want that and I’m much happier in my own home. In high school, I used to see it posted all over social media and wondered where all my friends are and that I don’t have many friends. Now I know that I don’t need many friends.

7- Yeah. I’ve felt this with people that I know as well as famous people I don’t personally know.

8- Yeah. Sometimes I've experienced it with a launch of a product where everyone was getting it and I couldn't get it. I saw it on YouTube first.

9- Not familiar. Not experienced through social media.

10- Not familiar. Being abroad now, I need social media to keep up with friends. If I don't do that, I would be missing out. In the past, when following celebrities, I used to feel like I was missing out on product and new diet trends

11- Familiar. I used to experience it before, where my friends would hang out without me. But I've realized that you don't have to be at everything and it's not the end of the world. That's because if I'm not free and you're free, we're completely separate and we don't have to always go together. I'd sometimes see their posts on social media being all happy while I was home, so it did create that negative feeling.

12- Familiar. Not experienced it.

13- Familiar. I have experienced it, where you aren't invited to a hangout and I'm missing out on fun. I have come across this on social media too, catching someone in a lie.

14- Not familiar. It sometimes happens when my friends are hanging out and I can't join them. So I open my social media and posts about that hangout are everywhere. So that makes the fear of missing out stronger. Before social media, I wouldn't even know about it, which would be a lot better.

15- Familiar. Had I not used social media, my fear of missing out might not have been as extreme. With social media, the fear of missing out is greater because there's a vast variety of things you could be missing out on. I do find that young people experience missing out on the latest trends and gadgets.

25- Are you familiar with the term 'social anxiety'?* Yes No

1- Unneeded

2- Yes

3- I know of people who have it, so yes.

4- Yes.

5- Yes.

6- Yes.

7- Yes.

8- Yes.

9- Somewhat.

10- A little bit.

11- A little bit.

12- I do.

13- I do.

14- I do.

15- Yes.

26- Based on your previous answers, do you think you have been through some form of social anxiety during your use of social media? Elaborate, if possible.

1- Unneeded

2- Never by social media. If anything, it helped me get less anxious.

3- Maybe in junior high, but now no. it doesn't have a negative effect on me.

4- Yeah, I'd say so. A few months ago I was going to make a YouTube channel, but I stopped myself for embarrassment and fear of not getting enough views and likes, and people not enjoying it.

5- It depends on the audience I'm in, so for the majority of time, no.

6- Yes, but with people who aren't my friends. Never with social media.

7- I experienced it a lot more in high school, as I wasn't very popular. I didn't join many social clubs and was always aware of how I looked. In terms of my posts' likes and comments, in my head I might sometimes think that they don't like it and it's weird. I make that connection in my

head. I think that's a form of social anxiety because I'm thinking if what others are thinking of me based on what I post.

8- Not needed

9- Not needed

10- I have. Thinking differently from other people, for instance different political views and feeling uncomfortable in telling people what you really think, because the opposite opinion is the majority. It even happens on social media, where someone doesn't follow a person online because that would reveal where you stand, most commonly in politics. I myself didn't follow a lot of people that I liked during elections because Instagram showed who you were following. If I followed them, everyone would know my standing and I was unsure if I'd still be friends with them if they disagreed with my views. Since all my social media is now closed and private, I don't feel that anymore. But earlier I wouldn't follow certain people or post anything about elections because I was afraid of others' judgment.

11- If I had an apprehension, I wouldn't post at all.

12- Maybe I fear being judged, that's why I don't post. Maybe I fear how people would react to this version of myself that they see. How a not-positive response affect me? So that fear might affect what I post, so I don't post at all. I think I'm exposed to sa on a social media platform, because I can't react to it the same way I'd do in person.

13- I think so. When I post something or someone posts about me, I wonder what they're thinking about me. Will they like me or less if they see me do something? It's an anxiety of not knowing what people think of me, and I can never understand it unless I ask them in person. But that's not really what you'd normally do.

14- Not needed.

15- Yes, sometimes you want to make a comment that's smart and that people would like and agree with. Sometimes you hold back from a comment that people are already talking about or wouldn't agree with so you don't post it. So there's a hindrance that way. Passive social media usage is even more dangerous as you're constantly self-evaluating.

27- Have you ever been bullied in some form on social media? Please elaborate, if possible.

1- Unneeded

2- I got bullied online very badly by someone that I knew in real life. It was offline as well. I was 14, and there was some stalking as well, so I had to deactivate my account and also get authorities involved. I got much more precautious with what I post online, and began filtering who I have as contacts online.

3- No. I don't try to get involved in other peoples posts.

4- No

5- No.

6- No.

7- No.

8- No.

9- No.

10- Yes. There was a photo sharing site where I used to upload photography. It enabled people to leave anonymous comments, so I would receive a lot of mean comments on my photos. I grew up stronger from that experience and learned how to deal with them.

11- No

12- No, because I never put myself out there.

13- No

14- No.

15- No.

28- Have you yourself ever engaged in bullying behaviour on social media? Please elaborate, if possible.

1- Unneeded

2- No, but I fight a lot in Facebook. So I get in fights with people I don't know.

3- No

4- No

5- No.

6- No.

7- No.

8- No.

9- No.

10- Yes, on the same site. I also posted anonymous comments for someone I didn't like. I felt good at that age, but looking back I see how stupid it was to care about what they said to me, and even more stupid to do the same thing to someone. I know I hurt the person because I was hurt too. I can look at it rationally now, but at the time it felt good. But I learned from it.

11- No

12- No.

13- No

14- No.

15- No.

**29- How often, if you were to estimate, do you check your social media accounts every day?
How do you feel about the frequency of your social media usage?**

1- Once an hour. It's more often than I should.

2- it's in my face all the time with my phone. The constant pop ups and notifications on my phone are constant. I check but don't always respond immediately. I think I have good control over the frequency usage but I wish I was more structured. I want better allotment of my time on social media.

3- A lot more than I'm proud of, but maybe once every hour. I don't actively use it, but it's more of a pastime. I think I need to decrease it because I have a thing on my phone that tracks the time I spend on each app. So I spend about four hours a day between six apps.

4- I may check Instagram 3 times a day and each time it lasts maybe 20 to 30 minutes. Snapchat maybe once for 15 minutes, LinkedIn for about 20 minutes some days and some days not at all. And when I don't have an exam, I may spend 2 to 3 hours on YouTube.

5- A lot. It depends on the day of the week. Now, its maybe once an hour, but on holidays it's a lot more. Because of YouTube, it's over four hours every day. I'm not proud of the frequency of my use, because I feel I can be a lot more productive during that time.

6- It varies on when I have time. 4- 5 times a day. On an average day, it's let than 4 hours.

7- 2-4 hours a day.it is sometimes concerning because I know I could be improving my life in other ways like studies and being with friends in person, but it's also a way of keeping in contact with them because we are busy with other things in life.

8- More than 4 hours. I think the usage is too much, but I don't know how to stop. My friends and family use it even more than I do, so I feel the pressure to use it more too.

9- More than 4 hours. I think the usage is too much, but I don't know how to stop. I really need to lessen it but out of habit I keep trying to see something on social media. I sometimes even stop my work to check Instagram or Whatsapp. It's difficult for me to reduce it.

10- More than 4 hours. I think it's a lot, but I usually use it at night before sleep. But I don't go to sleep because I go scrolling for an hour and a half on Instagram. I also sometimes use Whatsapp a lot because family and friends want to know about my life. So I feel a pressure to respond to them too, despite needing to sleep. It's a lot to think that 4 out of 24 hours are spent on social media.

11- Two hours on average. Right now, it's a fair amount of usage.

12- It varies, on the day. Three hour maybe a day. I don't think the frequency is a concern, but is a reflection of how bored I am.

13- 3-4 hours a day on average. I think it's too much, as I feel I could be doing so much more with that time.

14- 2-3 hours a day on average. I think I can always cut down on it, as it's not as beneficial as studying.

15- 8 hours a day on average, 5 of which are personal. I use social media for work too, that's why. It's the first and last thing I do in a day. I know my usage is a problem. Whenever I'm waiting for something, I pull out my phone and scroll. So every free moment I have where I don't have to think about anything, is dedicated to social media. Another thing I've noticed is that many eateries have placards for scanning or links to their websites for discounts.

30- Have you ever ignored or neglected more pressing work/tasks in favour of spending time on social media?

1- I procrastinate, and social media is a very easy way to procrastinate.

2- No, but I did when I was younger.

3- I think as a form of procrastination, yes. It's one of the ways I procrastinate.

4- Yes, there are times where I'll watch YouTube videos instead of doing homework or study. You feel guilty while you're doing it. I know I should be studying but I'll still click on the next video knowing that.

5- Yes, usually the motivation to be on social media is that you're putting something off.

6- Yes, but only for about 15-20 minutes.

7- Yeah, as a way to procrastinate.

8- No.

9- Yes, a lot of times. I often feel bad about it. I know I can stop it if I put my phone away, otherwise I can't. No.

10- Yes. Sometimes it's with household chores that I don't want to do, and also I put off going to sleep a lot, which I think is the worst one.

11- Yes. Probably on YouTube. I realize that I'm procrastinating, but I make up for it later. I only maybe lose out on sleep.

12- Yes. Procrastination. I read my online books.

13- Yes. Especially with YouTube. I try to avoid it by putting my phone away.

14- Yes. When you don't want to study anymore so you go online and end up looking at your phone for hours. It happens often, so try to set screen time based on hours, and forcefully try to manage my usage. Without it I wouldn't even know how much I use it.

15- Yes. Most times I try to ignore them when I'm working, but sometimes you're awaiting work updates so there's a tendency to check the notifications.

31- Have you ever lost your concentration, because of the notifications and updates from your social media account?

1- Yeah it's hard to ignore when your phone starts buzzing.

2- Yes, there's a lot of distractions. It makes me furious when my phone rings during an important task. So I usually switch my phone off when concentrating.

3- Yeah I have, and it's quite a lot. I feel the need to check it if something pops up. It makes me feel annoyed at myself, especially when I have work to do.

4- in the past yes, but now I turn it off or put it on silent.

5- Yeah, I have.

6- Yeah, I have, but I usually plan it so I get 8 hours of sleep. Not that much, due to planning.

7- Yeah, sometimes if my phone has group chat notifications on, I often join the conversation. That takes a lot of my time and my focus is lost.

8- Yeah. I turn my phone silent and flip it over to avoid getting distracted.

9- Yeah.

10- Yeah. Sometimes when I'm studying, my phones vibration gives me an urge to check it. So now I just put it on mute to not be distracted. But sometimes even when it's mute, I will wonder if I got a message o that causes a distraction again. It's quite frequent, but I've learned and I'm better at focusing and not checking my social media.

11- Yeah. Sometimes in a group chat I join in, but sometimes I mute it if there's something more important.

12- Yeah. Because I'm intrigued by who texted me, as I don't get them very often.

13- Yeah. It's a lot with school so I simply don't check the phone and put it away.

14- Yeah. I turn my phone off or put it away if I have to concentrate, otherwise I'll be distracted.

15- Yeah, procrastination. Yeah I sometimes leave aside work go scroll through social media.

**32- Have you ever lost out on sleep, or disturbed your sleep, over your use of social media?
How did that make you feel/ affect your life?**

1- Unneeded

2- Yes, when I get into arguments. One time I fought with someone until 3 am. But it doesn't happen very often.

3- I don't wake up to check my social media but I definitely go to bed later at night when im on my phone, which is mostly social media. So it disrupts my sleep in the sense that it delays my sleep, but I don't wake up in the middle of the night to check my phone. So I do get less hours of sleep. I missed a couple of classes because of this, and I'm not proud of it.

4- Yes, sometimes with YouTube I can never watch just one video. So then I look at the clock and it will be late at night. But I've made an effort over the last year to do it less often. Just realized that things need to change. iPhone has this screen time monitor in their setting, and looking at that I realized that my usage needed to change.

5- Yes. Sometimes I'm up all night talking to people, and that would be why I didn't sleep.

6- Yes. Sometimes. I feel a bit frazzled when my boss emails me.

7- Yes. I usually go on my phone before bed and sometimes end up staying on my phone because I get interested in something. So sometimes I stay up till late. It's not the healthiest thing. If I feel tired the next day, I regret staying up too late for no reason.

8- Yes. Usually when I have a lot of messages, I stay up late. The next day I feel more tired.

9- Yes. Every night I check my Instagram before bed as I have a problem in sleeping without it, but with it it's worse. I can't not do it, but I try to spend less time on it. I do miss out on sleep because of it, which means I feel tired the next day.

10- Yes. I usually use it at night, and find it difficult to go to sleep immediately after because the light is right in my eye. So usually I don't sleep enough and end up tired and angry because I was supposed to sleep and couldn't. It's hard.

11- Yes. If I'm on my phone before bed, I do sometimes stay up later. I lose sleep, so I feel tired the next day.

12- Yes. If I'm in a very interesting conversation I end up staying awake. I then end up having a sleepless night and feel exhausted the next day.

13- Yes. If I'm watching a YouTube video through the late hours at night. So I feel tired the next day even if I get 8 hours of sleep.

14- Yes. Sometimes I lose track of time if I'm using social media. I end up feeling tired the next day, so I avoid it for the next few days.

15- Yes. Watching YouTube videos and recommended videos late into the night. I'm working on being aware of my social media usage and how it's affecting my life.

33- Do you feel you need to reduce your social media usage? If yes, why?

1- Depends on how tired I am, but it's often times. At times it's the lack of sleep that makes the next day harder to get through, like a zombie.

2- Not really.

3- I do, because it's taking up a lot of my time when I have no use for it.

4- I've started, but I still think it can be lessened more. Productivity is the biggest thing, whether it's schoolwork or trying to get things done where social media is the biggest distraction. So the less time I spend doing that, the more time I can spend doing things I love. That's because I've never really felt, while consuming social media, that I've enjoyed it. So it feels like I'm not really living my life, but rather like an npc in a video game: not doing anything. So that's the biggest motivator.

5- I need to, but do I want to? I think we all need to. I feel in that time, instead of being on social media we could be doing a lot more productive things, like studying for a class or even just interacting with family one on one. I think social media is making a lot of our connections superficial. That's because you think you have a great connection with someone because you hit

each other up, but in real life you don't really know them. So reducing social media usage will not only make you more productive but it will change your perspective on one on one connections and the world.

6- I never felt the need to, but I could if I needed to.

7- I think I should, but there are people who are doing it more than me anyway. So I think I'm okay in a sense. But it would still be a good idea to reduce my social media usage time.

8- Yes, I think I'm using too much Whatsapp and instagram. My friends and family are even worse than me in this regard.

9- Yes, I think it's a lot.

10- Yes, I wish I'd only use it for an hour, but I can't. That's because I get all these messages and I need to respond.

11- Yes, from time to time, but I think I'm using it a fair amount. Among my friends, I don't think I use it the most.

12- No.

13- Yes, I think I should limit myself, in terms of the amount and times of the day I use it. I use it to procrastinate and avoid going to sleep.

14- Yes, especially during daytime to focus on work and at night to get some rest. For better time management.

15- Yes, especially when I know I prefer to stay at home over meeting people when meeting people is very good for health. And people who are very social are said to have a low risk of dementia. Our generation is said to have a lot of other psychological issues because of the exposure to social media and internet. Children who can't even read can already use social media.

34- Can you recall an instance, if any, where your social media usage directly affected your physical or mental health, prompting you to realize your habits were becoming an issue?

1- Staying up till 3 am. Made me feel like I should be sleeping, and the next morning sucked. I would feel a little ill the next day. In previous years due to a lack of sleep, id fall asleep in class or at work. Insomnia has been a constant, but social media also played a part in it.

2- Nothing apart from the fights. I find that I get into fights more when I'm on social media. I follow a lot of news media, and when I see the comments on a new article, I can't keep my opinions to myself. So I get into a lot of arguments. But in real life I wouldn't necessarily be exposed to so many opinions from people, and even if there are, I choose to not participate.

3- Besides the fact I don't get enough sleep, it has had no effects on my health.

4- in terms of the fear of missing out and anxiety, yes. In terms of physical health, there are times when I sit around on social media instead of going to the gym. An anxious feeling of needing to check the social media and how many likes did I get. More so in previous years than now.

5- Yes, in terms of my sleep, where I'd be up talking on Facebook messenger way longer and later than I needed to, because it's just talking, and the next day I'm tired the whole day. The biggest contributor would be lost time.

6- Maybe in terms of mental health, using social media as a coping mechanism might not help at all. The whole missing out thing, when I was younger id see that and then get more depressed, feel like a worthless person. Nowadays it's just something to let my mind go blank on, and not face problems emotionally.

7- The lack of sleep affects both my mental and physical health. Looking at people like models who are better at some aspects like being more fit makes me feel insecure about my image. And the likes and comments are also associated with social anxiety.

8- A few months ago I was feeling very down, and I wasn't in a good place so I stepped away from a few social media platforms. But that made me feel better, so I came back to it. So my mental health was affected, but I'm feeling better about it now.

9- I think only related to sleep, because the light from the phone keeps me awake and then I end up tired.

10- Not needed.

11- In the past, missing out on activities with my friends, I felt like I didn't belong or wanted. I'm with new friends now and I don't get affected the same way now.

12- I might forget to drink water, if I'm in a conversation.

13- If I don't get a good night's sleep, I feel unfocused. I sometimes feel depressed where I'm thinking about studying or sleeping instead of being on social media. But I'm trying to fix that.

14- There are times where my fingers or back hurt from too much usage.

15- If we go back to making comparisons between professional lives, it does have a feeling of envy and depression.

35- Do you think you have ever been anxious or depressed, directly or indirectly, due to social media usage?

1- Unneeded

2- No

3- I've been anxious because I sent a risky text to someone or send the wrong message to the wrong person, so when I screw up I get very anxious but that usually just blows over within the day.

4- Anxious, in my earlier years.

5- Not needed

6- Back in high school, not so much now. Sometimes I don't post for the tediousness of having to reply to the comments.

7- Yes, but it was never too extreme.

8- I've only felt anxious, never depressed. I'm in a limbo right now, whereas everyone else seems to have everything figured out. That feeds the anxiety.

9- No.

10- Yes, I used to feel anxiety about what to do or what to wear, but not anymore. It was because of following celebrities.

11- Not needed

12- Anxious, when I'm waiting for a reply.

13- I'm go into a down mood, but I always go and seek help when I do feel like that.

14- No.

15- Not depressed, but sad.

36- Have you made any measures to control your social media habits? If yes, how has that been for you?

1- Unneeded

2- No

3- I have the app on my phone that tracks my usage. I also have this thing set up where if I'm on a certain app for more than an hour each day, it tells me not to use it anymore. I mostly follow it, but sometimes ignore the prompts. I also use my phones airplane mode, which is pretty effective.

4- Using the app on my iPhone, I can set time limits. I have it set at two hours and most days I don't even hit that, so it feels really good. So doing stuff like that definitely changes things. I have also seen YouTube videos about the problems with social media, so that helped as well.

5- I deactivated my Facebook once, but it didn't work.

6- In high school, I used to resolve to only using 50% of my phone battery, to avoid having to charge often. That actually deterred me from too much phone usage.

7- No, I haven't.

8- No, I haven't.

9- No. but sometimes I just put my phone away, nothing more.

10- Yes, I downloaded an app that monitored how many hours I spent hours I spent on social media, unlocked my phone, and the apps I used the most. I deleted it because I was afraid of how much data I was giving to the app as they had access to everything that I did. It's called "app usage". But despite the security concerns, it did help me understand my usage patterns, as I always used social media unconsciously. It counted every time I unlocked my phone to check for messages, so it helped me take notice of the frequency of that.

11- Yes, I downloaded an app called flora that helped me control my usage habits.

12- Yes, I removed some apps to stop the distractions. Notifications often overwhelm me, so I tend to reduce them.

13- Just putting the phone down, or shutting it off.

14- An app monitor, but I don't use it anymore as it was sometimes disruptive when I had to use other apps. But it did help me learn to monitor my activity by myself. It also increased my anxiousness with the time limits, so I can monitor it better by myself. And I can always monitor it by myself.

15- I've been more aware of my social media usage, so I've been trying to plan my week in a way that I don't spend my Friday and Saturday on social media. Planning with friends who are in a similar situation in terms of social media usage helps, as does planning in advance for social gatherings, volunteering. Even though social media is often part of that. It's gradual, one step at a time.

**37- Did this involve any applications or websites that monitor/control social media usage?
If yes, please elaborate.**

1- Unneeded

2- Unneeded

3- Built in Apple phones, in the settings.

4- Not asked

5- Not asked

6- I only self-monitor.

7- Not asked

8- Not needed

9- Not needed

10- Not asked

11- Not needed

12- Not needed

13- I tried some apps, but I always found a way around the app or straight up deleted it.

14- Not needed.

15- Not needed.

38- Have you ever sought help for this issue of disruptive/excessive social media usage? If yes, please elaborate.

1- Unneeded

2- Unneeded

3- No.

4- Not asked

5- It is disruptive and excessive, but I'm not compromising my career or anything for it. It's not that severe. So I've never needed any help for it.

6- Not needed

7- Not asked

8- Not needed

9- Never, because I know I will end up missing it.

10- Not asked

11- Not needed

12- Not needed

13- Not needed.

14- Not needed.

15- Not needed.

Appendix 4: Survey Questionnaire

Graduate Research Questionnaire Survey

Dear Respondent, I am a student of the University of Alberta. You are asked to participate in a questionnaire survey for a research study. I am conducting this research to understand the issues individuals face when they experience social anxiety through extended social media usage.

The results of this questionnaire survey will be used in support of my thesis. From this research, I will develop a design response to address mental health issues caused by excessive social media use. I will be really grateful if you could spend few minutes of your precious time in filling this questionnaire.

Your answers will be kept in complete confidence. I greatly appreciate your help.

Section A: Personal Information

Please tick (✓) into the appropriate box for your answer

Gender

☐ Male ☐ Female ☐ Non-Binary

Age (in years)

☐ 18-20 ☐ 21-24 ☐ 25-30 ☐ 31-35 ☐ Over 35

Occupation

☐ University Student ☐ College Student ☐ High School Student

☐ Working Professional

Country of Residence

☐ Canada ☐ Other _____

Continued on the next page

Section B:

Following are questions about your use of social media application/websites.

Social media applications include Facebook, Snapchat, Instagram, Twitter, YouTube and LinkedIn, among many others.

1- Do you actively use any of these social media platforms? If yes, please mark the appropriate box(es).

☐ Facebook ☐ Instagram ☐ Twitter ☐ YouTube ☐ LinkedIn ☐ Snapchat

☐ WhatsApp ☐ Other _____

2- Do you think social media networks are an important part of life today? If yes, how?

☐ Yes ☐ No

3- Do you think it is possible to not have a social media account and successfully live life in today's world? If yes, how?

☐ Yes ☐ No

4- How much time, on average, do you think you spend on social media sites every day?

☐ Over 4 hours ☐ 3-4 hours ☐ 2-3 hours ☐ 1-2 hours
☐ 1 hour or less

5- How many social media platforms are you a part of?

☐

Continued on the next page

☐ Over 4 ☐ 4 ☐ 3 ☐ 2 ☐ 1

6- What do you like to see the most on your social media feed?

7- Are you familiar with the term 'social anxiety'?

☐ Yes ☐ No

In case you answered 'No' above, **social anxiety** is the fear of being judged and evaluated negatively by other people, leading to feelings of incompetence, inferiority, self-consciousness, embarrassment, humiliation, and depression.

8- Based on the description above, do you think you have ever experienced social anxiety due to your social media usage?

☐ Often ☐ Sometimes ☐ Never

9- Do you feel that many posts on social media are made only to receive a response and/or appreciation? If so, why?

☐ Yes ☐ No

10- Do you judge if a social media post is good or bad based on the likes and comments it has received?

☐ Yes ☐ No

11- Do you ever feel a strong compulsion or pressure to remain/appear active on social media?

☐ Yes ☐ No

Continued on the next page

12- Have you ever felt sad or depressed when you did not receive a lot of comments or likes on a social media post? Please explain.

☐ Often ☐ Sometimes ☐ Never

13- Have you ever stopped yourself from posting anything on social media, due to fear of being judged or getting embarrassed?

☐ Often ☐ Sometimes ☐ Never

14- Do you know what the 'Fear of Missing Out' (F.O.M.O) is?

☐ Yes ☐ No

In case your answer above was 'No', the **fear of missing out** refers to the feeling that others are having more fun, living better lives, or experiencing better things than you are. It involves a deep sense of envy and affects self-esteem. It provides a situation in which you are comparing your regular life to the best experiences of others' lives.

15- Based on the description above, do you think you have ever experienced F.O.M.O due to your social media usage?

☐ Often ☐ Sometimes ☐ Never

16- Do you think that social media encourages people to constantly compare themselves to others online? Please elaborate?

☐ Yes ☐ No

Continued on the next page

17- Have you ever compared your life and activities; with the activities of the social media accounts, you are friends with/follow? If yes, how did you feel about doing that?

☐ Yes ☐ No

18- Have you ever experienced anxiety or depression by making online comparisons with others?

☐ Often ☐ Sometimes ☐ Never

19- Do you often get distracted from other tasks, by the notifications and updates from your social media networks?

☐ Yes ☐ No

20- After browsing or using your social media, do you usually feel better, motivated, and happy or worse, restless, and unhappy?

☐ Feel better, motivated, and happy ☐ Feel worse, restless, and unhappy

21- Does your mood ever get negatively affected when you are not able to use/access your social media accounts?

☐ Often ☐ Sometimes ☐ Never

22- If your previous answer was 'often' or 'sometimes', what type of feelings do you experience?

☐ Stress ☐ Restlessness ☐ Anxiety ☐ Lack of Focus ☐ Depression

☐ Other _____

Continued on the next page

23- Do you often check your social media accounts before going to sleep?

☐ Yes ☐ No

24- Do you think you ever got less sleep than you needed, because of using social media before falling asleep?

☐ Often ☐ Sometimes ☐ Never

25- Do you think your daily routines are disturbed by a lack of sleep or sleep disturbances due to social media?

☐ Often ☐ Sometimes ☐ Never

26- Do you feel anxiety or depression when your sleep or work is affected by social media use?

☐ Often ☐ Sometimes ☐ Never

27- Have you ever encountered cyberbullying during your social media usage?

☐ Often ☐ Sometimes ☐ Never

28- Have you yourself experienced cyberbullying on social media networks?

☐ Often ☐ Sometimes ☐ Never

29- Have you ever experienced social anxiety when you were negatively treated or made fun of on social media platforms?

☐ Often ☐ Sometimes ☐ Never

30- Have you ever tried to quit social media? If so, why do you feel that way and how was that experience?

☐ Yes ☐ No

Continued on the next page

Thank you very much for your sparing your precious time for this survey
If you wish to contact the researcher to participate in a one-on-one interview
about your experiences with excessive social media use and social anxiety, or for
any further questions, you are welcome to contact the researcher through:

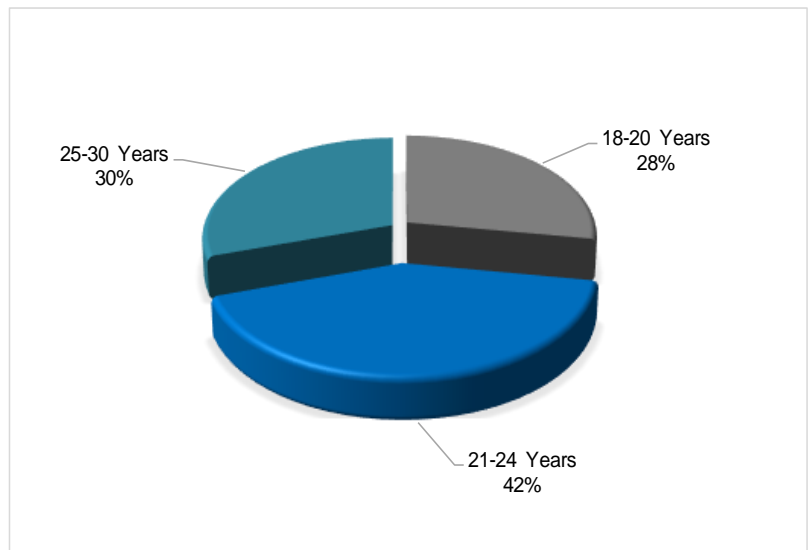
Email: mbutt1@ualberta.ca Phone: (587) 936 8454

Survey Questionnaire Result Graphs

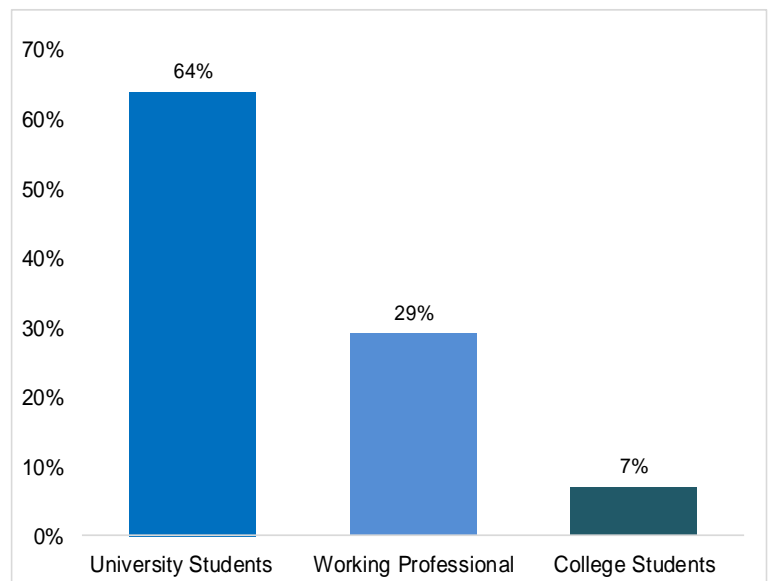
Appendix: Graphical Presentation of Survey Results

Section A: Demographics

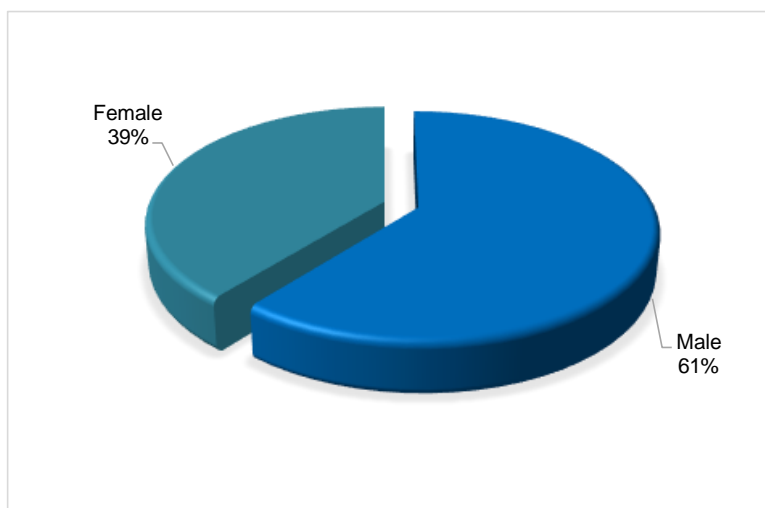
Age Group	No. of Responses	%age
18-20 Years	23	28%
21-24 Years	35	42%
25-30 Years	25	30%
Total	83	100%



Occupation	No. of Responses	%age
University Students	53	64%
College Student	6	7%
Working Professional	24	29%
Total	83	100%



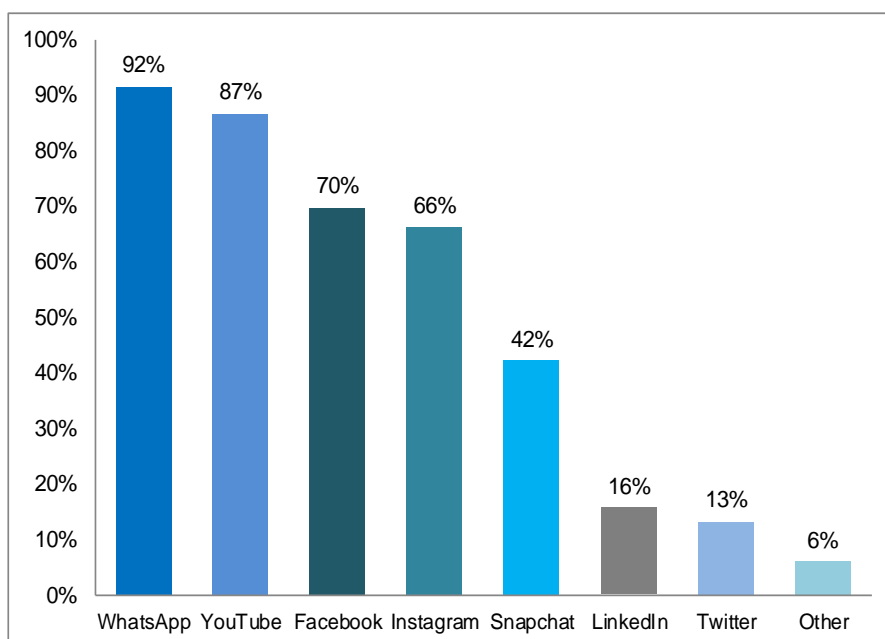
Gender	No. of Responses	%age
Male	51	61%
Female	32	39%
Total	83	100%



Section B:

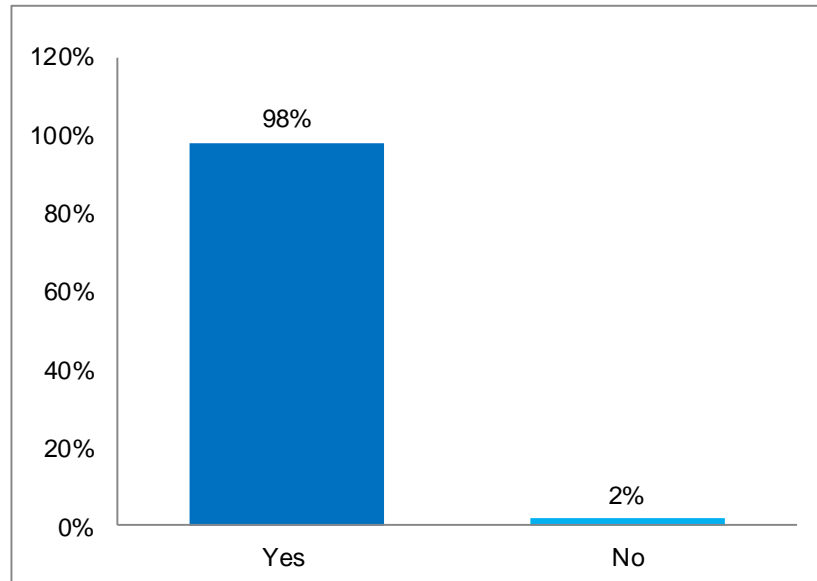
1- Do you actively use any of these social media platforms? If yes, please mark the appropriate box(es).

Category	No. of Responses	% age
WhatsApp	76	92%
YouTube	72	87%
Facebook	58	70%
Instagram	55	66%
Snapchat	35	42%
LinkedIn	13	16%
Twitter	11	13%
Other	5	6%



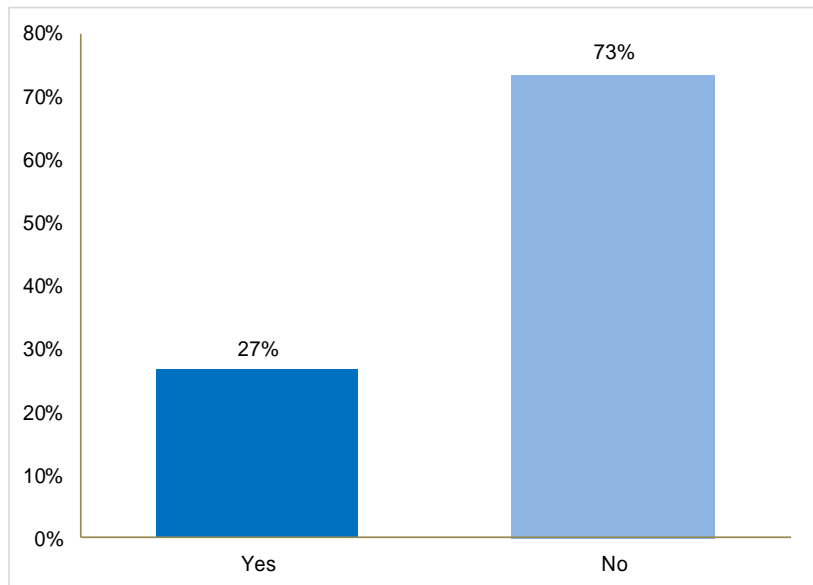
2- Do you think social media networks are an important part of life today? If yes, how?

Category	%age
Yes	98%
No	2%



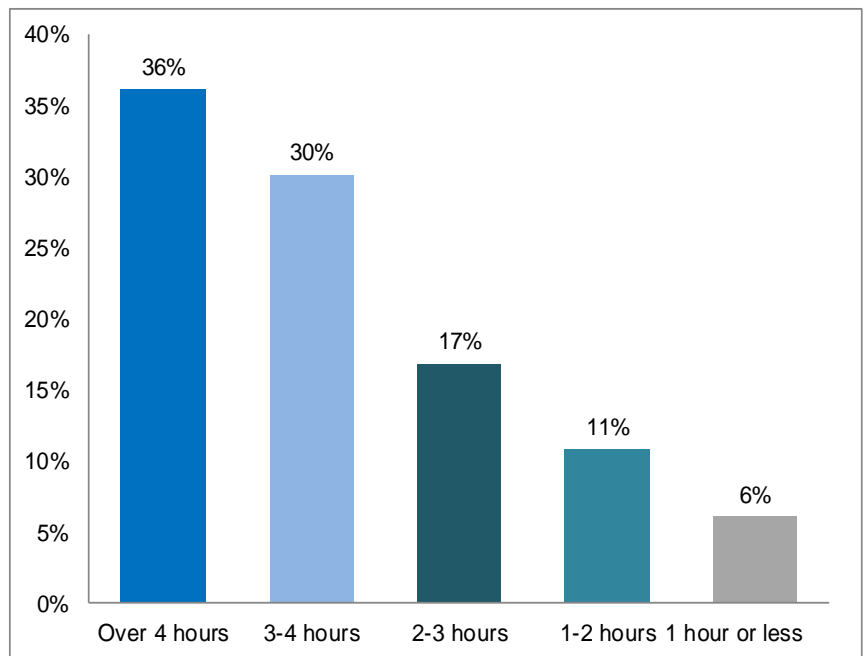
3- Do you think it is possible to not have a social media account and successfully live life in today's world? If yes, how?

Category	No. of Responses	%age
Yes	22	27%
No	61	73%
Total	83	100%



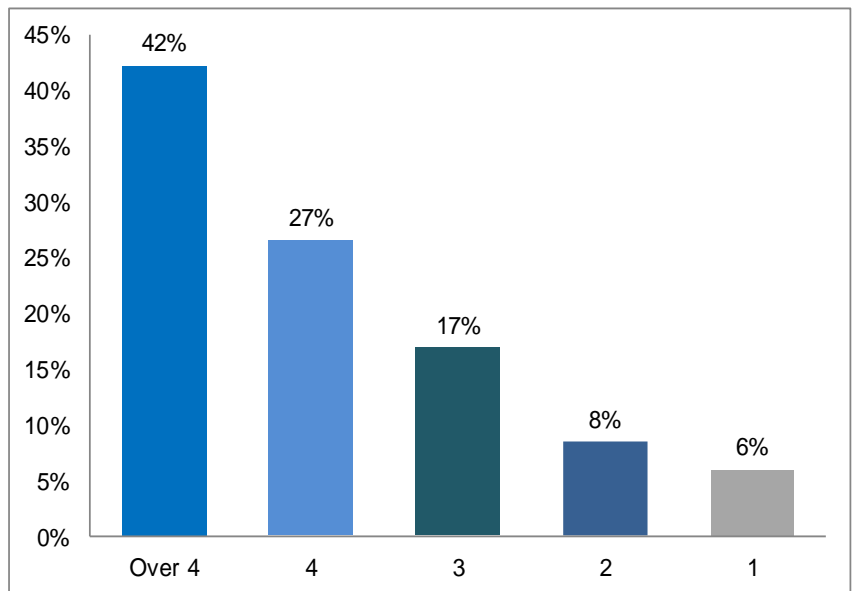
4- How much time, on average, do you think you spend on social media sites every day?

Category	No. of Responses	%age
Over 4 hours	30	36%
3-4 hours	25	30%
2-3 hours	14	17%
1-2 hours	9	11%
1 hour or less	5	6%
Total	83	100%



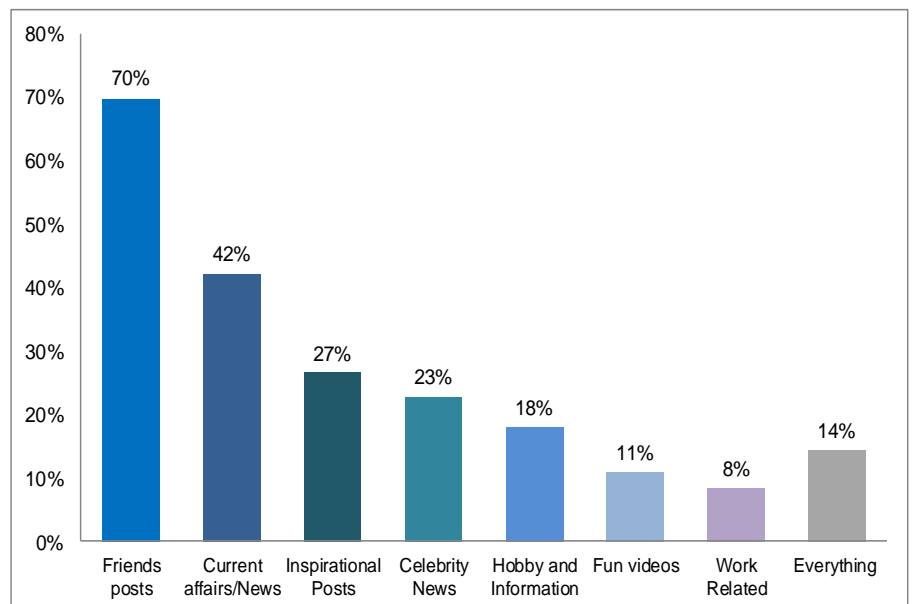
5- How many social media platforms are you a part of?

Category	No. of Responses	%age
Over 4	33	42%
4	22	27%
3	16	17%
2	7	8%
1	5	6%
Total	83	100%



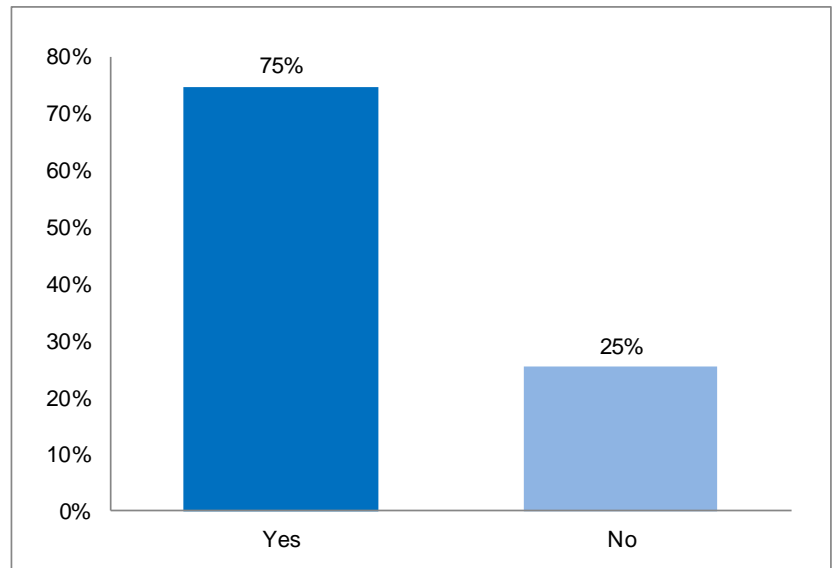
6- What do you like to see the most on your social media feed?

Category	No. of Responses	% age
Friends posts	58	70%
Current affairs/News	35	42%
Inspirational Posts	22	27%
Celebrity News	19	23%
Hobby and Information	15	18%
Fun videos	9	11%
Work Related	7	8%
Everything	12	14%



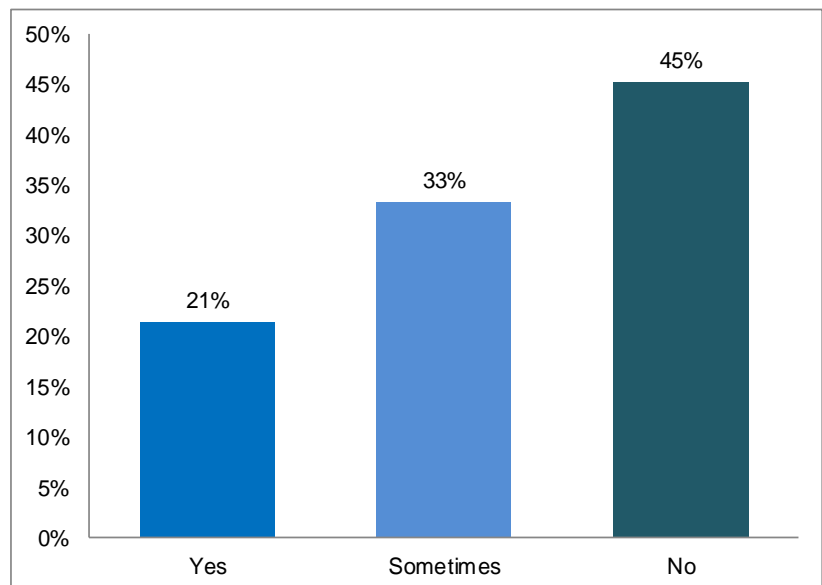
7- Are you familiar with the term ‘social anxiety’?

Category	No. of Responses	% age
Yes	62	75%
No	21	25%
Total	83	100%



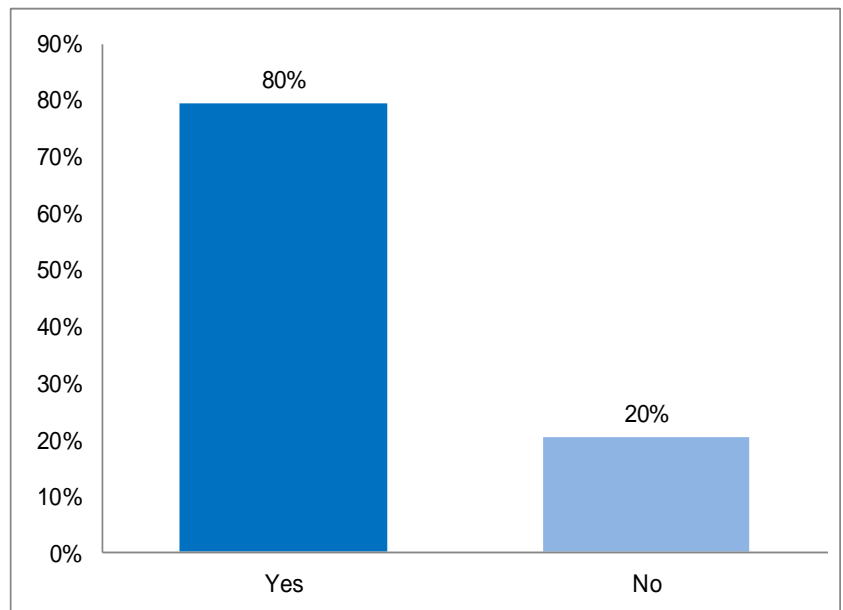
8- Based on the description above, do you think you have ever experienced social anxiety due to your social media usage?

Category	No. of Responses	%age
Yes	51	21%
Sometimes	13	33%
No	19	45%
Total	83	100%

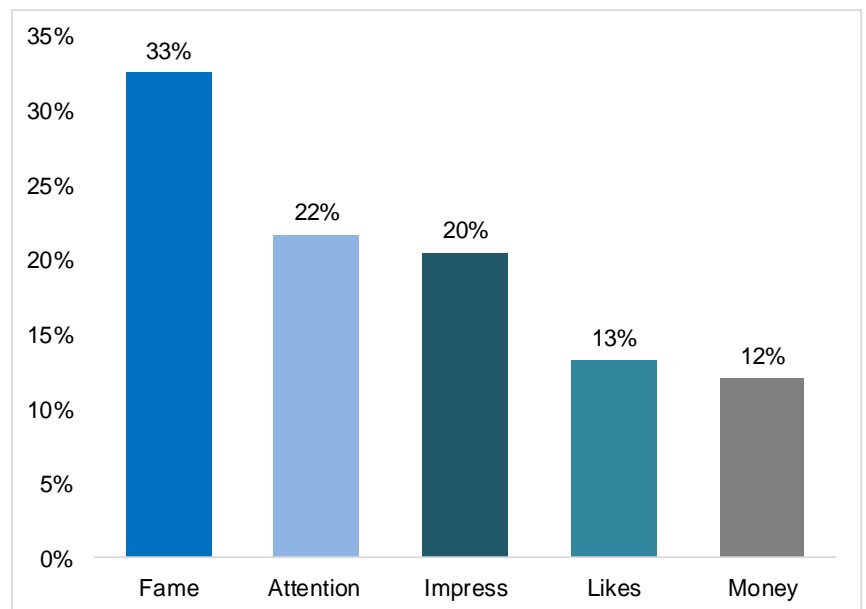


9- Do you feel that many posts on social media are made only to receive a response and/or appreciation? If so, why?

Category	No. of Responses	%age
Yes	66	80%
No	17	20%
Total	83	100%

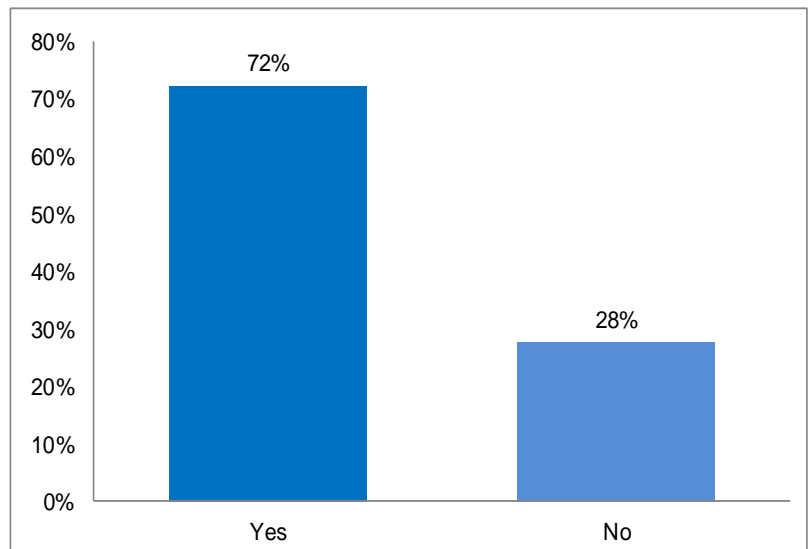


Category	No. of Responses	%age
Fame	27	33%
Attention	18	22%
Impress	17	20%
Likes	11	13%
Money	10	12%
Total	83	100%



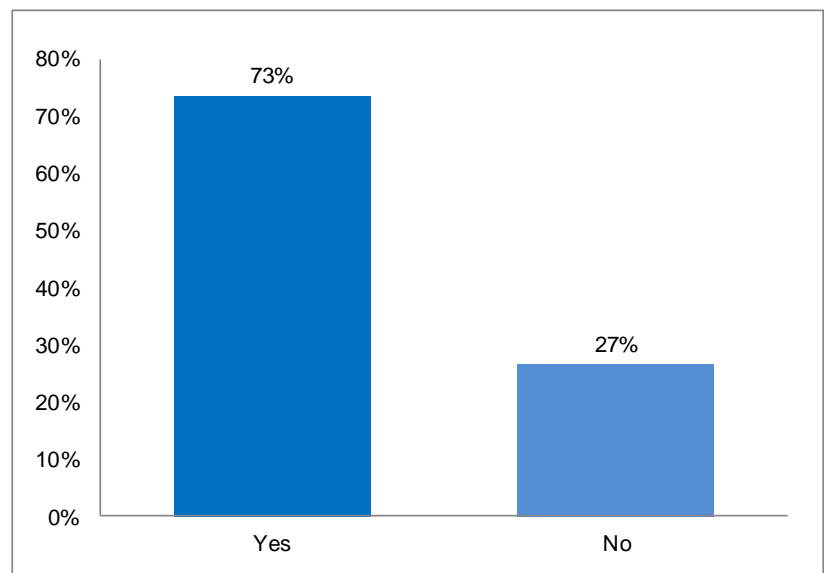
10- Do you judge if a social media post is good or bad based on the likes and comments it has received?

Category	No. of Responses	%age
Yes	60	72%
No	23	28%
Total	83	100%



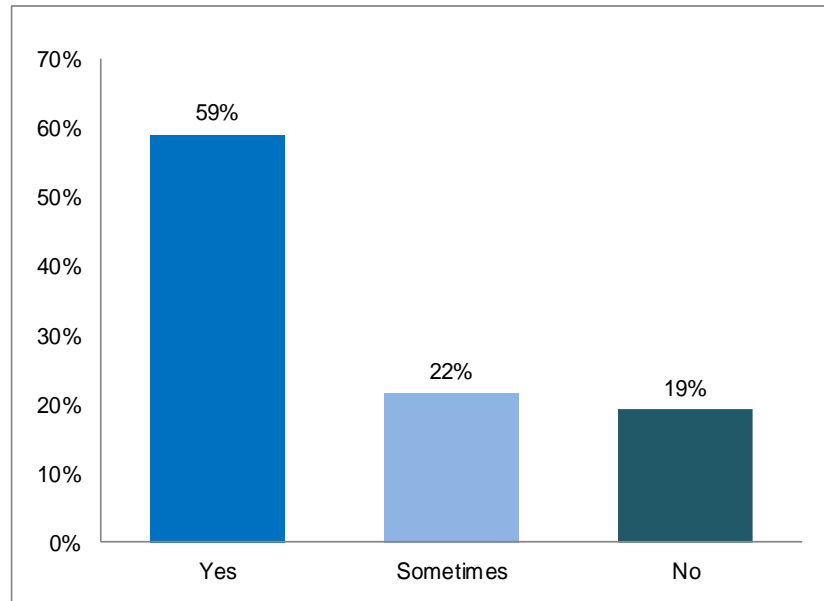
11- Do you ever feel a strong compulsion or pressure to remain/appear active on social media?

Category	No. of Responses	%age
Yes	61	73%
No	22	27%
Total	83	100%



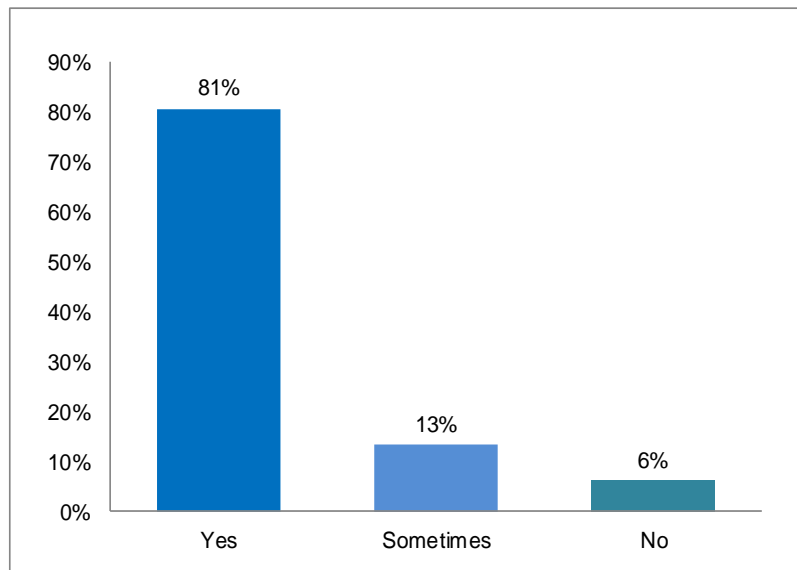
12- Have you ever felt sad or depressed when you did not receive a lot of comments or likes on a social media post? Please explain.

Category	No. of Responses	%age
Yes	49	59%
Sometimes	18	22%
No	16	19%
Total	83	100%



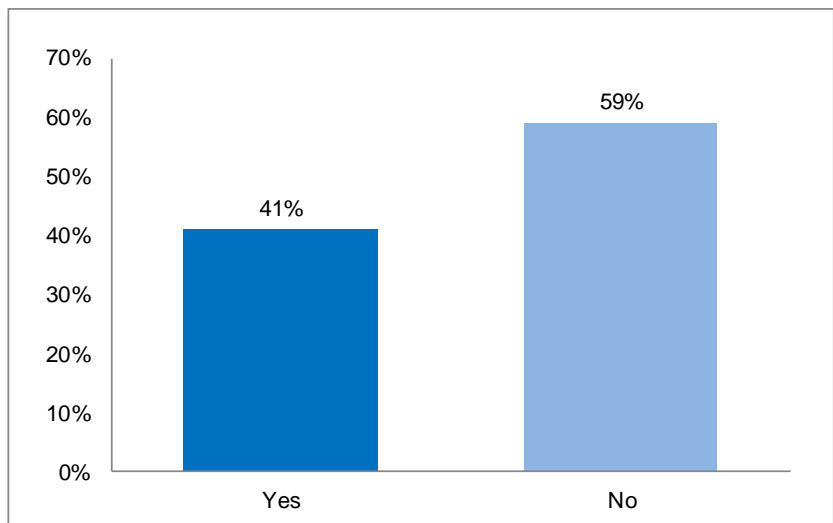
13- Have you ever stopped yourself from posting anything on social media, due to fear of being judged or getting embarrassed?

Category	No. of Responses	%age
Yes	67	81%
Sometimes	11	13%
No	5	6%
Total	83	100%



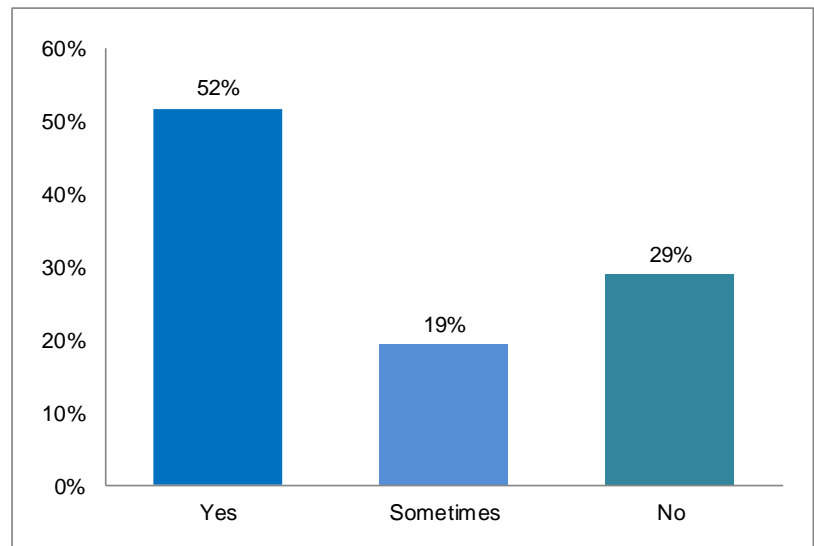
14- Do you know what the ‘Fear of Missing Out’ (F.O.M.O) is?

Category	No. of Responses	%age
Yes	34	41%
No	49	59%
Total	83	100%



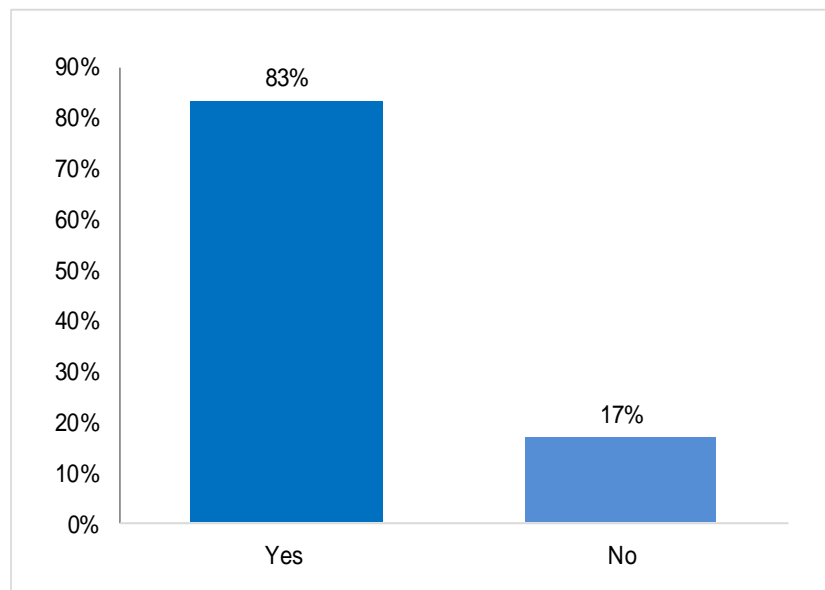
15- Based on the description above, do you think you have ever experienced F.O.M.O due to your social media usage?

Category	No. of Responses	%age
Yes	59	52%
Sometimes	11	19%
No	13	29%
Total	83	100%



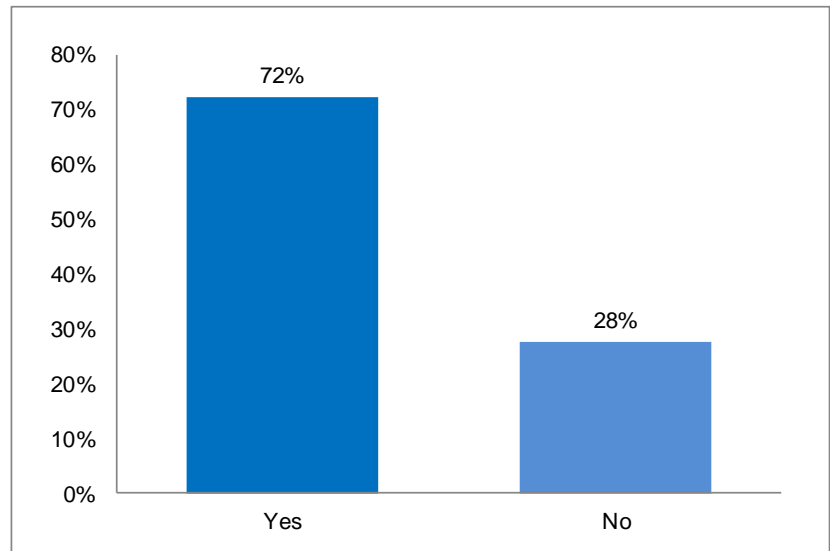
16- Do you think that social media encourages people to constantly compare themselves to others online? Please elaborate?

Category	No. of Responses	%age
Yes	69	83%
No	14	17%
Total	83	100%



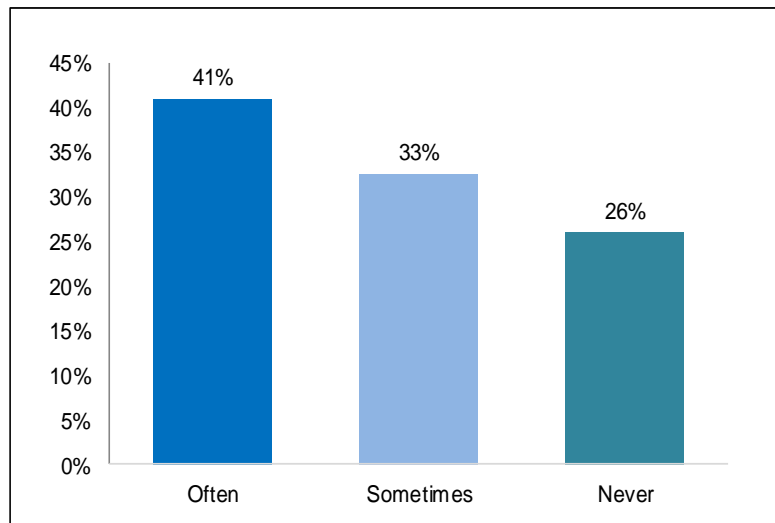
17- Have you ever compared your life and activities; with the activities of the social media accounts, you are friends with/follow? If yes, how did you feel about doing that?

Category	No. of Responses	%age
Yes	60	72%
No	23	28%
Total	83	100%



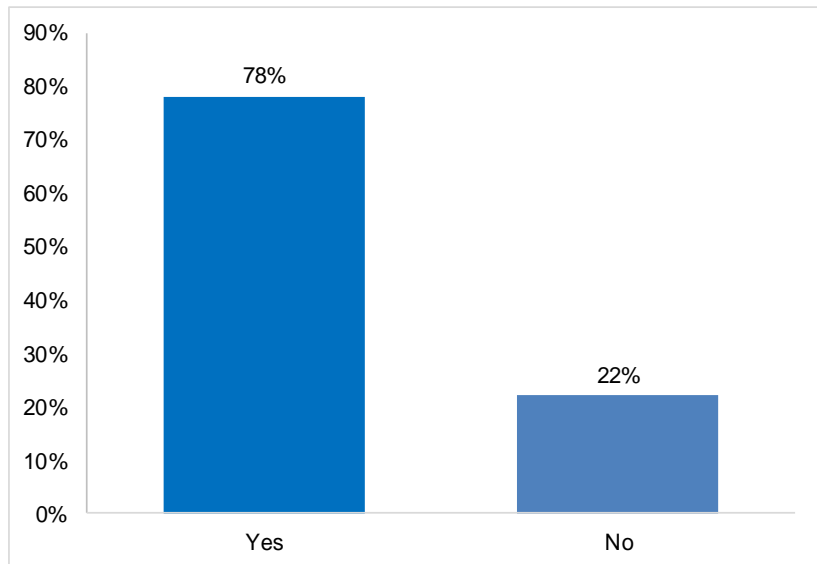
18- Have you ever experienced anxiety or a depression while making online comparisons with others?

Category	No. of Responses	%age
Often	34	41%
Sometimes	27	33%
Never	22	26%
Total	83	100%



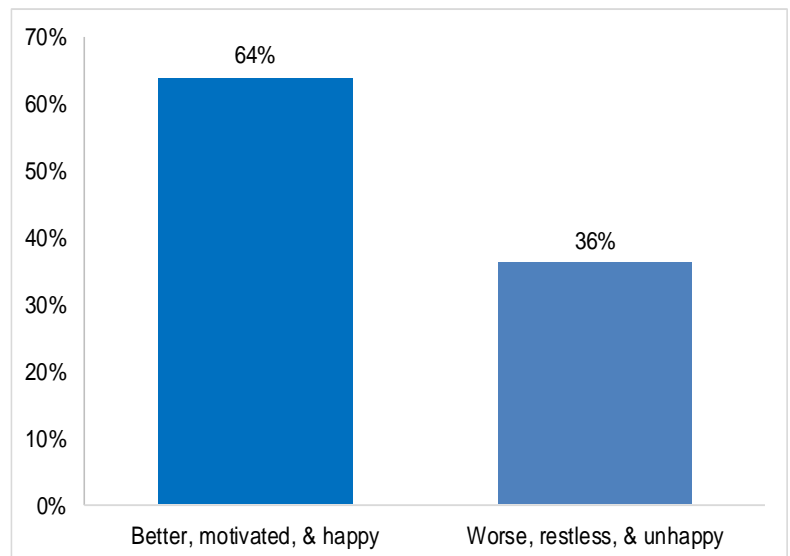
19- Do you often get distracted from other tasks, by the notifications and updates from your social media networks?

Category	No. of Responses	%age
Yes	65	78%
No	18	22%
Total	83	100%



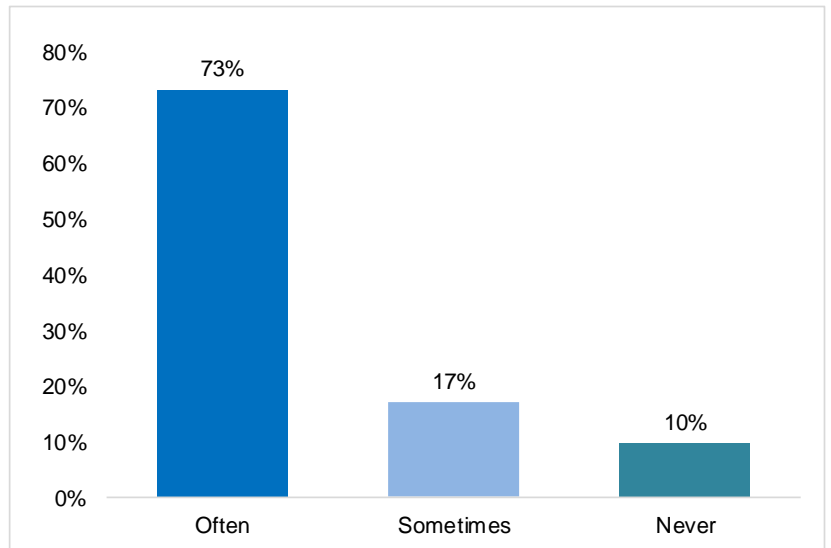
20- After browsing or using your social media, do you usually feel better, motivated, and happy or worse, restless, and unhappy?

Category	No. of Responses	%age
Better, motivated, & happy	53	64%
Worse, restless, & unhappy	30	36%
Total	83	100%



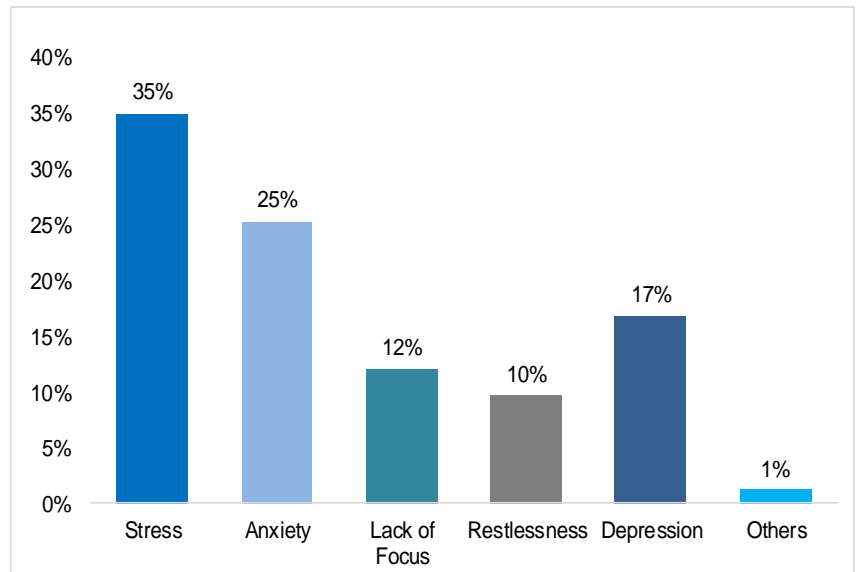
21- Does your mood ever get negatively affected when you are not able to use/access your social media accounts?

Category	No. of Responses	%age
Often	66	73%
Sometimes	11	17%
Never	6	10%
Total	83	100%



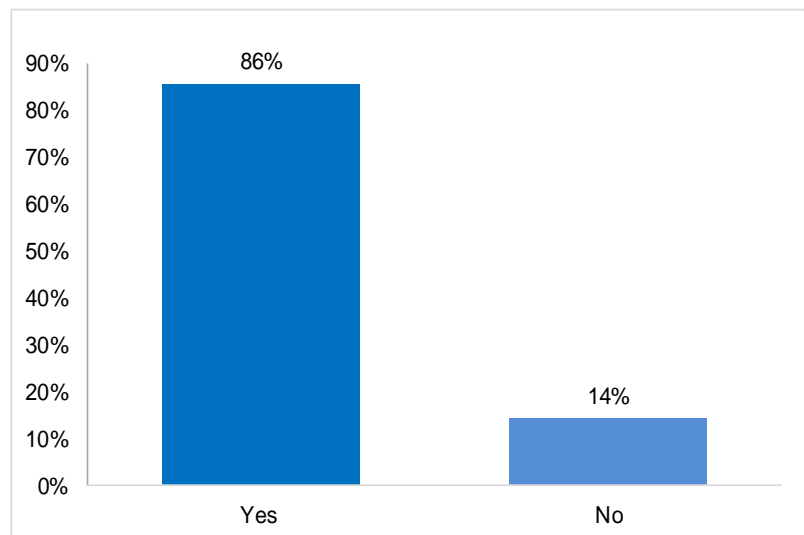
22- If your previous answer was 'often' or 'sometimes', what type of feelings do you experience?

Category	No. of Responses	%age
Stress	29	35%
Anxiety	21	25%
Lack of Focus	10	12%
Restlessness	8	10%
Depression	14	17%
Others	1	1%
Total	83	100%



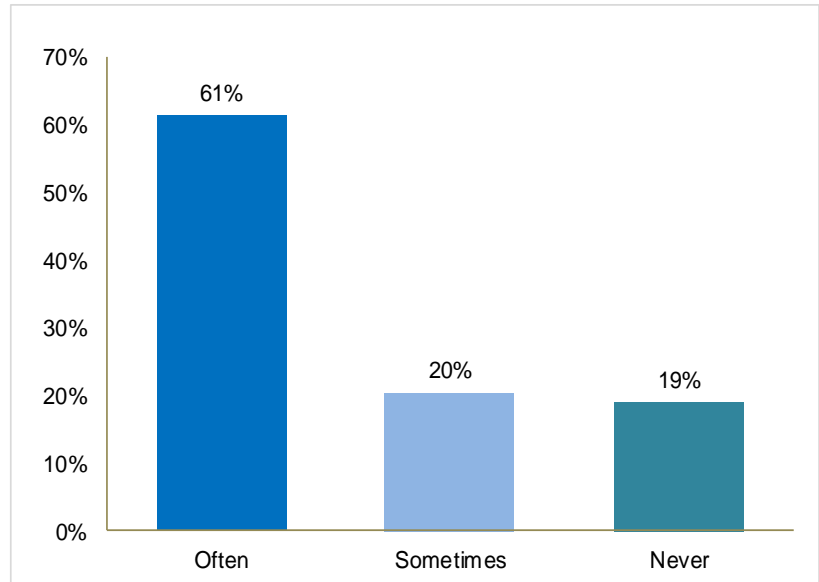
23- Do you often check your social media accounts before going to sleep?

Category	No. of Responses	%age
Yes	71	86%
No	12	14%
Total	83	100%



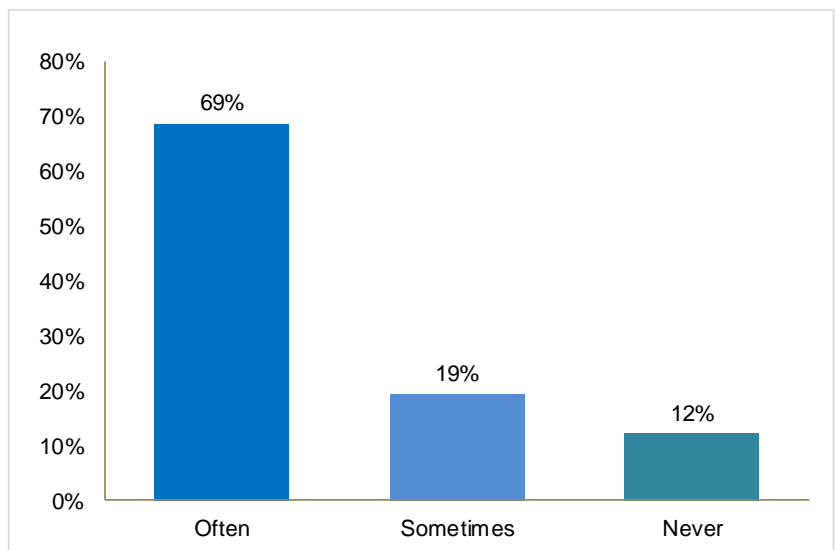
24- Do you think you ever got less sleep than you needed, because of using social media before falling asleep?

Category	No. of Responses	%age
Often	51	61%
Sometimes	17	20%
Never	15	19%
Total	83	100%



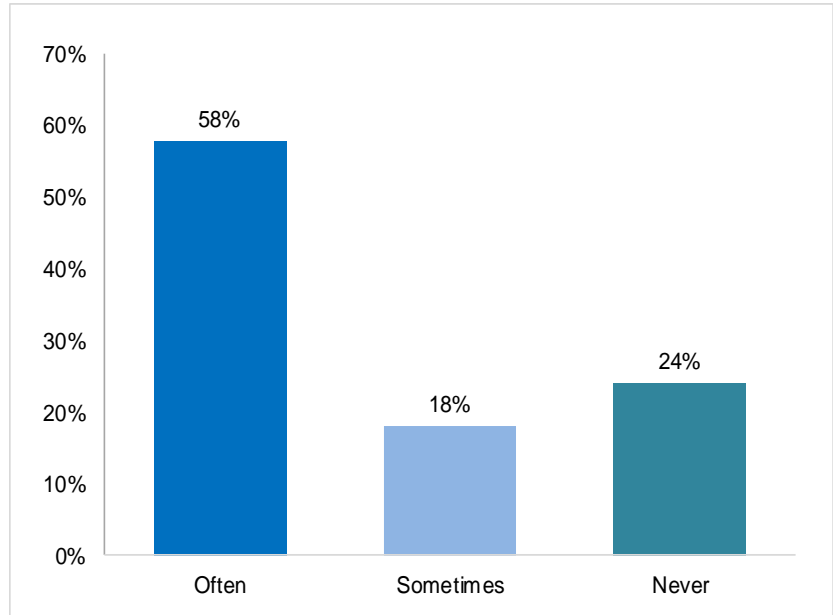
25- Do you think your daily routines are disturbed by a lack of sleep or sleep disturbances due to social media?

Category	No. of Responses	%age
Often	57	69%
Sometimes	16	19%
Never	10	12%
Total	83	100%



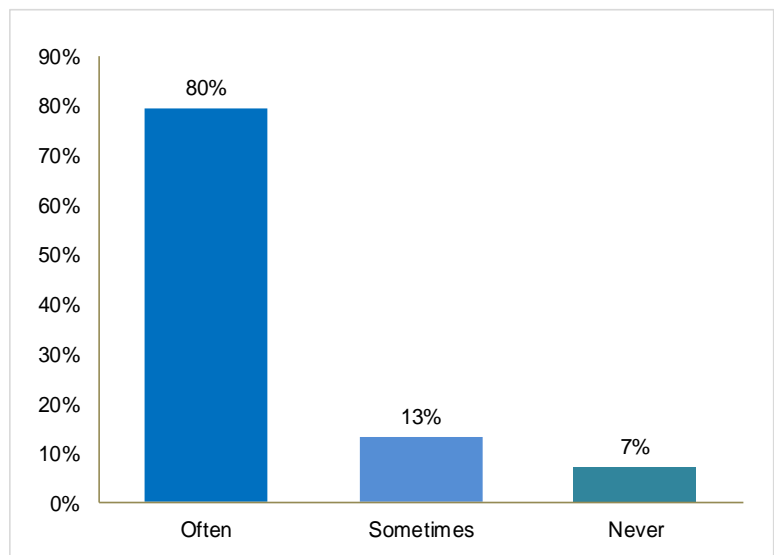
26- Do you feel anxiety or depression when your sleep or work is affected by social media use?

Category	No. of Responses	%age
Often	48	58%
Sometimes	15	18%
Never	20	24%
Total	83	100%



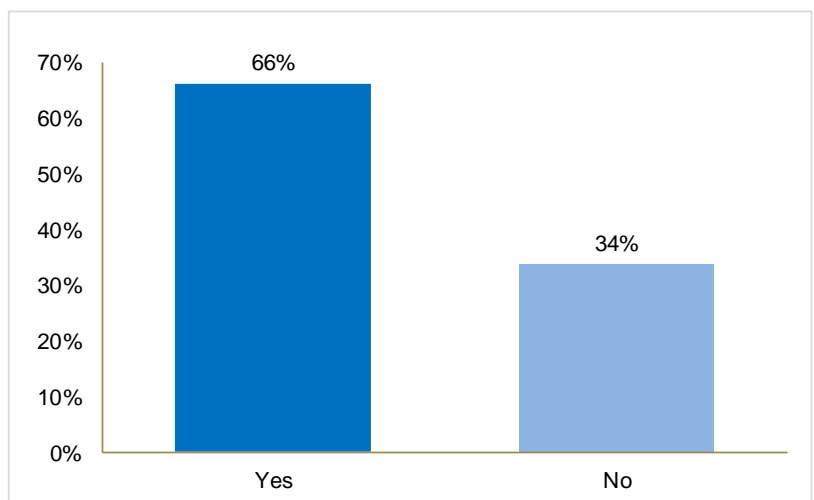
27- Have you ever encountered cyber bullying during your social media usage?

Category	No. of Responses	%age
Often	66	80%
Sometimes	11	13%
Never	6	7%
Total	83	100%



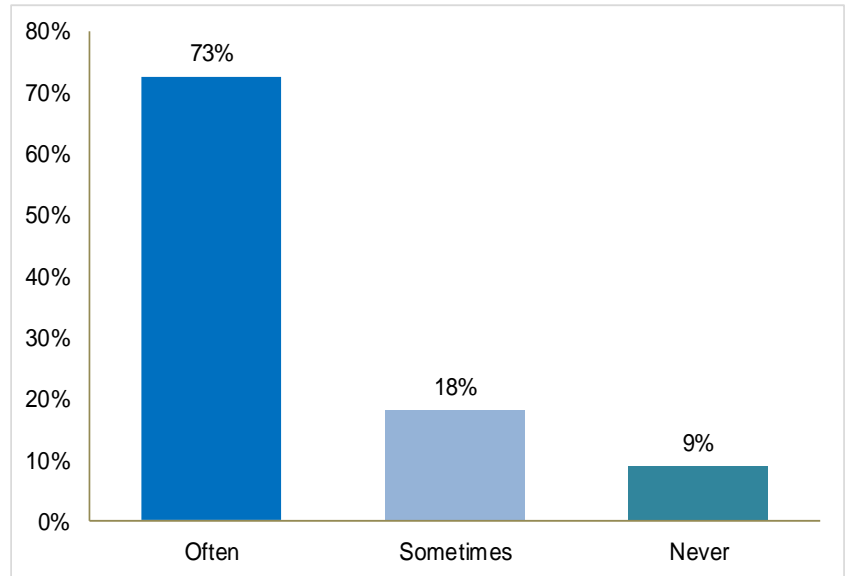
28- Have you yourself experienced cyberbullying on social media networks?

Category	No. of Responses	%age
Yes	55	66%
No	28	34%
Total	83	100%



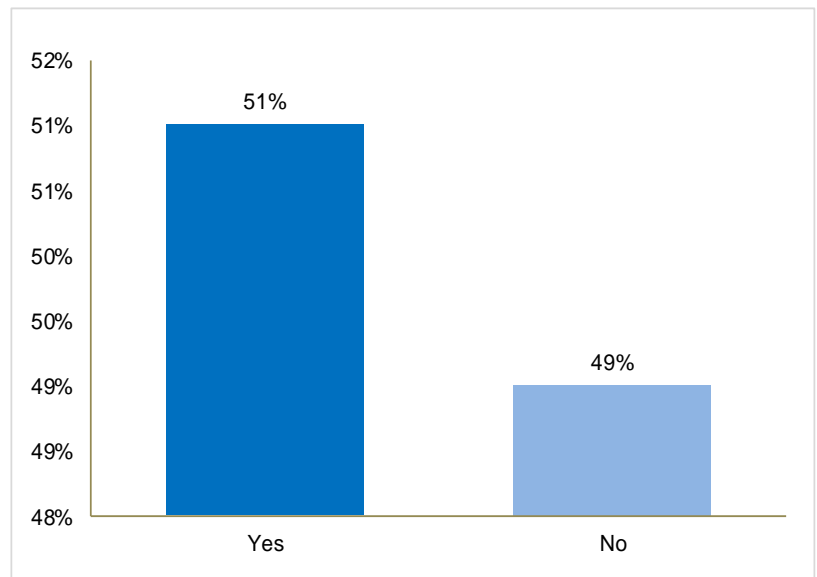
29- Have you ever experienced social anxiety when you were negatively treated or made fun of on social media platforms?

Category	No. of Responses	%age
Often	40	73%
Sometimes	10	18%
Never	5	9%
Total	55	100%



30- Have you ever tried to quit social media? If so, why do you feel that way and how was that experience?

Category	No. of Responses	%age
Yes	42	51%
No	41	49%
Total	83	100%



Category	No. of Responses	%age
Disturbs work/ Education routine	21	25%
Time and money wastage	13	16%
Less Sleep	12	14%
Pressure to respond	12	14%
Comparisons with others	10	12%
Feel depressed	8	10%
Cut-off from family	7	8%
Total	83	100%

