The International Journal of INDIAN PSYCHOLOGY

Research Paper

Psychological aspects of lockdown: a study done during the lockdown imposed due to COVID-19

Ms. Shruti Chakravarty[1], Ms. Poulomi Ghorai[2], Ms. Shankhabela Mukherjee[3]*

ABSTRACT

Coronavirus disease (COVID-19) is an infectious disease caused by a newly discovered virus, SARS-CoV-2 which affected the world starting in China in December 2019. Due to its highly contagious nature, the Indian government imposed a nation-wide lockdown effective from 23rd March 2020 12AM till the 31st of May, while many educational and other institutions had been closed down since the 15th of March itself. Such is the situation in most countries all over the world as well. People being forced to live under lockdown to protect their physical well-being, as a consequence, was predicted to have a psychological impact on them. Thus, the aim of this paper was to measure and assess the psychological aspects of living under lockdown. The study was done during the period of complete lockdown imposed by the government itself. In this descriptive study, the levels of depression, anxiety and loneliness were measured in the participants, i.e. adults above 18 years of age residing in India during the imposition of the lockdown, using an online survey, through Beck's Depression Inventory, State-Trait Anxiety Inventory and UCLA Inventory of Loneliness, respectively. Anxiety, loneliness as well as depressive symptoms were reported most commonly by females between the age of 18 to 25. Use of social media was seen to raise the amount of depression and loneliness, while being married and living with a greater number of people during the lockdown period substantially reduced its negative psychological effects.

Keywords: COVID-19, Pandemic, Lockdown, Psychological impact, Mental health

The COVID-19 is an infectious disease caused by a newly discovered virus, SARS-CoV-2. This is transmitted primarily by the droplets of saliva or the discharge from the nose of an infected person when he/she sneezes or coughs in close proximity to an uninfected individual. No specific vaccines or treatments have been developed for this disease yet (World Health Organization, 2020).

The World Health Organization (2011) defines a pandemic as "an epidemic occurring worldwide, or over a very wide area, crossing international boundaries and usually affecting a large number of people."

[1]Department of Psychology, Loreto College, Kolkata, India
[2]Department of Psychology, Loreto College, Kolkata, India
[3]Department of Psychology, Loreto College, Kolkata, India
*Responding Author

COVID-19 - A Timeline

The first case of COVID-19 reportedly appeared in mid-November of 2019. Although the Chinese government was still attributing the hospitalizations to a peculiar form of pneumonia, a large cluster of cases was reported on 31st December in Wuhan. Throughout January and February, the outbreak began spreading around the world with its epicenter firmly in Europe and the United States. In India, the first COVID-19 case was confirmed in Kerala's Thrissur district after a student who had returned home for a vacation from Wuhan University in China, tested positive, on February 20th. The World Health Organization named the novel coronavirus disease "COVID-19" on February 11th. On March 11, the World Health Organization declared coronavirus a 'pandemic'. Subsequently, as the number of positive cases kept increasing across the country such as in Kerala, Delhi and Hyderabad, the state governments of Kerala, Karnataka, Chhattisgarh and Punjab took necessary action to contain the spread of the disease. However, it was not enough. Consequently, on March 14, after three more people tested positive in Kerala and the state total number rose to 22, the central government declared COVID-19 a notified disaster. India reported its second death from coronavirus in the capital, Delhi. On March 16th, the Union government ordered all institutions, shopping malls, theatres, gyms to remain closed until April 3rd. West Bengal reported its first case after a person who had returned from the UK tested positive, on March 17th. On March 20th, one more person tested positive in Kolkata. On March 22nd, as the number of coronavirus infected people in the country crossed 324, millions of Indians observed a Janta curfew on Sunday – heeding to the advice of the honorable Prime Minister. He proposed the curfew as part of social distancing to check the spread of the novel coronavirus. On March 24th, the government announced a 21-day lockdown in the country with the aim of containing the spread of the novel coronavirus. The Prime Minister asserted that social distancing was the only way out for the country. By then, however, the disease had already taken the lives of 10 citizens and infected 509. All transport services – road, rail and air, were to remain suspended during the lockdown. Centre also made an allocation of Rs 15,000 crores to strengthen health infrastructure in order to contain COVID-19. On April 14th, the government extended nationwide lockdown till 3 May, with a conditional relaxation from 20 April for the areas that had been able to contain the spread, which was further extended till 31st May, after which step-by-step relaxations were provided in various phases of 'unlocking'. However, by then India had ranked as the country with 2nd highest number of positive reported cases (Times Now, 2020).

What is meant by 'lockdown'?

According to the Business Standard (2020), "A lockdown is an emergency protocol that prevents people from leaving a given area". A full lockdown means one must stay where he/she is and not exit or enter a building or the given area for the stipulated period of time. In this case, 1.3 billion citizens of India were ordered by the government to stay at home under complete lockdown, unless inevitable, as a security measure to combat the rapid spread of the highly contagious and fatal virus. This scenario allowed for essential supplies and grocery stores, pharmacies and banks to be open for the public. All non-essential activities remained shut for the entire period (Business Standard, 2020).

Differentiating Lockdown from Quarantine, Curfew and Section 144

According to Rothstein (2003) "Quarantine refers to the separation and restriction of movement of people who have potentially been exposed to a contagious disease, so reducing the risk of them infecting others."

According to the Business Standard (2020), "Section 144 of the Indian Penal Code states that a gathering of four or more people is prohibited in the area concerned. If a gathering of four or more people is found, every member of the group can be charged for engaging in a riot." It is imposed in an event of emergency that has the potential to cause trouble or damage to human life or property (Business Standard, 2020).

On the other hand, The Business Standard (2020) defines a Curfew as "An order specifying a time during which certain regulations apply. Typically, it refers to the time when individuals are required to return to and stay in their homes."

Scope of the Study

According to the World Health Organization (1946), "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". In fact, the WHO (2018) also talks about the importance of mental health and what constitutes it, "Mental health is a state of well-being in which an individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and is able to make a contribution to his or her community." It is hence evident from the definition that both physical as well as mental states contribute to the well-being of an individual, and lockdown compromises on one aspect in order to safeguard the other. Thus, it is essential to weigh the health and safety benefits of imposing lockdown against the possible negative psychological impact it has on people.

Gatehouse (2003), an expert in risk perception, identified a number of reasons as to why people may feel more scared and anxious about pandemics, such as the COVID-19 (Gruman, Schneider & Coutts, 2017, p. 211). For example, In April 2009, a new influenza strain that came to be known as H1N1 (or "swine flu") emerged and there was widespread concern that this would lead to a worldwide pandemic. Gilmour & Hofmann (2010) reported that the World Health Organization (WHO) issued its highest-level alert about an H1N1 pandemic, and in North America, public health officials urged all citizens to get vaccinated against the disease. By the time the flu season arrived, there were widespread public health campaigns telling people to stay home when they had a fever, demonstrating proper hand-washing technique, and suggesting that people refrain from casual hugs and handshakes with acquaintances (Gruman, Schneider & Coutts, 2017, p. 211). However, the fact remained that while H1N1 was estimated to cause more than 18,000 deaths worldwide, it actually represented a lower rate of deaths than is typically caused by regular seasonal influenza (as cited in Schneider et al., 2017, p. 211). There are several reasons why a pandemic causes such severe stress and other psychological reactions among the general public. One factor is novelty, i.e. new diseases are perceived to be scarier than those which are already familiar. Another factor is the degree to which it is perceived to be under control. Yet another factor is the severity of the outcome of the disease and finally, the role of media and other sources to well-publicize major world events (as cited in Schneider et al., 2017, p. 211). With COVID-19 adhering to all of the criteria mentioned above, i.e. it emerging suddenly, without any known cure yet, being not only dangerous and highly contagious but also fatal and its wide and dramatic coverage across all platforms, only lead to building up of worry, fear, tension, hopelessness and helplessness within everyone. Finally, the uncertainty regarding the outbreak of the pandemic, for example unanswered questions such as when and how it will end and at what cost and its possible long-term impact further contribute to negative psychological reactions among the general population. Gilbert (2004) calls the human mind an "anticipation machine" and writes that "making future" is the most important thing it does. This is because the human mind has the ability to predict what

impact an event in the future may have upon him or her based on his or her previous life experiences. This is directly related to certainty, and uncertainty thus diminishes one's efficiency to prepare for the future, contributing to development of anxiety (Grupe & Nitschke, 2013).

Variables Used in This Study

The variables chosen for this study were anxiety, depression and loneliness. Anxiety and depression were gathered to be two of the most common immediate as well as long-term psychological effects on people under lockdown due to a pandemic, upon reviewing of literature from accessible researches all over the world and across time periods. They were also variables with reliable, valid and accessible questionnaires to measure them within this short span of time. They also make for criteria and symptoms which could later in life lead to psychological disorders in the people experiencing them. As for loneliness, it is the most obvious psychological impact of lockdown for most people. However, this may depend on several factors which are further analyzed in the study.

Loneliness, And How It Differs from Social Isolation

Bennet (1980) defined social isolation as "an objective state of deprivation of social contact and content." Peplau and Perlman (1986) suggest that it is not social isolation but loneliness that occurs when an individual perceives his or her social relationships as not containing the desired quantity or quality of social contacts. Hoeffer (1987) found that the perception of relative social isolation was more predictive of loneliness than actual isolation.

Nonetheless, loneliness does relate to social isolation. In fact, loneliness is the most common effect of social isolation (Dela Cruz,1986; Hoeffer, 1987; Mullins and Dugan 1990; Ryans and Patterson, 1987).

Weiss (1973) concludes that "loneliness is a condition that is widely distributed and severely distressing". He hypothesized that two distinct types of loneliness exist. "*Emotional loneliness* results from the lack of a close, intimate attachment to another person. Individuals who have recently been divorced, widowed, or ended a relationship may experience this form of loneliness." On the other hand, "*Social loneliness* results from the lack of a network of social relationships in which the person is part of a group of friends who share common interests and activities. Individuals who have recently moved to a new social environment are likely to experience this form of loneliness."

Anxiety

Barlow (1998) and Barlow et al. (1996) define anxiety as "a state of helplessness, because of a perceived inability to predict, control, or obtain desired results or outcomes in certain upcoming personally salient situations or contexts." Accompanying this negative affective state is a strong physiological component which causes the activation of distinct brain circuits such as the corticotropin releasing factor system and Gray's behavioral inhibition system (Chorpita & Barlow, 1998; Gray & McNaughton, 1996). Hypervigilance may be yet another behavioral outcome of an attempt to prepare to counteract helplessness (Barlow, 2000).

Anxiety was defined by Freud as ''something felt,'' or "an emotional state that included feelings of apprehension, tension, nervousness, and worry accompanied by physiological arousal." Cattell (1966) emphasized the importance of distinguishing between anxiety as a

transient emotional state and as a personality trait while measuring it (as cited in Spielberger & Sydeman, 1994).

According to the Diagnostic and statistical manual of mental disorders-5, anxiety disorders are the most common form of emotional disorder and can affect anyone at any age. However, women are more likely than men to be diagnosed with an anxiety disorder. (American Psychiatric Association, 2013).

Depression

Depression has been used to describe momentary and mild variations of normal and necessary affect states (Bibring, 1953; Freud, 1917,1957) as well as "a character style in which there is an unusual susceptibility to dysphoric feelings, a vulnerability to feelings of loss and disappointment, intense need for contact and support, and a proclivity to assume blame and responsibility and to feel guilty" (Blatt, 1974, p. 109)

Research conducted by Brown and Harris (1978), Lloyd (1980) has shown that the occurrence of negative life events is involved in the development of depression. It is characterized by a number of symptoms such as :- "(a) retarded initiation of voluntary responses (motivational symptom), and (b) sad affect (emotional symptom). The motivational symptom derives from the helplessness expectancy component of hopelessness. The incentive for emitting active instrumental responses decreases." (Alloy, 1982; Bolles, 1972). Other symptoms include lack of energy, apathy, and psychomotor retardation, sleep disturbances and a decrease in the motivation to initiate voluntary responses (Beck, 1967).

According to the Diagnostic and statistical manual of mental disorders-5, Depression affects an estimated one in 15 adults (6.7%) in any given year. One in six people (16.6%) experience depression at some time in their life. Although people from all age groups are susceptible to depression, it has been seen to first develop between late adolescence to early adulthood. Women are more likely than men to experience depression. Some studies also show that one-third of women will experience a major depressive episode in their lifetime (American Psychiatric Association, 2013). According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013), the common symptoms of depression include loss of motivation, sadness, anhedonia, low self-esteem, somatic complaints, and difficulty in concentrating.

Studies on COVID-19

On a study conducted on the psychological impact of the COVID-19 epidemic on college students in China by Cao et al. (2020), the researchers analyzed the results of the Generalized Anxiety Disorder-7 (GAD-7) form filled up by 7,163 students and found out that 0.9% of the respondents were experiencing severe anxiety, 2.7% moderate anxiety, and 21.3% mild anxiety. Qiu et al. (2020) carried out a nationwide survey of psychological distress among Chinese people during the COVID-19 using a self-report questionnaire which was designed to survey psychological distress during the epidemic, including the frequency of anxiety, depression, specific phobias, cognitive change, avoidance, compulsive behaviors, physical symptoms and loss of social functioning in the past week. The results showed that out of the 52,730 valid responses from 36 provinces, almost 35% of the respondents experienced psychological distress (29.29% of the respondents' scores were between 28 and 51, i.e., mild to moderate stress and 5.14% of the respondents' scores were ≥52). A survey was conducted in China during the initial outbreak of COVID-19 by Wang et

al. (2019). This study found that 53.8% of respondents rated the psychological impact of the pandemic as moderate or severe; 16.5% reported moderate to severe depressive symptoms; 28.8% reported moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels. According to a longitudinal mediation analysis conducted by Santini et al., (2020), overall, social disconnectedness predicted higher subsequent perceived isolation, which in turn predicted higher depression symptoms and anxiety symptoms.

Studies of Indian origin

In India, Vidyadhara et al. (2020) examined the mental health of pharmacy students in South-India during COVID-19 pandemic lockdown and recorded that 26% of respondents reported severe to extremely severe depressive symptoms; 31.5 % of respondents reported severe to extremely severe anxiety symptoms, and 19% reported severe to extremely severe stress levels. Chakraborty and Chatterjee (2020) conducted research on the effect of the COVID-19 pandemic on the psychological states on inhabitants of West Bengal. They found that 71.8% and 24.7% of respondents felt more worried and depressed, respectively. About half the participants were anxious about contracting the virus.

Studies Conducted on Psychological Impact of Imposing Lockdown

Pancani et al. (2020) concluded from their study on lockdown and loneliness that the longer the lockdown period, the higher the feeling of loneliness reported by subjects. Röhr et al. (2020) reviewed 13 identified studies on the psychosocial impact of lockdown during the Coronavirus outbreak and concluded that lockdown measures were consistently associated with negative psychosocial outcomes, including depressive symptoms, anxiety, anger, stress, post-traumatic stress, social isolation, loneliness and stigmatization.

Brooks et al. (2020) conducted a rapid review of the pre-existing evidence on the psychological impact of quarantining a city and found wide-ranging effects such as stress, confusion, anger, depression and anxiety. Common stressors included longer quarantine duration, infection fears, frustration, inadequate information, among others.

Researches Conducted on World Mental Health During Previous Pandemics

Hawryluck, Gold and Robinson (2004) examined the psychological effects of lockdown on persons in Toronto, Canada. 129 persons who had to quarantine during the pandemic reported high levels of distress. Symptoms of post-traumatic stress disorder (PTSD) and depression were observed in 28.9% and 31.2% of respondents, respectively. According to research conducted by Wei et al. (2004), health professionals who worked in SARS units and hospitals during the SARS outbreak also reported depression, anxiety, fear, and frustration.

According to the results of research conducted by Liu et al. (2003), in the early phase of the SARS outbreak, a range of psychological morbidities, including persistent depression, anxiety, panic attacks, psychomotor excitement, psychotic symptoms, delirium, and even suicidality, were reported. Maunder et al. (2003) reported the results of a study in Toronto, Canada concerning the establishment of a SARS isolation unit. Patients with SARS reported fear, loneliness, boredom, and anger and they worried about the effects of lockdown and contagion on family members and friends.

It has been found that overall, crises result in diminished mental health (Bolin & Kurtz, 2018; Bonanno, Galea, Bucciarelli, & Vlahov, 2007,2010; Jetten et al., 2011). Considerably large portion of previous literature reveals that community-wide disasters (e.g.: natural

disasters, wars, fires, terrorist attacks) results in immediate risk to people's mental and physical health and social relationships (Bonanno, Brewin, Kaniasty, & Greca, 2010; Norris, Friedman, & Watson, 2002).

Purpose of The Present Research

Several researches have been conducted on the psychological impact of epidemics and pandemics and lockdown. However, many of them have been conducted in a retrospective manner, i.e. for example, research on long-term psychological effects such as signs of Post-Traumatic Stress Disorder after a year or few of the pandemic. It must be noted here that researches may be of increased value and perhaps help people if conducted during the ongoing lockdown period to raise people's self-awareness and help them cope better. Moreover, more researches have relied on secondary data and literature review than collection of fresh primary data and its analysis, while the latter can actually help to broaden the scope of the topic and also confirm the previously found results better with respect to the current specific situational and regional contexts. The emergence of the novel Coronavirus is an extremely recent event which has taken the whole world by shock and panic and little has been researched upon it yet, especially in India. Moreover, not many studies on the topic could be found which had used loneliness as a variable, which seems to be a very crucial consequence of imposed lockdown, especially for a long period of time. Another factor is that many researches have been conducted on frontline workers and healthcare staff most vulnerable to contracting the disease but this, as a result, reduced the importance of its impact on the mental health of the vast general population. Keeping the following facts in mind, this research paper may prove to be relevant and useful.

METHODOLOGY

Snowball Sampling technique was used as it remained the only option given that random sampling was not possible in the scenario because the aim of the research required the data to be gathered while the lockdown period was on, which was a short and limited span of time. Moreover, the entire process of data collection was conducted online as it remained the only option given the current scenario. It must also be noted that this is a descriptive study, i.e. it aims to accurately and systematically describe the data obtained from the sample in hand, but does not try to establish a cause-effect relationship or manipulate variables. It only uses various quantitative and qualitative methods to simply measure and observe them. This is because the data predating the lockdown was not available due to the sudden and unexpected arrival of the unfortunate situation and the data that was collected through this research thus cannot be compared to a baseline data. Hence the present study aimed to measure the levels of a few psychological variables present within the participants while being under lockdown, namely, depression, anxiety and loneliness. Secondary aims included finding out factors exposing certain people to these variables as well as relating the presence of one variable to another and suggesting immediate coping mechanisms to protect and preserve one's mental health during these difficult times.

The sample size was 350. The desired characteristics of the sample were simply that all participants should be adults, i.e. above 18 years of age. All participants also had to have access to internet facilities in order to fill up the online survey forms. Since all inventories were in English, another requirement was that all participants be well-versed with the language to understand all items and respond effectively. Finally, all participants were to be residing in India at the time of the lockdown when the form was distributed. This is because the lockdown had been announced at a national level by the Prime Minister of India on 23rd March, 2020. Thus, different countries varied in their stage, spread and severity of the

disease and hence their precautionary and legal measures as well as dates and extension of the lockdown period. The Google form was sent to the participants directly, who were further requested to forward the forms to at least 2-3 persons they knew.

Instruments
An information schedule was sent out as the 1st section of the Google Form which included questions about the basic details of the participants such as name, age, gender, residential city which were used later to analyze the data. It included both close ended questions such as number of days spent under lockdown, number of members living with them during the lockdown, sources of information about the pandemic etc. as well as open-ended questions such as why the participants thought the lockdown was necessary.

State-Trait Anxiety Inventory (STAI)
The State-Trait Anxiety Inventory or STAI (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), is a psychological inventory based on a 4-point Likert scale and consisting of 40 questions on a self-report basis. The STAI measures two types of anxiety – state anxiety, or anxiety about an event or the current level of anxiety existing within the individual, and trait anxiety, or anxiety level as a personal characteristic. The form used, i.e. the one measuring State Anxiety had 20 items. Total score obtained is directly proportional to the level of anxiety, i.e., lower scores indicate less anxiety than higher scores. Both scales have "anxiety-absent" and "anxiety-present" questions. Anxiety absent questions represent the absence of anxiety in a statement like, "I feel secure." and are scored in reverse. Anxiety present questions represent the presence of anxiety in a statement like "I feel worried." There are 19 reverse items among the 40 total items in both the forms. Each measure has a different rating scale. The 4-point scale for S-anxiety is as follows: 1.) not at all, 2.) somewhat, 3.) moderately so, 4.) very much so (Spielberger, Charles; Sydeman, Sumner, 1994). Only Form X1, i.e., the one measuring State Anxiety, consisting of 20 items to be answered based on the time spent under lockdown was sent as part of the questionnaire. The scoring manual by Spielberger (2010) was used to interpret the score of each participant in the study. Thus, the norm tables for adult males and adult females were used.

Beck Depression Inventory (BDI-II)
The Beck Depression Inventory or BDI-II (Beck, Steer and Garbin, 1988) is a 21-item, self-rated scale that evaluates key symptoms of depression including negative affect, hopelessness, sense of failure, guilt, self-blame, suicidal ideation, irritability, social withdrawal, confusion, decreased self-esteem, difficulty in concentrating and somatic symptoms like change in appetite, weight, sleep disturbances and loss of libido (Beck & Steer, 1984). It is a multiple-choice inventory employing Guttman scaling designed to assess the level of depression in adults. Each item is scored 0 to 3 points for a total score range of 0 to 63. The full-scale BDI requires approximately 5–10 minutes to administer (Edelstein & Ciliberti, 2010). The scoring categories for the Beck Depression Inventory-II given by Beck at el. (1996) are as follows: - Total score ranging from 1 - 10 = These ups and downs are considered normal; 11 - 16 = Mild mood disturbance; 17 - 20 = Borderline clinical depression; 21 - 30 = Moderate depression; 31 - 40 = Severe depression and above 40 (up to 63) = Extreme depression. As there were no strict "low", "average" and "high" score ranges provided by the makers of the scale, for easy of the study, all participants who scored above 17, i.e., borderline clinical depression and above, were considered to have scored high on the scale, especially given the fact that most of the respondents were non-clinical or 'normal' people.

UCLA Loneliness Scale
The UCLA Loneliness Scale (Russell, Peplau and Ferguson, 1978) is a commonly used measure of loneliness. Its name has been derived from it having been developed at the University of California, Los Angeles (UCLA). Russell, Peplau, and Ferguson first published it in 1978, and it was revised in 1980 and 1996 (Cutrona, Carolyn, 2013). The UCLA Loneliness Scale is cited to "have been used in an estimated 80% of all empirical studies on loneliness" (Goossens et al., 2014). It is a 20-item scale designed to measure one's subjective feelings of loneliness as well as feelings of social isolation. Participants rate each item as either O ("I often feel this way"), S ("I sometimes feel this way"), R ("I rarely feel this way"), N ("I never feel this way"). All "O"s (often) are scored as 3, all "S"s (sometimes) are scored as 2, all "R"s (rarely) are scored as 1 and all "N"s (never) are scored as 0 and higher scores are indicative of higher amount of feeling of loneliness present in an individual (Russell, Peplau and Ferguson, 1978). Following this scoring method, as the total score could range from 0 to 80, a score of 40 was taken to be the midpoint and thus all scores above it were taken to be indicative of higher levels of loneliness for ease of calculation in this study.

Procedure
The online form was sent out on 14th April 2020, when participants had had sufficient exposure to the experience of being under lockdown and had also received enough time to respond to the Google form. Responses were accepted till 6th May 2020, when the number of responses reached the target sample size, i.e., 350, and the numbers of responses coming in everyday had also slowed down. The instruction on each form asked the participant to choose the option from the ones given below, the most appropriate one for them, keeping in mind their thoughts, feelings and behavior from the beginning of the lockdown period (past month) till then. They were asked to submit one section and move on to the next till all 4 sections have been filled up by them. As all questions were marked as mandatory on the Google form, no incomplete forms were submitted.

Once adequate responses were received after about 20 days, the data obtained was divided into categories based on sex, age groups, number of people the individual was living with during the lockdown, primary source(s) of information and whether or not the respondents were working or attending classes from home, so that the data could become more coherent and meaningful. Accordingly, it was tabulated. Interpretations and conclusions were drawn.

RESULTS
From the total of 350 responses received, 65% were females while 35% were males. All respondents had the minimum educational qualification of high-school graduates and 99.7% of the total respondents felt that the lockdown was necessary given the circumstance. A majority of the respondent group, i.e., 71% belonged to the age group of 20-25, 14% to the 26 to 40 age group, 4% to 41 to 50 age group, 7% to the 50 to 60 age group and 3% above the age of 60. 70.7% of the respondents were attending classes or working from home when they filled the form and the most prevalent source of infection control measures was social media, as ticked by 92.9% of respondents; while for 46.7% of respondents, it was public health authorities, healthcare providers for 24.2% respondents, word-of-mouth for 19.7% and for 17.7%, it was hospital websites. Finally, to the question requiring the respondents to mark the number of people living with them in lockdown (including family and staff), 3% reported living alone, 19% reported living with less than 3 members, 44% reported living with less than 5 but more than 3 members, while 3% of respondents marked the option of living with 5 people and 21% reported living with more than 5 members.

According to the results obtained in this study, 18% of the total sample surveyed showed depressive symptoms including feeling sad, discouraged about the future, change in appetite and sleep pattern, losing interest in sex, feeling fatigued and lowered self-esteem during the lockdown period as reported through the Beck Depression Inventory by the respondents. As many as 33.7% of the respondents reported feeling highly anxious, i.e., their present level of anxiety according to the State Anxiety Inventory was above the average normative range. Moreover, 18% of the respondents reported feeling lonely since the imposition of the home-lockdown.

As discussed in the Introduction and Review of Literature sections of this paper, the lockdown affecting the mental health of such a large number of people is not surprising. 21.34% of the total females who participated in the study reported feeling depressed, while the corresponding number for males was only 11.66%. 37.4% of women reported feeling anxious during the lockdown while the same was reported by 26.6% of male respondents. 20.87% of the total female respondents reported feeling lonely while the same was reported by only 12.5% of male respondents.

Among the various age groups, 22.1% of the respondents falling in the age group of 18-25 years reported feeling depressed, making it the most mentally troubled age group among the others selected for this study. The subsequent percentages for the age group 26-40 was 14.8%, 7.69% for ages from 41 to 50 and 0% for all respondents above the age of 50. It is the same age group that also reported maximum symptoms of anxiety and loneliness, i.e., between 18 to 25 years of age. 37.8% of the respondents in this age group reported feeling anxious, nervous, apprehensive and fearful, while the subsequent percentages for the other age groups were 29.7% for the age group of 26 to 40, 30.7% for the age group of 41 to 50, 19.23% for the age group of 51 to 60 and 6.67% for respondents above the age of 60. 21.3% of the respondents falling in the age category of 18 to 25 reported feeling lonely at home. 14.89% of the respondents between ages 26 to 40 reported loneliness, while 11.54% of respondents falling in the age group of 51 to 60 reported feeling lonely and 0% for both age ranges 41 to 50 and above 60 years old.

Unmarried individuals who participated in the study reported four times higher depression than that of married participants, possessing almost double the loneliness level of that reported by unmarried participants and 16% higher anxiety than them. While the unmarried group of respondents reported 21.22% of depressive symptoms, 14% loneliness and 36.7% anxiety, the respective numbers for the married segment were only 5.56%, 8.33% and 20.83% respectively.

7 respondents reported living alone during this lockdown period and they reported as high as 42.86% reported feeling depressed, 14.29% reported loneliness and a majority of 57.14% reported feelings of anxiety. Among those living with less than 3 members, which constituted 19% of the respondents, 24.24% reported depression, 19.7% reported loneliness and 36.36% reported anxiety. On the other hand, among respondents living with 5 or more members, 14.28% reported depression, 16.81% reported loneliness while 32.77% reported anxiety. These figures make the marked downward trend of negative psychological impact with increasing numbers of people around rather clear.

Yet another noticeable feature of the results was the fact that the respondents who reported media as one of their primary sources of information about the pandemic updates had much higher levels of both depression as well as loneliness. These respondents made up as high as

325 of the total 350, and out of them, 18.77% were seen to be suffering from depression, 18.46% reported high loneliness and 33.85% were highly anxious, while the subsequent numbers for the remaining 25 respondents who did not bank upon media as a major source of information, were only 8%, 12% and 32% for depression, loneliness and anxiety, respectively.

There was a slight difference between the depression, anxiety and loneliness levels of those working and not working from home. In the former group, 18.29% of respondents reported feeling depressed, 18.7% reported loneliness and 34.15% felt anxious. On the other hand, among those who were not working from home, 17.3% of respondents felt depressed, 16.35% felt lonely and 32.69% felt anxious. Difference based gender was also observed in the respondents who were working from home or attending classes during the lockdown and reported high depression, anxiety or loneliness. While 20.23% of the total number of females working from home in this study reported feeling depressed, the same was true for only 13.7% of males. These figures in case of loneliness were 20.23% and 15%, respectively, for men and women, and 35.26% for females and 31.5% of males in case of anxiety.

DISCUSSION

The forms sent out to the participants aimed to measure their levels of depression, anxiety and loneliness during the past month, i.e., since the beginning of the lockdown period and relating the results obtained with variables such as number of people under lockdown with, work from home situation, age, sex and other relevant factors.

The World Health Organization (2020) expressed its concern over the pandemic's mental health and psycho-social consequences. It speculates that new measures such as self-isolation and lockdown have affected people's usual daily activities and livelihoods of people that may lead to an increase in loneliness, anxiety, depression, insomnia, harmful alcohol, and drug use, and self-harm or suicidal behavior.

According to Rubin and Weasely (2020), anxiety is an almost inevitable consequence of a pandemic. It usually begins with the first reported death and only increases with the rising number of cases. It gets doubled when a mass lockdown is imposed due to a feeling of entrapment and helplessness. Other reasons are the belief held by the people that it showcases that the situation is out of hand of the government and is predicted to get worse. Rumors, especially via social media, only add to this anxiety (Rubin & Wessely, 2020). In the present study too, anxiety was the most commonly reported consequence of the imposition of the lockdown. While loneliness and depression are slightly more extreme and may take some time to develop, anxiety, fear and stress seem to be almost inevitable given the present circumstance. In this research, it was seen that 18% of the total respondents felt depressed, 18% felt lonely and 33.7% reported feelings of anxiety. Another reason for increase in psychological anxiety among citizens may be due to the subsequent rise in health anxiety. "Heath anxiety occurs when perceived bodily sensations or changes, including but not limited to those related to infectious diseases (e.g., fever, coughing, aching muscles), are interpreted as symptoms of being ill," as defined by Asmundson & Taylor (2020). Although some amount of health anxiety is ever-present in all individuals, when it reaches extremely high levels, it may have detrimental effects on one's mental health (Asmundson & Taylor, 2020). It was found by Kosic et al. (2020) that the COVID-19 pandemic has resulted in substantial increase in the health anxiety of people and more-than-required exposure and information from social media has only aggravated this process (Asmundson et al., 2010).

Other researches on the effects of the pandemic as well as quarantine on the mental health of individuals across the globe show a stark increase in the amount of loneliness (Killgore et al., 2020) as well as depression (Fitzapatrick, 2020). This has been found by many researches on previous pandemics as well, as cited earlier in this study. An online poll by the American Psychiatric Association (2020) found that 38% of Americans were suffering from common psychological symptoms such as that of depression and anxiety with regard to the Coronavirus. Research conducted by Boston University School of Public Health (2020) also showed the visible difference as the rate of occurrence of depression rose rapidly among U.S. citizens from 8.5% before the pandemic to 27.8% in the month of April, i.e., during the peak of the spread of the disease.

Differences Based on Gender

One of the most common findings of research on the prevalence of and susceptibility to depression is the difference based on biological sex. According to the Diagnostic and Statistical Manual of Mental Disorders-5 (American Psychiatric Association, 2013), the prevalence of Major Depressive Disorder is 1.5 to 3-fold higher in females than in males. Most researches on the disorder have supported this finding (Canino et al., 1987; Bland et al., 1988; Faravelli et al, 1990; Kovacs, 1990; Lee et al., 1990; Robins et al., 1991; Wittchen et al., 1992; Kessler et al., 1993; Weissman et al., 1993). Similar results have been obtained in this study. As can be seen from Table 1, 21.34% of the total females who participated in the study reported feeling depressed, while the corresponding number for males was only 11.66%. Several psychological explanations have been provided for women being more prone to depression, including personality characteristics, learned helplessness, more emotion-focused coping styles and dependence (Nolen-Hoeksema & Girgus, 1994) as well as unfavorable gender roles and overvaluing love relationships (Miller, 1976; Scarf, 1980) and more social and material disadvantages during their life course than men (Blofield & Martı́nez Franzoni, 2015). Several other viewpoints based on biological differences to explain similar findings across various cultures (Seedat et al., 2009) including fluctuating hormonal levels and mood (Ahokas et al., 2001; Parker and Brotchie, 2004; Solomon and Herman, 2009) as well as more vulnerability genetically at birth (Courchesne et al., 2000; Lampl and Jeanty, 2003; Patton et al., 2004; Lenroot et al., 2007; Ingalhalikar et al., 2014). Women are at least twice as likely as men to suffer from depression and anxiety disorders, including unipolar depression, panic disorder, post-traumatic stress disorder, generalized anxiety disorder, social anxiety disorder, and phobias (Regier et al., 1993; Kessler et al., 1994). Symptoms of anxiety and depression commonly co-occur, and high rates of comorbidity among anxiety and depressive disorders have been found (Maser & Cloninger, 1990). Women have twice the lifetime rates of most anxiety disorders (Weissman et al., 1994, 1996; Gater et al., 1998). Moreover, the US National Institute of Mental Health reports that the lifetime prevalence of an anxiety disorder is 60% higher in women than in men. According to Table 1 in this study, it can be seen that out of the total number of female respondents, 37.4% of women reported feeling anxious during the lockdown while the same was reported by 26.6% of male respondents.

Foxall and Ekberg (1989) reported that women score higher on loneliness scales than men among adults. Loneliness has been reported to be positively associated with depression (Prince et al., 1997) and as mentioned above, women are more prone to depression than men. According to a study conducted on college students, women reported higher scores on the Loneliness Scale than men. This is consistent with the present research findings as 20.87% of the total female respondents reported feeling lonely while the same was reported by only 12.5% of male respondents (Refer to Table 1).

Table 1 Depression, Anxiety and Loneliness levels based on gender.

Variables	Gender	
	Female	**Male**
Depression		
Normal ups and downs	60.43%	76.66%
Mild mood disturbances	19.13%	11.66%
Borderline clinical depression	5.21%	5.83%
Moderate depression	9.56%	5%
Severe depression	3.91%	0.83%
Extreme depression	1.73%	0%
Anxiety		
High	37.39%	26.66%
Average	43.91%	40.83%
Low	18.69%	32.5%
Loneliness		
High	20.86%	12.5%
Average	3.04%	0%
Low	76.08%	87.5%

Several explanations have been provided for these sex differences in susceptibility to loneliness. Firstly, Cutrona (1982) and Jones et al. (1981), offered the possible reason that self-esteem is closely related to loneliness and women have been found to score lower in self-esteem (Allgood-Merten & Stockard, 1991; Feather, 1991; Fertman & Chubb, 1992). A second possible cause was put forward by Hammen and Padesky (1977), that it is culturally more acceptable for women to express their difficulties than men, which is why when faced with distress, men reported more somatic symptoms while women reported more affective symptoms. Gove and Tudor (1973) have argued that women's roles are simply more frustrating than men, making them more prone to mental illnesses and emotional problems. Moreover, Beck and Young (1978) and Hammen and Peters (1977) also found that men were rejected and showed more intolerance for expressing depressive symptoms rather than women, i.e., due to social reasons, men are less likely to report feelings of loneliness and depression than women as the consequences are more severe for them.

Differences Based on Age

According to Table 2, among the various age groups, 22.1% of the respondents falling in the age group of 18-25 years reported feeling depressed. The subsequent percentages for the age group 26-40 was 14.8%, 7.69% for ages from 41 to 50 and 0% for all respondents above the age of 50. According to the Diagnostic and Statistical Manual of Mental Disorders-5 (American Psychiatric Association, 2013), the prevalence of Major Depressive Disorder is threefold in individuals within the age range of 18-29 than those above the age of 60. Yet, there is a commonly held belief that depression is higher in the elderly population, but this does not seem to be the case in this study. A study on the psychic and somatic symptoms of depression among young adults and the elderly conducted by Robert Zemore and Nancy Eames (1979) found evidence contrary to this popular notion. They found that while the elderly participants of their study reported more somatic symptoms such as sleep disturbances and the like than the younger participants, there was no difference in case of the cognitive and affective symptoms. In fact, the somatic differences in the experience of depressive symptoms such as reduced appetite, disturbed sleep and fatigue were not due to any other factor but simply the natural physiological process of ageing. Moreover, the young adults scored significantly higher on the self-accusation scale. Another possible reason for this significant disparity in the recorded results can be social in nature. The stigma

associated with mental health and the fear of being labelled 'depressed' is present much more strongly in the previous generations and usually seems to have improved over time, as visible in case of younger individuals reporting depression more often.

Anxiety has been found to be a significant independent predictor of new onset of depression (Friis, Wittchen, Pfitster & Lieb, 2002). In fact, there appears to be a very high comorbidity between anxiety and depressive symptoms (Stark & Laurent, 2001). Moreover, it has also been found that more than half the patients suffering from Major Depressive Disorder develop anxiety disorders at some point in their lives (Kessler et al., 1996).

 In this study as well, it is the same age group that has reported maximum symptoms of depression as well as anxiety and loneliness, i.e., between 18 to 25 years of age, as can be seen from Table 2. 37.8% of the respondents in this age group reported feeling anxious, nervous, apprehensive and fearful about the future, while the subsequent percentages for the other age groups are 29.7% for the age group of 26 to 40, 30.7% for the age group of 41 to 50, 19.23% for the age group of 51 to 60 and 6.67% for respondents above the age of 60. Individuals are most prone to loneliness during their youth (Teppers et al., 2014).

With time, people are getting more and more aware of mental health and paying more attention to it. Social media has a prominent role in spreading this awareness and usually, it is the younger population that is more aware of their thoughts and emotions and hence more likely to report the same. In the United States of America, a nation-wide survey showed that about 44% of young adults indulge in Problematic Social Media Use (PSMU) and this was strongly and independently associated with depressive symptoms (Shensa et al., 2017). In fact, the use of the internet has increased significantly during the lockdown period as everything from learning to working has shifted to a digital or online mode. Internet addiction has been found to be a predictor for stress, anxiety, depression and loneliness (Griffiths et al., 2016). Moreover, loneliness has been seen to predict internet addiction which further predicted depression according to regression analysis done by Kutlu and Demir (2016).

Life change events may also lead to a sense of loneliness in an individual (Brown, 1974) and the occurrence of the pandemic and imposition of the lockdown most definitely caused major changes in everybody's lifestyles. Correlations between depression and loneliness have been found to be ranging from between 0.4 to 0.6 in college students (Russell, Peplau & Cutrona, 1980; Russell, Peplau & Ferguson, 1978). The very act of 'social distancing' which is necessary to contain the spread of COVID-19 means one has to distance himself or herself from others. This physical distance against one's wish is highly likely to cause feelings of loneliness. Older people reported less loneliness compared to younger adults (M Luchetti, JH Lee, D Aschwanden, A Sesker, 2020). This was precisely the finding for this study as well. 21.3% of the respondents falling in the age category of 18 to 25 reported feeling lonely at home. While for many elderly people, the lockdown may have resulted in being able to spend more time with their children, for most young adults who spent most of their time outside working or learning, this may have been a huge change causing feelings of loneliness. 14.89% of the respondents between ages 26 to 40 reported loneliness, while 11.54% of respondents falling in the age group of 51 to 60 reported feeling lonely and 0% for both age ranges 41 to 50 and above 60 years old (Refer to Table 2).

Table 2 Depression, Anxiety and Loneliness levels across age groups.

Variables	Age Groups				
	18-25	26-40	41-50	51-60	Above 60
Depression					
Normal ups and downs	57.83%	80.85%	84.61%	92.30%	93.33%
Mild mood disturbance	20.48%	6.38%	7.69%	7.69%	6.67%
Borderline clinical depression	6.42%	4.25%	7.69%	0%	0%
Moderate depression	9.63%	8.51%	0%	0%	0%
Severe depression	4.01%	0%	0%	0%	0%
Extreme depression	1.60%	0%	0%	0%	0%
Anxiety					
High	7.63%	29.78%	30.76%	19.23%	6.67%
Average	44.57%	42.55%	46.15%	42.30%	13.33%
Low	19.67%	27.65%	23.67%	38.46%	80%
Loneliness					
High	21.28%	14.89%	0%	11.53%	0%
Average	2.81%	0%	0%	0%	0%
Low	75.90%	85.10%	100%	88.46%	100%

Marital Status

A striking feature obtained while analyzing the results of this study was the effect of marital status on the reported levels of depression, loneliness as well as anxiety, as can be seen in Table 3. Unmarried individuals who participated in the study reported four times higher depression than that of married participants, possessed almost double the loneliness level reported by single people and 16% higher anxiety than them. While the unmarried group of respondents reported 21.22% of depressive symptoms, 14% loneliness and 36.7% anxiety, the respective numbers for the married segment were only 5.56%, 8.33% and 20.83% respectively (Refer to Table 3).

Table 3 Depression, Anxiety and Loneliness levels based on marital status.

Variables	Marital Status	
	Married	Unmarried
Depression		
Normal ups and downs	88.73%	60.21%
Mild mood disturbances	7.04%	19%
Borderline clinical depression	2.81%	6.09%
Moderate depression	1.40%	9.67%
Severe depression	0%	3.58%
Extreme depression	0%	1.43%
Anxiety		
High	21.11%	36.91%
Average	35.21%	44.80%
Low	43.66%	18.27%
Loneliness		
High	8.45%	20.43%
Average	0%	2.50%
Low	91.54%	77.06%

This is in line with previous researches done on the association between marriage and depression. Compared to non-married persons, married persons have lower levels of depression, higher levels of happiness, lower rates of mortality, and lower rates of suicide (e.g. Glenn and Weaver 1979, 1988; Trovato 1987; de Jong-Gierveld and Tilburg 1989).

Many more researchers have found evidence that married individuals exhibit less numerous, less intense and less persistent depressive symptoms than unmarried individuals (Gutierrez-Lobos, Woelf & Scherer, 2000).

Several theories have been proposed to account for these differences due to marital status on duration and severity of depression. One of them states that marriage provides the partners with more social resources and social support (Menaghan & Lieberman, 1986). A secondary theory states that unmarried people are prone to greater number of stressors in life such as economic hardship and social isolation than their married counterparts (Turner, Wheaton & Lloyd, 1995). Further research showed that married people are also less reactive to stressors they encounter than unmarried ones, such as economic, house-work related or parental stress (Kessler & Essex, 1982). According to another possible explanation that has been advanced to explain these differences, individuals who are more resilient and resistant to depression by nature are more likely to marry than those who are not, causing a proportionate number of psychologically healthier individuals who are married. However, this theory has not been able to generate wide support (Horwitz & White, 1991). Hence, unmarried respondents in this study reported being as high as four-fold more depressed than married respondents.

One of the key advantages of marriage is the intimate relationship shared with the spouse in an atmosphere of utmost shared trust. Tornstam (1992) reported that most people report their spouses to be their key confidants, the one with whom they can fearlessly share their deepest secrets with. This, as a consequence, leads to less loneliness in married couples than single individuals (Jong-Gierveld, 1989). Although people can look for alternative confidants such as friends and coworkers, single people report significantly higher levels of loneliness compared to married ones (Jong-Gierveld, 1989). A national survey in Sweden showed that being unmarried was one of the four strongest predictors of loneliness (Tornstam, 1992) and the results were replicated in research conducted in the Netherlands (De Jong Gierveld & Raadschelders, 1982). Even in case of the elderly, aged 65 and above and married for long periods of time, there was established a direct relationship between being married and lesser feelings of loneliness (Creecy William & Wright, 1985). As expected, in this study too, single respondents were twice as lonely as married ones.

Loneliness has also been seen to be tied to psychological anxiety symptoms (Snodgrass, 1983). Gove et al. (1983) carried out an early-cross section study on the USA and recorded that marriage was the best predictor of happiness after controls for age, sex, childhood experiences, education and race were added. In fact, marriages are seen as central to the 'good life' and adding meaning to life and perceived to provide relatively more support and comfort compared to single life (Troll, Miller & Atchley, 1979). Another reason why married people tend to be psychologically better-off is economic in nature as when two people combine their salaries, it results in a higher standard of living for them. (Ross et al., 1990; Rogers 1995; Joung et al., 1997). Several evidences have been presented to show that emotional well-being, in general, rises after marriage and declines dramatically if it ends (Horwitz et al., 1996; Marks & Lambert, 1996). Being married also means having constant emotional support, thus reducing common psychological problems such as depression and anxiety (Ross et al., 1990; Brown, 2000). As a result, the absence of these factors automatically leads to not just higher depression and loneliness but also more anxiety in single men and women, as also reported in this study.

Number of People Living with During Lockdown

For a sample of 1,006 adults in Sweden, those living alone were lonelier than persons living with others (Mullins, Sheppard, & Andersson, 1991). This stands true in case of the present study as well. Results show that not only were the few respondents who lived alone more depressed, lonely as well as anxious than those living with others, but also that majority of them felt highly anxious about the pandemic and lockdown. 7 respondents reported living alone during this lockdown period, some of whom were students who had gone out of station to study or others who had been travelling but were stuck away from their family members indefinitely as they could not travel back due to restrictions on travel. Among such respondents, as high as 42.86% reported feeling depressed, 14.29% reported loneliness and a majority of 57.14% reported feelings of anxiety (Refer to Table 4).

Table 4 Depression, Anxiety and loneliness levels based on the number of people living with.

Variables	Number of people living with			
	Living alone	Less than 3	>3 but <5	Five and more
Depression				
Normal ups and downs	55.55%	59.09%	66.02%	70.58%
Mild mood disturbances	11.11%	18.18%	17.30%	15.12%
Borderline clinical depression	11.11%	6.06%	6.41%	3.36%
Moderate depression	11.11%	12.12%	5.76%	8.40%
Severe depression	0%	4.54%	3.20%	1.68%
Extreme depression	11.11%	0%	1.28%	0.84%
Anxiety				
High	44.44%	36.36%	32.69%	32.77%
Average	22.22%	40.90%	44.87%	42.85%
Low	33.33%	22.72%	22.43%	24.36%
Loneliness				
High	11.11%	19.69%	18.58%	16.80%
Average	0%	0.03%	1.28%	2.52%
Low	88.88%	77.27%	80.12%	80.67%

In fact, interestingly, there was a stable decrease in depression, loneliness as well as anxiety with the increase in the number of people that the respondents reported living with, including family members, staff, friends and house-helpers. Among those living with less than 3 members, which constituted 19% of the respondents, 24.24% reported depression, 19.7% reported loneliness and 36.36% reported anxiety. On the other hand, among respondents living with 5 or more members, 14.28% reported depression, 16.81% reported loneliness while 32.77% reported anxiety.

There may be various explanations for this. Firstly, research shows that adolescents face a reduction in anxiety when there are family members to help them find solutions to a problem (Holt & Espelage, 2005). Moreover, due to forced separation, reduced access to family members, constituting an individual's primary support system has been said to lead to increased loneliness, exposing him or her to higher chances of developing depression and anxiety (Smith, 1985).

Living alone has been found to have positive correlation with both depressive symptoms as well as anxiety (Hughes and Waite, 2002; Bijl, 1998; Aro, 2001). Married individuals have been found to be in better psychological state than their non-married counterparts in almost

every study (Murphy, 1997; Wyke, 1992; Martikainen, 2005), unmarried people have been found to be much more susceptible to depressive and anxiety disorders (Lindeman et al., 2000; Klose, 2004) and recent studies have found no such difference in the well-being of married people and those cohabiting with other family members (Joutsenniemi et al., 2006). A study from Indian origin reported that children from joint families possessed significantly better mental health than those from nuclear families (Panchal, 2013). This may be the reason behind depressive as well as anxiety symptoms being inversely proportional to the increase in number of family members. Another Indian study reported that depression in the elderly was associated with both nuclear family and living alone (Ramachandran et al., 1982). These results were replicated in a study conducted in Pakistan as well (Taqui et al., 2007). Okun and Keith (1998) found that social support including familial support was predictive of low levels of depression for older adults.

Weiss (1973) noted that physical separation is one of the main predictors of loneliness. Loneliness, as mentioned earlier, is an independent predictor of both depression and anxiety. Okun and Keith (1998) found that social support including familial support was predictive of low levels of depression for older adults.

Social Media
Yet another noticeable feature of the results was the fact that the respondents who reported media as one of their primary sources of information about the pandemic updates had much higher levels of both depression as well as loneliness. These respondents made up as high as 325 of the total 350 out of them, 18.77% were seen to be suffering from depression, 18.46% reported high loneliness and 33.85% were highly anxious, while the subsequent numbers for the remaining 25 respondents who did not bank upon media as a major source of information, only 8% reported feeling depressed, 12% were lonely and 32% felt anxious (Refer to Table 5).

Table 5. Depression, Anxiety and Loneliness levels based on primary source of information.

Variables	Primary source of information	
	Media and other sources	**Sources excluding media**
Depression		
Normal ups and downs	65.23%	76%
Mild mood disturbances	16.61%	16%
Borderline clinical depression	5.84%	0%
Moderate depression	8%	8%
Severe depression	3.07%	0%
Extreme depression	1.23%	0%
Anxiety		
High	33.84%	32%
Average	42.76%	44%
Low	23.38%	24%
Loneliness		
High	18.46%	12%
Average	1.23%	12%
Low	80.30%	76%

This is in line with previous research findings as social media has been seen to be strongly linked with both depression as well as loneliness, especially in adolescents and young adults.

Because of the lockdown, the most frequent usage of time is spent on social media. From updates to communication, everybody is solely dependent on social media. Hence, these effects get highlighted all the more and it is not surprising in the least.

Use of Social Media as Primary Source of Information
The term 'social media' refers to "the various internet-based networks that enable users to interact with others, verbally and visually" (Carr & Hayes, 2015). A meta-analysis of 23 studies showed correlation of problematic use of social media and psychological distress in adolescent and young adults (Marino, Gini, Vieno, & Spada, 2018). Moreover, explained by the Social Comparison Theory (Festinger, 1954), people tend to compare themselves to others to assess their opinion and abilities. This happens very frequently on social media, where individuals compare their appearances, living standards, experiences etc., sometimes to unrealistic standards, which may result in lower satisfaction with themselves and their lifestyles. A systematic review by Seabrook et al. (2016) reported a correlation between negative online interaction and both depression and anxiety.

It has been found that those who spend large amounts of time on the internet, as most individuals are during this lockdown for both informational as well as entertainment purposes, report lower self-esteem (Niemz et al., 2005) which predisposes them to depression, increased loneliness (Nalwa & Anand, 2003; Nichols & Nicki, 2004) and more depressed thoughts, feelings and behaviors (Kim et al., 2006). In fact, the time spent online had a direct correlation with an increase in loneliness and depression (Kraut et al., 1998).

Many studies have established the relationship between social media use, depression and loneliness (Aylaz, Akturk, Erci, Ozturk, & Aslan, 2012; Bozoglan, Demirer, & Sahin, 2013; Holvast et al., 2015). Social media is associated with depressive symptoms and a decline in well-being among adults (Kross et al., 2013; Lin et al., 2016; McDougall et al., 2016; Shensa et al., 2016). A survey in the UK found that 34% of students aged 18-24 felt lonely to some degree (YouGov, 2016), most of whom were extremely active on social media, which constituted the age group of maximum participants in the present study as well.

Problematic Social Media Use (PSMU), which is all the more common when one is forced to stay at home at all times to safeguard his health, has been seen to have positive associations with depression (Hanprathet et al., 2015; Koc & Gulyagci, 2013). In addition to this, it has also been seen to increase depressive behaviors such as fewer face-to-face social interactions, decreased physical activity, and interrupted sleep (Choi et al., 2009; Moreno et al., 2013; Morrison and Gore, 2010; Pollet et al., 2011; Younes et al., 2016). One of the many plausible reasons behind this may be increased exposure to negative content that elicits more attention and for longer durations (Katsyri et al., 2016), which may all the more be the case in the present case as most people admitted to be acquiring most information about the daily updates on the situation from social media, many of which may not just be disturbing and stress-provoking in nature but also untrue and lacking sufficient backing.

Work from Home
There is one almost inevitable consequence of the imposition of lockdown - Work from Home (WFH), as neither can individuals travel to work and risk their lives, nor can everyone stop working for a long and uncertain period of time. The term 'teleworking' was introduced by Nilles (1975) and came into use during the oil crisis in the USA during the 70s. Also known as 'telecommuting' in Europe, the idea behind all these terms is the same; it is the "work to be done somewhere and not a place to go" (Baruch, 2000).

Psychological aspects of lockdown: a study done during the lockdown imposed due to COVID-19

There are personal and psychological consequences of home-based work (Ahrentzen,1992; Gurstein, 1991) which include personality as well as developed strategies for working from home (Anderson, 1998; Gurstein, 1991; Lamond, 2000). Through a study conducted, it was found out that many of the participants had developed numerous strategies for coping with motivation isolation and stress. These included developing support networks with colleagues; setting personal targets for the completion of work; making appointments to socialize with friends or relatives; taking part in regular social activities outside of the home and developing daily and/or weekly work timetables or schedules. However, many found that there were personal implications of home-working through either reduced social contact, loneliness, lack of self-esteem and motivation (Crosbie & Jeanne 2004).

It is thus visible that previous research has yielded varying results on this topic. While on one hand it has been suspected to decrease quality of interpersonal relationships at the workplace due to reduced or superficial communication, on the other, it has been found to have helped to maintain a better work-life balance. While for some it has increased productivity, it may have reduced the capacity to concentrate for others and while it may have enabled some people to spend more time with their families, for others, merging of the boundaries between workplace and home with ill-defined working hours may have led to increased workload and frustration.

However, it must be kept in mind that these are not normal circumstances and no one was prepared for it. It is not by choice but because of the necessity demanded by the current situation that everybody has been working from home for months now, without knowing when things will get back to how they were. As this is a very recent phenomenon, not much research has yet been conducted on working from home during or because of a pandemic. There is a possibility that for some people it is a relief to be working from home as it provides a structure to the day, keeping them busy and productive. On the other hand, there may be individuals who perceive work as an added pressure in these unprecedented times with many other sources of worry and tension already present. Still others may be being exploited by the management with overtime hours of work while few may be lucky enough to get special perks given the situation. There are a host of factors that may influence people's work from home experience. However, with chaos all around, people losing their jobs, economy deflating at a tremendous rate and most people indulging in this fairly new phenomenon for the first time without a choice, there is a slightly higher chance of them not preferring it and feeling more stressed, anxious, disconnected, lonely and depressed because of it. This is what the present study found as well. There was a slight difference between the depression, anxiety and loneliness levels of those working and not working from home. In the former group, 18.29% of respondents reported feeling depressed, 18.7% reported loneliness and 34.15% felt anxious. On the other hand, among those who were not working from home, 17.3% of respondents felt depressed, 16.35% felt lonely and 32.69% felt anxious.

Another difference that emerged, even within the respondents who were working from home or attending online classes, was on the basis of gender, as women in this category scored higher than men on all 3 variables. It may be speculated that in the current context, this is because of the difference in gender role that forces women to adopt a disproportionately larger share of household responsibility even if they are working outside as well. Previous researches have backed up this assumption (Australian Bureau of Statistics [ABS], 2006; Miller & Garrison, 1982; Miller & Mulvey, 1998; Paulsen, 1998; Wright, 2007. Gender role has been defined as "all those things that a person says or does to disclose himself or herself

as having the status of boy or man, girl or woman, respectively" (Money, 1955). As gender stereotypes determine the acceptability of a particular behavior displayed by men and women, they exert a powerful influence on one's beliefs and actions (Kohlberg, 1966). Thus, women may tend to be more anxious, worried and stressed compared to men as they may see it as their responsibility to take care of their families, along with the added work-pressure (Coltrane, 1996; Dempsey, 2002; Oakley, 1974). Media has further added on to this gender stereotype by portraying the ideal woman as a nurturer of her family (Gilding, 1993; Robinson & Hunter, 2008). In the Indian context specifically, as in most Asian cultures, this belief is particularly strong (Clark, 1989).

Strengths

The study carried out had several strengths. For example, it is one of the early researches conducted on the psychological impact of lockdown with respect to the current pandemic, i.e. COVID-19, in India, using primary data collection during the period of lockdown itself. Moreover, the definition of health according to the World Health Organization (1946) includes physical as well as mental and social well-being, as stated previously in the introduction. Hence, while lockdown is imposed in order to safeguard physical health, its impact on the psychological aspect of people is something worth investigating.

Limitations

However, it is also susceptible to a number of limitations. Firstly, because Snowball Sampling, which is a non-probability sampling method, was employed in this research due to lack of adequate time as the aim of the research was to collect data during complete lockdown, it may further suffer from a few more challenges, including sampling bias, as the researchers have little control over the sampling method. The initial participants tend to nominate the rest of the participants and are likely to have chosen those who are similar to them in terms of personality traits and other characteristics. Hence, it is possible that the data obtained is from only a small subgroup of the entire population which is not representative of the entire population. This hinders the generalizability of the findings as they may not represent the entire population and all of its characteristics. Had there been more time in hand, there would have been an effort to collect more data and thus increase generalizability. Secondly, the three variables chosen, i.e. depression, anxiety and loneliness, were chosen because they seemed to reflect the major feelings experienced by individuals under lockdown broadly according to the researchers and had appropriate scales and inventories to measure them with. However, there are many other psychological effects of lockdown, for example, frustration, fear, anger, confusion, stigmatization, stress etc. This study focuses on only a selected handful of them, considered to be most relevant to the situation according to the researchers.

Furthermore, regional, situational, cultural differences must be considered as different regions have different levels of the disease outbreak, different precautionary measures, laws and even cultural beliefs. Accessibility, due to the online nature of the entire process of data collection and all inventories chosen to be in the English language, may be another limitation. Online data collection was employed as it was the only possible source of large-scale collection of data from across the country given the imposition of lockdown. However, it may have reduced the authenticity of the data collected, as there is no guarantee of honest answers, people giving true information about themselves, being who they claim to be and it also reduces the sample to only that section of the population who have an accessible internet connection and are technologically sound. To manage this as much as possible and maintain authenticity, it was made compulsory for all respondents to sign in in order to fill

up the Google Form, so not more than one response could be submitted from the same account. Yet another limitation is the fact that the present study is a descriptive one. It simply seeks to describe the data collected, not manipulate variables or establish any cause-effect relationship between the various variables. The study was conducted on the general population in order to get an overall idea from the majority of the masses about how the imposition of the lockdown has affected them. However, in doing so, no special attention could be given to specific sections of the population separately, such as vulnerable populations like children, the elderly, those suffering from pre-existing mental-health conditions and others. In fact, minors could not be included in the study at all, despite the possibility of valuable data collection, for example, about social media use from adolescents. The reason behind this was simply to increase the authenticity of data collected as in case of children, parents may have filled up their forms or there may even have been gaps in their understanding. The other reason was ethical in nature as researchers should ideally take prior consent from parents to collect data from minors and the fact that all forms were constructed in a way to be most suited in case of adults. Finally, the form was circulated among citizens across the country. However, due to both authors belonging from one and the same city and having limited reach, most responses were recorded from the city of Kolkata itself, causing a possible bias in the results.

Despite these limitations this research paper more or less covers most aspects of the psychological state of individuals when they are put under lockdown due to the outbreak of a disease. It must be noted here that the aim of the present study is not to suggest that lockdown is an ineffective measure and should not be used. In fact, not undertaking this measure under such dire circumstances as the one at present will be risky and irresponsible. It simply aims to highlight the fact that such social isolation and restrictions have a psychological impact on most people which must also be considered while protecting their physiological health. Thus, it should be taken into account and catered to, i.e. protecting one's mental well-being is crucial and it becomes even more essential when under a lockdown.

Scope for Future Research

It is strongly suggested that a standardized survey instrument is made to assess the psychological impact of lockdown including all possible psychological variables an individual may experience during a pandemic or lockdown by researchers in the future. This will also facilitate comparison of studies and impact of different disease outbreaks and give a holistic picture of the mental state of the population under lockdown. Moreover, attention may be paid to specific vulnerable sections of the population in order to devise effective interventions for them. Large-scale and detailed surveys of the population at various phases of gradual 'unlocking' and going back to the 'normal' lifestyle step-by-step or impact of the lockdown even after it has been done away with, is also likely to yield valuable information.

CONCLUSION

Almost the whole of the year 2020 was spent under lockdown. A pandemic of this magnitude has not been witnessed for years - one that changed the entire world order, created pandemonium everywhere and one that still seems nowhere close to getting better, especially in India. In just about 8 months, this pandemic has caused what is being predicted as the worst economic crisis since World War II. It has changed the lives of all 8 billion people living on this planet in one way or another. In every stressful situation, most people luckily learn to adapt to it, deal with it and bounce back to normalcy with time. However, there are also those who may be more vulnerable, either genetically or due to the amount of

threat they personally face in the specific situation. Regardless of these individual differences, one assumption remains stronger than others. A lifestyle changes of this severity and one so sudden and expected is bound to affect something as sensitive as the mind. This period of time which will surely be remembered by generations to come, probably not very fondly, making it necessary to study it in every possible way and determine its impact in every sphere. It thus provides scope for thousands of new topics for research, as everything has virtually changed. Psychological impact of such a scenario remains one of those aspects which cannot be avoided, as if not paid attention to, it may lead to large-scale, long-lasting and devastating impact on human beings across the world, especially in developing nations with high populations and thus high transmission, coupled with less awareness, like India.

The research was conducted based on the assumption that the imposition of nationwide lockdown was highly likely to affect the mental health condition of all citizens. That is precisely what the results seem to show. 18% of the total 350 respondents reported feelings of depression, 18% felt lonely and as high as 33.7% of respondents reported feeling highly anxious during this period. It was also observed that females scored higher on all 3 variables than males and that respondents falling between ages 18 to 24 reported more symptoms than the rest of the age groups. It was also seen that marital status reduced all 3 three negative psychological effects by almost half and living with a greater number of people during the lockdown period also helped diminish the same. Moreover, use of social media and relying on it for information about the updates on the pandemic was positively associated with an increase in depression, loneliness as well as anxiety.

Another crucial purpose of this study was not only to determine the impact the lockdown has had on people, but also the measures each individual can take for oneself as well as others on various levels in order to control and minimize the impact as far as possible. For instance, the findings suggest that women and young adults are more susceptible to harmful effects of lockdown such as depression, anxiety and loneliness. Young adults, in particular, may be confused and frustrated due to this extreme and sudden change in their routines, may be feeling uncertain about their career, future, education, examinations etc. Many of them may be feeling these emotions intensely and may not even be able to talk about it, further accelerating the severity of the negative feelings they may be going through. They are also most prone to acting out and indulging in substance abuse including alcohol, drugs etc., which may even result in addiction and cause long-term side effects and further retard their mental state. Thus, they should be paid more attention to. Family members and friends should try to be alert about warning signs such as increased argumentative behavior, withdrawal from social contacts and the like. Similarly, women, especially those belonging from abusive families, may need special care and protection. Individuals should try to be self-aware and keep an eye out for such symptoms in themselves too. In extreme cases, it must be made sure that they get the professional help they need as early as possible.

It also suggests that persons living alone are most prone, and the proneness decreases with rise in the number of people living with during the period, i.e., living with others improves well-being. Research shows that socializing and helping others, spreading kindness has mental health benefits. Hence, even if physically alone, it is a good idea to remain connected to your loved ones through proper use of technology. Further, frequent use of social media during free time and relying on it for information and updates about the spread of the pandemic, constant bad news and believing everything without verifying its source also further increases depression, loneliness and anxiety. One should seek information from more reliable sources such as the WHO website, newspapers and government publications. One

must also try to keep this in mind at all times and keep a fixed and limited number of hours to use social media every day. One should also monitor what he/she is using social media most for and make sure that the sources she views, believes or further shares are authentic. Further, he/she should try to avoid social media before sleeping to get a more peaceful sleep at night, with less apprehension, worry and negative thoughts and try to use the precious time saved by avoiding social media usage for more productive activities such as exercising, meditating, practicing relaxation techniques such as deep breathing, calling a friend, learning new things online, forming new and healthy habits, practicing self-care rituals etc.

The findings of this paper clearly portray the vulnerable condition the lockdown has put most individuals in. Hence, to conclude, it aims to generate awareness among Indian citizens, especially the vast majority which still does not give mental health the importance it truly deserves and hence may not realize its subtle impact on day-to-day functioning or be aware enough about how to protect and preserve one's mind during such difficult times. A few general tips may be to firstly and most importantly, try to be alert and aware about the physiological as well as psychological threats the pandemic may pose to one's health. This includes information about symptoms of the virus for early identification and differentiating common ones such as shallow breathing from mental health problems such as anxiety, safety measures for prevention and keeping numbers of healthcare providers handy. It also involves learning to be sensitive to one's own changing moods, thoughts, behaviours and those of others around, being ready to seek and extend help as much as possible by listening, empathizing and empowering them. Identifying groups with special needs or at higher risk such as those infected or isolated, those providing care, children, the elderly, those with special needs is also important. One may try to keep a structured routine and follow it, try to eat and sleep on time, take out time for health-enhancing activities such as physical exercise and walking as it may get severely compromised due to movement on restrictions. One should also try to seek a balance between productivity and leisure activities, i.e., not pressurizing oneself too much as taking care of one's mental health has been seen to automatically boost up productivity, but also trying to use this time effectively to, perhaps, pursue an old hobby, keeping one's brain active, rekindling relationships one may have lost touch with due to packed schedule and the like. One must also not hesitate from talking to someone they trust when they feel the need to vent and offer the same but also understand their boundaries and refer to a professional if needed.

REFERENCES

Ahokas, A., Kaukoranta, J., Wahlbeck, K., & Aito, M. (2001). Estrogen deficiency in severe postpartum depression: Successful treatment with sublingual physiologic 17 beta-estradiol: A preliminary study. *Journal of Clinical Psychiatry, 62*, 332–336

Ahrentzen, S. (1992). 'Home as a workplace in the lives of women', in I. Altman and S. Low (eds), *PlaceAttachment,* London: Plenum Press.

Allgood-Merten, B., Lewinsohn, P. M., & Hops, H. (1990). Sex differences and adolescent depression. *Journal of Abnormal Psychology, 99,* 55-63.

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: Author.

American Psychiatric Association. (2020, March 25). New Poll: COVID-19 Impacting Mental Well-Being: *Americans Feeling Anxious, Especially for Loved Ones; Older Adults are Less Anxious.* Retrieved September 10, 2020, from https://www.psychiatry.org/newsroom/news-releases/new-poll-covid-19-impacting-mental-well-being-americans-feeling-anxious-especially-for-loved-ones-older-adults-are-less-anxious

Anderson, S. (1998). The Work-at-Home Balancing Act: *The Professional Resource Guide for ManagingYourself, Your Work and Your Family at Home,*NewYork:AvonBooks.

Aro, A. R., Nyberg, N., Absetz, P., Henriksson, M., & Lönnqvist, J. (2001). Depressive symptoms in middle-aged women are more strongly associated with physical health and social support than with socioeconomic factors. *Nordic Journal of Psychiatry*, *55*(3), 191-198.

Asmundson, G. J., & Taylor, S. (2020). How health anxiety influences responses to viral outbreaks like COVID-19: What all decision-makers, health authorities, and health care professionals need to know. *Journal of Anxiety Disorders*, *71*, 102211.

Asmundson, G. J., Abramowitz, J. S., Richter, A. A., & Whedon, M. (2010). Health anxiety: current perspectives and future directions. *Current psychiatry reports*, *12*(4), 306-312.

Aylaz, R., Akturk, U., Erci, B., Ozturk, H., & Aslan, H. (2012). Relationship between depression and loneliness in elderly and examination of influential factors. *Archives of Gerontology and Geriatrics, 55,* 548-554.

Barlow, D. H. (2000). Unraveling the mysteries of anxiety and its disorders from the perspective of emotion theory. *American psychologist*, *55*(11), 1247.

Barlow, IS. H., Chorpita, B. E, & Turovsky, J. (1996). *Fear, panic, anxiety, and disorders of emotion.* In D. A. Hope (Ed.), Nebraska Symposium on Motivation: Vol. 43. Perspectives on anxiety, panic and fear, 251-328. Lincoln: Nebraska University Press.

Baruch, Y. (2000). Teleworking: benefits and pitfalls as perceived by professionals and managers. *New Technology Work and Employment, 15*(1), 34-49.

Beck, A. T. (1967). *Depression: Clinical, experimental, and theoretical aspects.* New York:

Beck, A. T., & Steer, R. A. (1984). Internal consistencies of the original and revised Beck Depression Inventory. *Journal of clinical psychology*, *40*(6), 1365-1367.

Beck, A. T., Steer, R. A., & Brown, G. (1996). *Beck Depression Inventory–II* [Database record]. APA PsycTests. https://doi.org/10.1037/t00742-000

Beck, A. T., Steer, R. A., & Garbin, M. G. (1988) Psychometric properties of the Beck Depression Inventory: Twenty-five years of evaluation. *Clinical Psychology Review, 8*(1), 77-100.

Bennet, R. (1980). *Aging, isolation and resocialization.* New York: VanNostrand Reinhold.

Bibring, E.(1953) The mechanism of depression. In P. Greenacre (Ed.), *Affective disorders: Psychoanalytic contributions to their study.* New York: International Universities Press.

Bijl, R. V., Ravelli, A., & Van Zessen, G. (1998). Prevalence of psychiatric disorder in the general population: results of The Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Social psychiatry and psychiatric epidemiology*, *33*(12), 587-595.

Bland, R. C., Om, H. and Newman, S. C. (1988). Lifetime prevalence of psychiatric disorders in Edmonton. *Acta Psychiatry and 77* (Suppl. 338), 24-32.

Blatt, S. J.(1974). *Levels of object representation in anaclitic and introjective depression.* Psychoanalytic Study of the Child, 29, 107-157.

Blofield, M., & Martı´nez Franzoni, J. (2015). Maternalism, coresponsibility, and social equity: A typology of work–family policies. Social Politics: *International Studies in Gender, State & Society, 22*, 38–59. doi:10.1093/sp/jxu015

Bolin, B., & Kurtz, L. C. (2018). *Race, class, ethnicity, and disaster vulnerability.* In H. Rodríguez, W. Donner, & J. E. Trainor (Eds.), Handbook of disaster research (pp. 181–203). Berlin, Germany: Springer International. http://dx.doi.org/10.1007/978-3-319-63254-4_10

Bonanno, G. A., Brewin, C. R., Kaniasty, K., & Greca, A. M. L. (2010). Weighing the costs of disaster: Consequences, risks, and resilience in individuals, families, and communities. *Psychological Science in the Public Interest,* 11, 1– 49. http://dx.doi.org/10.1177/1529100610387086

Boston University School of Medicine. (2020, September 2). COVID-19 has likely tripled depression rate, study finds. *ScienceDaily*. Retrieved September 9, 2020 from www.sciencedaily.com/releases/2020/09/200902152202.html

Bozoglan, B., Demirer, V., & Sahin, I. (2013). Loneliness, self-esteem, and life satisfaction as predictors of Internet addiction: A cross-sectional study among Turkish university students. *Scandinavian Journal of Psychology, 54*(4), 313-319.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet*.

Brown, G. W, & Harris, T. (1978). Social origins of depression. New York: Free Press.

Brown, G. W. (1974). Meaning, measurement, and stress of life events. In Stressful Life Events: *Their Nature and Effects, ed. B. S. Dohrenwend, B. P. Dohrenwend*, (pp. 217- 44). New York: Wiley

Brown, S. L. (2000), "The Effect of Union Type on Psychological Well Being: Depression Cohabitants Versus Marrieds", *Journal of Health and Social Behaviour, 41,* 241-255.

Business Standard. (n.d.). *What is Lockdown, Lockdown in India, Curfew News,* Coronavirus Lockdown News. https://www.business-standard.com/about/what-is-lockdown

Bulletin of the World Health Organization 2011; 89:540-541. doi: 10.2471/BLT.11.088815

Canino, G. J., Bird, H. R., Shrout, P. E., Rubio-Stipee, M., Bravo, M., Martinez, R., Sesman, M. and Guevara, L. M. (1987). The prevalence of specific psychiatric disorders in Puerto Rico. *Arch Gen Psychiatry 44*, 727-735.

Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry research*, 112934.

Carr, C. T., & Hayes, R. A. (2015). Social media: defining, developing, and divining. *Atlantic Journal of Communication, 23(*1), 46–65.

Center for Disease Control, Rothstein, M. A., Alcalde, M. G., Elster, N. R., Majumder, M. A., Palmer, L. I., ... & Hoffman, R. E. (2003). *Quarantine and isolation: Lessons learned from SARS*. University of Louisville School of Medicine, Institute for Bioethics, Health Policy and Law.

Chakraborty, K., & Chatterjee, M. (2020). Psychological impact of COVID-19 pandemic on general population in West Bengal: A cross-sectional study. *Indian Journal of Psychiatry*, *62*(3), 266.

Choi, K., Son, H., Park, M., Han, J., Kim, K., Lee, B., Gwak, H. (2009). Internet overuse and excessive daytime sleepiness in adolescents. *Psychiatry Clin Neurosci., 63,* 455–462. doi: 10.1111/j.1440-1819.2009.01925. x.

Chorpita, B. E, & Barlow, D. H. (1998). The development of anxiety: The role of control in the early environment. *Psychological Bulletin*, 124, 3-21.

Clark, G. (1999). Mothering, work, and gender in urban Asante ideology and practice. *American Anthropologist*, *101*(4), 717-729.

Coltrane, S. (1996). Family man: *Fatherhood, housework, and gender equity.* New York, NY: Oxford University Press.

Courchesne, E., Chisum, H., Townsend, J., Cowles, A., Covington, J., Egaas, B., Harwood, M., Hinds, S., Press, G. (2000). Normal brain development and aging: quantitative analysis and in vivo MR imaging in healthy volunteers. *Radiology, 216,* 672–682.

Creecy, R., William, B., and Roosevelt, W. (1985). "Loneliness Among the Elderly: A Causal Approach." *Journal of Gerontology, 40*, 487-493.

Crosbie, T., & Moore, J. (2004). Work-life balance and working from home. *Social Policy and Society*, *3*(3), 223.

Cutrona, Carolyn (2013). UCLA Loneliness Scale.

Dela Cruz, L. (1986). On loneliness and the elderly. *Jour- nal of Gerontological Nursing, 12*(11), 22–27.

Demir, Y., & Kutlu, M.(2016). The Relationship between Loneliness and Depression: Mediation Role of Internet Addiction. *Educ PROCESS Int J.*

Dempsey, K. (2002). Who gets the best deal from marriage: women or men? *Journal of Sociology, 38,* 91-110.

Edelstein, B.A., Ciliberti, C.M. (2010): *Assessment of Depression and Bereavement in Older Adults.* Handbook of Assessment in Clinical Gerontology (Second Edition).

Faravelii, C., Degl'bmocenti, B. G., Aiazzi, L., Incerpi, C. and Pailanti, S. (1990). Epidemiology of mood disorders: a community survey in Florence. *J Affict Disord 20*, 135-141.

Feather, N. T. (1991). Human values, global self-esteem, and belief in a just world. *Journal of Personality, 59,* 83-107.

Fertman, C. I., & Chubb, N. H. (1992). The effects of a psychoeducational program on adolescents' activity involvement, self-esteem, and locus of control. *Adolescence, 27,* 517-526.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7,* 117–140

Fitzpatrick, K. M., Harris, C., & Drawve, G. (2020). Living in the midst of fear: Depressive symptomatology among US adults during the COVID-19 pandemic. *Depression and anxiety.*

FOXALL. M. J., & EKBERG, 1. Y. (1989). Loneliness of chronically ill adults and their spouses. *Issues in Mental Health Nursing, 10*, 149-167.

Freud, S.(1957). [Mourning and melancholia.] In J. Strachey (Ed. and trans.), *Standard edition of the complete psychological works of Sigmund Freud* (Vol. 14). London: Hogarth Press. (Originally published, 1917.)

Friis, R. H., Wittchen, H., Pfister, H., & Lieb, R. (2002). Life events and changes in the course of depression in young adults. *European Psychiatry, 17*(5), 241-253. doi:10.1016/s0924-9338(02)00682-x

Gater, R., Tansella, M., Korten, A., Tiemans, B., Mavreas, V., Olatawura, M. (1998). Sex differences in the prevalence and detection of depressive and anxiety disorders in general health care settings: report from the World Health Organization Collaborative Study on Psychological Problems in General Health Care. *Arch. 1032 Gen. Psychiatry 55,* 405–413.

Gierveld, J. D. (1989). Personal relationships, social support, and loneliness. *Journal of social and personal relationships*, *6*(2), 197-221.

Gierveld, J. D., & Kamphuls, F. (1985). The development of a Rasch-type loneliness scale. *Applied psychological measurement*, *9*(3), 289-299.

Gierveld, J. D., Tilburg, T. V., & Dykstra, P. A. (1989). Loneliness and Social Isolation. *The Cambridge Handbook of Personal Relationships,* 485-500. doi:10.1017/cbo9780511606632.027

Gilding, M. (1993). Gender roles in contemporary Australia. In K. P. Hughes (Ed.), *Contemporary Australian feminism* (pp. 102-127). Melbourne, Australia: Longman Cheshire.

Glenn, N. D., and C. N. Weaver. (1979). "A Note on Family Situation and Global Happiness." *Social Forces, 57*, 960-967.

Glenn, N. D., Weaver, C. N. (1988). "The Changing Relationship of Marital Status to Reported Happiness." *Journal of Marriage and the Family, 50*, 317-324.

Goossens, L., Klimstra, T., Luyckx, K., Vanhalst, J., Teppers, E. (2014). Reliability and Validity of the Roberts UCLA Loneliness Scale (RULS-8) With Dutch-Speaking Adolescents in Belgium. *PsychologicaBelgica. 54* (1). doi:10.5334/pb.ae

Gove, W. R., & Tudor, J. F. (1973). Adult sex roles and mental illness. *American journal of Sociology*, *78*(4), 812-835.

Gove, W. R., Hughes, M., & Style, C. B. (1983). Does marriage have positive effects on the psychological well-being of the individual?. *Journal of health and social behavior*, 122-131.

Gray, J. A., & McNaughton, N. (1996). The neuropsychology of anxiety: *A reprise. In D. A. Hope (Ed.), Nebraska Symposium on Motivation: Vol. 43: Perspectives on anxiety, panic, and fear,* 61-134. Lincoln: University of Nebraska Press.

Gruman, J. A., Schneider, F. W., & Coutts, L. M. (2017). *Applied social psychology: Understanding and addressing social and practical problems*. Los Angeles: SAGE.

Grupe, D. W., & Nitschke, J. B. (2013). Uncertainty and anticipation in anxiety: an integrated neurobiological and psychological perspective. *Nature Reviews Neuroscience*, *14*(7), 488-501.

Gurstein, P. (1991). 'Working at home and living at home: emerging scenarios', *The Journal of Architectureand Planning Research, 8*, 2 Summer, Chicago, IL: Lock Science Publishing.

Gutiérrez-Lobos, K., Wölfl., G., Scherer, M., Anderer, P., & Schmidl-Mohl, B. (2000). The gender gap in depression reconsidered: the influence of marital and employment status on the female/male ratio of treated incidence rates. *Social psychiatry and psychiatric epidemiology*, *35*(5), 202-210.

Hammen, C. & Peters, A. (1977). Differential response to male and female depressive reactions. *Journal of Consulting and Clinical Psychology, 45*, 994-1001.

Hammen, G. L., and Padesky, C. (1977). A Sex differences m the expression of depressive responses on the Beck DepressIon Inventor! ./. trhrrr~rrn P.\ I'(ho/. 86, 609.

Hanprathet, N., Manwong, M., Khumsri, J., Yingyeun, R., Phanasathit, M.(2015). Facebook addiction and its relationship with mental health among Thai high school students. *J Med Assoc Thail, 98,* S81–S90.

Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., &Styra, R. (2004). SARS control and psychological effects of quarantine, Toronto, Canada. *Emerging infectious diseases,* 10(7), 1206–1212. https://doi.org/10.3201/eid1007.030703

Hoeffer, B. (1987). A causal model of loneliness among older single women. *Archives of Psychiatric Nursing, 1*(5), 366-373.

Holt, M. K., & Espelage, D. L. (2005). Social Support as a Moderator Between Dating Violence Victimization and Depression/Anxiety Among African American and Caucasian Adolescents. *School Psychology Review, 34*(3), 309–328.

Holvast, F., Burger, H., de Waal, M. M., van Marwijk, H. W., Comijs, H. C., & Verhaak, P. F. (2015). Loneliness is associated with poor prognosis in late-life depression: Longitudinal analysis of the Netherlands study of depression in older persons. *Journal of affective disorders*, *185*, 1-7.

Horman, J. P., Hansen, C. E., Cochian, M. E., & Lindsey, C. R. (2005). Liar, liar: Internet faking but not frequency of use affect social skills, self-esteem, social anxiety, and aggression. *CyberPsychology Behavior, 8*(1), 1-6.

Horwitz, A. V., & White, H. R. (1991). Marital status, depression, and alcohol problems among young adults. *Journal of Health and Social Behavior, 32*, 221-237.

Horwitz, A., White, H., & Howell-White, S. (1996). Becoming married and mental health: A longitudinal study of a cohort of young adults. *Journal of Marriage and the Family, 58,* 895-907.

Hughes, M.E., Waite, L.J.(2002). Health in household context: Living arrangements and health in late middle age. *Journal of Health and Social Behavior, 43,* 1–21.

Ibbetson, C. (2019, September 05). *Young Britons are the most lonely.* Retrieved September 10, 2020, from https://yougov.co.uk/topics/relationships/articles-reports/2019/10/03/young-britons-are-most-lonely

Ingalhalikar, M., Smith, A., Parker, D., Satterthwaite, T., Elliot, M., Ruparel, K., Hakonarson, H., Gur, R., Gur, R., Verma, R. (2014). Sex differences in the structural connectome of the human brain. *PNAS, 111*, 823–828.

Jetten, J., Haslam, C., & Haslam, S. A. (2011). *The social cure: Identity, health and wellbeing. Oxford,* United Kingdom: Taylor and Francis

Joung, I. M. A., Stronks, K., Van De Mheen, H., Van Poppel, F. W. A., Van Der Meer, J. B. W., & Machenbach, J. P. (1997). The contribution of intermediary factors to marital status differences in self-reported health. *Journal of Marriage and the Family, 59,* 476-490.

Journal of Gerontological Nursing, 13(5), 6–12.

Joutsenniemi, K., Martelin, T., Martikainen, P., Pirkola, S., & Koskinen, S. (2006). Living arrangements and mental health in Finland. *Journal of Epidemiology & Community Health*, *60*(6), 468-475.

Katsyri, J., Kinnunen, T., Kusumoto, K., Oittinen, P., Ravaja, N.(2016). Negativity bias in media multitasking: The effects of negative social media messages on attention to television news broadcasts. *PLoS One, 11*:e0153712. doi: 10.1371/journal.pone.0153712.

Kessler, R. C., & Essex, M. (1982). Marital status and depression: The importance of coping resources. *Social forces*, *61*(2), 484-507.

Kessler, R. C., Nelson, C. B., McGonagle, K. A., Liu, J., Swartz, M., & Blazer, D. G. (1996). Comorbidity of DSM–III–R major depressive disorder in the general population: results from the US National Comorbidity Survey. *The British journal of psychiatry*, *168*(S30), 17-30.

Kessler, R. X., McGonagle, K. A., Swarm, M., Blazer, D. G. and Nelson, C .B. (1993). Sex and depression in the National Comorbidity Survey I: Lifetime prevalence, chronicity and recurrence. *J Affect Disord 29,* 85-96.

Kessler, R., McGonagle, K., Zhao, S., Nelson, C. B., Hughes, N., Eshleman, S., Wittchen, H. U., Kendler, K .S. (1994). Life-time and 12-month prevalence of DSM-III-R psychiatric disorders in the United States. *Arch. Gen. Psychiatry 51*, 8–19.

Killgore, W. D., Cloonen, S. A., Taylor, E. C., & Dailey, N. S. (2020). Loneliness: A signature mental health concern in the era of COVID-19. *Psychiatry Research,* 113117.

Kim, K., Ryu, E., Chon, M. Y., Yeun, E. J., Choi, S. Y., Seo, J. S., & Nam, B. W. (2006). Internet addiction in Korean adolescents and its relation to depression and suicidal ideation*: A questionnaire survey. International Journal of Nursing Studies, 43,* 185 – 192.

Klose, M., & Jacobi, F. (2004). Can gender differences in the prevalence of mental disorders be explained by sociodemographic factors?. *Archives of women's mental health*, *7*(2), 133-148.

Koc, M., Gulyagci, S.(2013). Facebook addiction among Turkish college students: The role of psychological health, demographic, and usage characteristics. *Cyberpsychology, Behav Soc Netw, 16,* 279–284. doi: 10.1089/cyber.2012.0249.

Kohlberg, L. (1966). A cognitive-developmental analysis of children's sex-role concepts and attitudes. In Maccoby, E. (Ed.), *The development of sex differences* (pp. 82-173). Stanford, CA: Stanford University Press.

Kosic, A., Lindholm, P., Jarvholm, K., Hedman-Lagerlof, E., & Axelsson, E. (2020). Three decades of increase in health anxiety: Systematic review and meta-analysis of birth cohort changes in university student samples from 1985 to 2017. Journal of Anxiety Disorders. https://doi.org/10.1016/j.janxdis.2020.102208.

Kovacs, M. (1990) Comorbid anxiety disorders in childhood onset depressions. In: *Maser, J.D. and Cloninger, C.R. (Eds.), Comorbidity of Mood and Anxiety Disorders.* American Psychiatric Press, Washington, DC, (pp. 271-281).

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox. A social technology that reduces social involvement and psychological well-being? *American Psychologist, 53,* 1017 – 1031.

Kross, E., Verduyn, P., Demiralp, E., et al. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS One, 8*(8):e69841.

Lamond, D. (2000). 'Personality and telework', in K. Daniels, D. Lamond and P. Standen (eds), *ManagingTelework: Perspectives from Human Resource Management and Work Psychology,* United Kingdom: Business Press Thomson Learning

Lampl, M., Jeanty, P. (2003). Timing is everything: a reconsideration of fetal growth velocity patterns identifies the importance of individual and sex differences. *Am. J. Human Biol., 15,* 667–680.

Lee, C. K., Kwak, Y. S., Yamamoto, J., Rhee, H., Kim, Y. S., Han, J. H., Choi, J. O. and Lee, Y. H. (1990) Psychiatric epidemiology in Korea: Part 1. Gender and age differences in Seoul. *J Nerv Ment Dis 178*, 242-246.

Lenroot, R., Gogtay, N., Greenstein, D., Wells, E., Wallace, G., Clasen, L., Blumenthal, J., Lerch, J., Zijdenbos, A., Evans, A., Thompson, P., Giedd, J. (2007). Sexual dimorphism of brain developmental trajectories during childhood and 1143 adolescence. *Neuroimage, 36,* 1065–1073.

Lin, L.Y., Sidani, J.E., Shensa, A., Radovic, A., Miller, E., Colditz, J.B., Hoffman, B.H., Giles, L., Primack, B.A. (2016). Association between social media use and depression among U.S. young adults. *Depress Anxiety, 33*,323–331. doi: 10.1002/da.22466.

Lindeman, S., Hämäläinen, J., Isometsä, E., Kaprio, J., Poikolainen, K., Heikkinen, M., & Aro, H. (2000). The 12-month prevalence and risk factors for major depressive episode in Finland: representative sample of 5993 adults. *Acta psychiatrica scandinavica, 102*(3), 178-184.

Liu, T. B., Chen, X. Y., & Miao, G. D. (2003). Recommendations on diagnostic criteria and prevention of SARS-related mental disorders. *J Clin Psychol Med, 13*(3), 188-91

Lloyd, C. (1980). Life events and depressive disorder reviewed: I. Events as predisposing factors. Archives of General Psychiatry, 37, 529-535

Luchetti, M., Lee, J. H., Aschwanden, D., Sesker, A., Strickhouser, J. E., Terracciano, A., & Sutin, A. R. (2020). *The trajectory of loneliness in response to COVID-19.* American Psychologist.

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psychological distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders, 226*, 274–281. Elsevier B.V.

Marks, N. F., & Lambert, J. (1996). Marital status continuity and change among young and midlife adults: *Longitudinal effects on psychological well-being (Working Paper HSFH71).* Madison: University of Wisconsin, Center for Demography and Ecology.

Martikainen, P., Martelin, T., Nihtilä, E., Majamaa, K., & Koskinen, S. (2005). Differences in mortality by marital status in Finland from 1976 to 2000: analyses of changes in marital-status distributions, socio-demographic and household composition, and cause of death. *Population studies*, *59*(1), 99-115.

Maunder, R., Hunter, J., Vincent, L., Bennett, J., Peladeau, N., Leszcz, M., Sadavoy, J., Verhaeghe, L.M., Steinberg, R., Mazzulli, T., (2003): The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ*, *168*(10) 1245-1251.

McDougall, M. A., Walsh, M., Wattier, K., Knigge, R., Miller, L., Stevermer, M., Fogas, B. S. (2016). The effect of social networking sites on the relationship between perceived social support and depression. *Psychiatry Res., 246*, 223–229. doi: 10.1016/j.psychres.2016.09.018.

Menaghan Elizabeth, G., Lieberman Morton, A. (1986). Changes in Depression Following Divorce: A Panel Study. *Journal of Marriage and the Family, 48*, 319–28.

Miller, J. B. (1976). *Toward a new psychology of women.* New York: Beacon Press.

Miller, J., & Garrison, H. H. (1982). Sex roles: The division of labor at home and in the workplace. *Annual Review of Sociology, 8,* 237-262.

Miller, P. W., & Mulvey, C. (1998). Household allocation of time and gender inequal-ity in Australia. *Economic Papers (Sydney), 17*(2), 13-23.

Money, J. (1955). Gender and precocity in hyperadrenocorticism: Psychological findings. *Bulletin of the Johns Hopkins Hospital, 96*, 253–264.

Moreno, M. A., Jelenchick, L. A., Koff, R., Eickhoff, J. C., Goniu, N., Davis, A., Young, H. N., Cox, E. D., Christakis, D. A. (2013). Associations between internet use and fitness among college students: an experience sampling approach. *J Interact Sci., 1*:4. doi: 10.1186/2194-0827-1-4.

Morrison, C. M., Gore, H. (2010). The Relationship between Excessive Internet Use and Depression: A Questionnaire-Based Study of 1,319 Young People and Adults. *Psychopathology, 43,* 121–126. doi: 10.1159/000277001.

Mullins, L. C., Sheppard, H. L., & Andersson, L. (1991). Loneliness and social isolation in Sweden: Differences in age, sex, labor force status, self-rated health, and income adequacy. *Journal of Applied Gerontology*, *10*(4), 455-468.

Mullins, L., & Dugan, E. (1990). The influence of rheumatoid arthritis. *The Journal of Rheumatol- ogy, 16*(6), 740–744.

Murphy, M. (1997). Assessing the link between household and family living arrangements and health, in G. Wunsch and A. Hancioglu (eds.), *Morbidity and Mortality Data: Problems of Comparability. Proceedings of the European Association for Population Studies and the Hacettepe Institute of Population Studies.* Hacettepe University, Institute of Population Studies, Publication No. IPS-HU.97-01.

Murphy, M., Glaser, K., & Grundy, E. (1997). Marital status and long-term illness in Great Britain. *Journal of Marriage and the Family*, 156-164.

Nalwa, K., & Anand, A. P. (2003). Internet addiction in students*: A cause of concern. Cyberpsychology and Behavior, 6, 653 – 656.*

Nichols, L. A., & Nicki, R. (2004). Development of a psychometrically sound internet addiction scale: *A preliminary step. Psychology of Addictive Behaviors, 18,* 381 – 384.

Niemz, K., Griffiths, M., & Banyard, P. (2005). Prevalence of pathological Internet use among university students and correlations with self-esteem, the General Health Questionnaire (GHQ), and disinhibition. *Cyberpsychology and Behavior, 8*, 562 – 570.

Nilles, J. M. (1975). Telecommunications and organizations decentralization. *IEEE Transactions on Communications Com23*: 1142-1147.

Nolen-Hoeksema, S. (1987). Sex differences in unipolar depression: evidence and theory. *Psychological bulletin*, *101*(2), 259.

Nolen-Hoeksema, S., Girgus, J. (1994). The emergence of gender differences in depression during adolescence. *Psychol. Bull., 115*, 424–443.

Norris, F. H., Friedman, M. J., Watson, P. J., & the Summary and Implications of the Disaster Mental Health Research. (2002). 60,000 Disaster victims speak: Part II. *Summary and implications of the disaster mental health research. Psychiatry, 65*, 240 –260. http://dx.doi.org/10 .1521/psyc.65.3.240.20169

Oakley, A. (1974). *The sociology of housework.* New York, NY: Pantheon Books.

Okun, M. A., & Keith, V. M. (1998). Effects of positive and negative social exchanges with various sources on depressive symptoms in younger and older adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *53*(1), P4-P20.

Pancani, L., Marinucci, M., Aureli, N., & Riva, P. (2020, April 5). *Forced social isolation and mental health:* A study on 1006 Italians under COVID-19 quarantine. https://doi.org/10.31234/osf.io/uacfj

Panchal, D. R. (2013). Mental Health and Psychological Well-Being Among Adolescents Of Joint And Nuclear Family. *International Journal For Technological Research In Engineering, 1*(4). Retrieved September 10, 2020, from http://www.ijtre.com/images/scripts/2013010417.pdf

Parker, G. B., & Brotchie, H. L. (2004). From diathesis to dimorphism: The biology of gender differences in depression. *Journal of Nervous and Mental Disease, 192,* 210–216.

Patton, G., Coffey, C., Carlin, J., Olsson, C., Morley, R. (2004). Prematurity at birth and adolescent depression. *Br. J. Psychiatry, 184,* 446–447.

Paulsen, M. (1998). Dual-career couples and role conflict: A critical analysis of the issues. *Australian Journal of Career Development, 7*(3), 22-27.

Peplau, L.A., & Perlman, D. (Eds.). (1986). *Loneliness: A sourcebook of current theory, research, and therapy*. New York : John Wiley & Sons.

Pollet, T. V., Roberts, S. G. B., Dunbar, R. I. M. (2011). Use of social network sites and instant messaging does not lead to increased offline social network size, or to emotionally closer relationships with offline network members. *Cyberpsychology, Behav Soc Netw., 14,* 253–258. doi: 10.1089/cyber.2010.0161.

Preamble to the Constitution of WHO. (1948, April 7). *What is the WHO definition of health?* WHO. https://www.who.int/about/who-we-are/frequently-asked-questions

Prince, M. I., Rwood, R. H.. Bliurd, R. A., & Thomas, A. (1997). Social support deficits, loneliness and life events as risk factors for depression in old age: the Gospel Oak Project VI. *Psychological Medicine, 27*, 323 -332.

Qiu, J., Shen, B., Zhao, M., Wang, Z., Xie, B., & Xu, Y. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General psychiatry, 33*(2), e100213. https://doi.org/10.1136/gpsych-2020-100213

Ramachandran, V., Menon, M. S., & Arunagiri, S. (1982). Socio-cultural factors in late onset depression. *Indian journal of psychiatry*, *24*(3), 268.

Regier, D., Narrow, W., Rae, D., et al. (1993). The de facto mental and addictive disorders service system. Epidemiologic catchment area prospective 1-year prevalence rates of disorders and services. *Arch. Gen. Psychiatry 50*, 85–94.

Robins, L. N., Locke, B. Z. and Regier, D. A. (1991). An overview of psychiatric disorders in America. In: Robins, L. N. and Regier, D. A. (Eds.), Psychiatric Disorders in

America: The Epidemiologic Catchment Area Study. *The Free Press, A Division of MacMillan, Inc.*, New York, pp. 328-366.

Robinson, B. K., & Hunter, E. (2008). Is mom still doing it all? Reexamining depic-tions of family work in popular advertising. *Journal of Family Issues, 29,* 465-486.

Rogers, R. G. (1995). Marriage, sex, and mortality. *Journal of Marriage and the Family, 57*, 515-526.

Röhr, S., Müller, F., Jung, F., et al. (2020). [Psychosocial Impact of Quarantine Measures During Serious Coronavirus Outbreaks: A Rapid Review]. *Psychiatrische Praxis*, *47*(4), 179-189. DOI: 10.1055/a-1159-5562

Ross, C. E., Mirowsky, J., & Goldsteen, K. (1990). The impact of the family on health: The decade in review. *Journal of Marriage and the Family, 55*, 1059-1078.

Rubin, G. J., &Wessely, S. (2020). *The psychological effects of quarantining a city.* Bmj, 368..

Russell, D, Peplau, L. A. & Ferguson, M. L. (1978). Developing a measure of loneliness. *Journal of Personality Assessment,* 42, 290-294.

Ryan, M., & Patterson, J. (1987). Loneliness in the elderly

Santini, Z. I., Jose, P. E., Cornwell, E. Y., Koyanagi, A., Nielsen, L., Hinrichsen, C., ... & Koushede, V. (2020). Social disconnectedness, perceived isolation, and symptoms of depression and anxiety among older Americans (NSHAP): a longitudinal mediation analysis. *The Lancet Public Health*, *5*(1), e62-e70.

Scarf, M. (1980). Unfinished business: *Pressure points in the lives of women.* New York: Ballantine Books

Seabrook, E. M., Kern, M. L., & Rickard, N. S. (2016). Social networking sites, depression, and anxiety: A systematic review. *JMIR Mental Health, 3*(4), e50

Seedat, S., Scott, K. M., Angermeyer, M. C., Berglund, P., Bromet, E. J., Brugha, T. S., ... Kessler, R. C. (2009). Cross-national associations between gender and mental disorders in the world health organization world mental health surveys. *Archives of General Psychiatry, 66,* 785–795. doi:10.1001/archgenpsychiatry.2009.36

Shensa, A., Escobar-Viera, C. G., Sidani, J. E., Bowman, N. D., Marshal, M. P., & Primack, B. A. (2017). Problematic social media use and depressive symptoms among US young adults: A nationally-representative study. *Social Science & Medicine*, *182*, 150-157.

Shensa, A., Sidani, J.E., Lin, L.Y., Bowman, N.D., Primack, B.A. (2016). Social Media Use and Perceived Emotional Support Among US Young Adults. *J Community Health, 41,* 541–549. doi: 10.1007/s10900-015-0128-8.

Smith, E. M. (1985). Ethnic minorities: Life stress, social support, and mental health issues. *The Counseling Psychologist, 13*(4), 537–579. https://doi.org/10.1177/0011000085134002

Snodgrass, M. A. (1987). The relationships of differential loneliness, intimacy, and characterological attributional style to duration of loneliness.*Journal of Social Behavior and Personality,2*(2, Pt 2), 173−186.

Solomon, M. B., & Herman, J. P. (2009). Sex differences in psychopathology: Of gonads, adrenals and mental illness. Physiology & Behavior, 97, 250–258. doi: 10.1016/j.physbeh.2009. 02.033

Spielberger, C. D. (2010). State-Trait anxiety inventory. *The Corsini encyclopedia of psychology*, 1-1.

Spielberger, C. D., & Sydeman, S. J. (1994). *Anxiety Inventory and State-Trait Anger Expression Inventory.* University of South Florida, 292-231.

Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory.* Palo Alto, CA: Consulting Psychologists Press.

Stark, K. D., & Laurent, J. (2001). Joint factor analysis of the children's depression inventory and the revised children's manifest anxiety scale. *Journal of Clinical Child Psychology*, *30*(4), 552-567.

Taqui, A. M., Itrat, A., Qidwai, W., & Qadri, Z. (2007). Depression in the elderly: Does family system play a role? A cross-sectional study. *BMC psychiatry, 7*(1), 57.

Teppers, E., Luyckx, K., Klimstra, T. A., & Goossens, L. (2014). Loneliness and Facebook motives in adolescence: A longitudinal inquiry into directionality of effect. *Journal of Adolescence, 37*(5), 691-699.

Tornstam, L. (1992). "Loneliness in Marriage." *Journal of Social and Personal Relationships, 9*, 197-217.

Troll, L. E., Miller, S. J., & Atchley, R. C. (1979). *Families in later life.* Belmont, CA: Wadsworth.

Trovato, F. (1987). "A Longitudinal Analysis of Divorce and Suicide in Canada." *Journal of Marriage and the Family, 49*, 193-203.

Turner, R. J., Wheaton, B., & Lloyd, D. A. (1995). The epidemiology of social stress. *American Sociological Review, 60*(1), 104–125. https://doi.org/10.2307/2096348

Upadhyay, A. (2020, April 16). COVID-19: *A comprehensive timeline of Coronavirus pandemic in India.* https://www.timesnownews.com/india/article/covid-19-a-comprehensive-timeline-of-coronavirus-pandemic-in-india/579026

Vidyadhara S., Chakravarthy A., Pramod K.A., Chalasani H., Radhakrishnan R.(2020). *Mental Health Status among the South Indian Pharmacy Students during Covid-19 Pandemic Quarantine Period: A Cross-Sectional Study.* https://doi.org/10.1101/2020.05.08.20093708

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., et al. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *Int J Environ Res Public Health,* 17,1729.

Wei, Y. L., Han, B., Liu, W., Liu, G., & Huang, Y. (2004). *Psychosomatic discomfort and related factors among 1,411 first-line SARS staff in Beijing.* In Manual of the 7th national experimental medicine symposium of Chinese Society of Integrated Traditional Chinese and Western Medicine, 6-12.

Weiss, R. S. (1973). Loneliness: *The experience of emotional and social isolation.* Cambridge, MA: MIT Press.

Weissman, M. M., Bland, R., Joyce, P. R., Newman, S., Wells, J. E. and Wittchen, H. U. (1993). Sex differences in rates of depression: cross-national perspectives. *J Affect Disord 29,* 77-84.

Weissman, M., Bland, R., Canino, G., Greenwald, S., Hwu, H., Lee, C., Newman, S., Oakley-Browne, M., Rubio-Stipec, M., Wickramaratne, P., et al. (1994). The cross national epidemiology of obsessive compulsive disorder: the cross national collaborative group. *J. Clin. Psychiatry 55* (Suppl.), 5–10.

Wittchen, H. U., Essau, C. A., Von Zerssen, D., Krieg, J. C. and Zaudig, M. (1992) Lifetime and six-month prevalence of mental disorders in the Munich follow-up study. *Eur Arch Psychiatry Clin Neurosci, 241,* 247-258.

World Health Organization. (2018, March 30). Mental health: Strengthening our response. Retrieved September 08, 2020, from https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response

World Health Organization. (2020). #HealthyAtHome. Retrieved September 09, 2020, from https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health?gclid=Cj0KCQjw-uH6BRDQARIsAI3I-UeZ8rVy_zIXosM-mw0UbvlbKG2FqIZRPKnGBxuNPfUreuUd885rhcwaAqsgEALw_wcB

Wright, P. (2007). Family size and the gendered division of unpaid work: Implications for fertility decisions in Australia. *Australian Journal of Social Issues, 42,* 513-529

Wyke, S., & Ford, G. (1992). Competing explanations for associations between marital status and health. *Social science & medicine*, *34*(5), 523-532.

Younes, F., Halawi, G., Jabbour, H., El, Osta. N., Karam, L., Hajj, A., Rabbaa, Khabbaz. L. (2016). Internet Addiction and Relationships with Insomnia, Anxiety, Depression, Stress and Self-Esteem in University Students: A Cross-Sectional Designed Study. *PLoS One, 11*:e0161126. doi: 10.1371/journal.pone.0161126.

Zemore, R., & Eames, N. (1979). Psychic and somatic symptoms of depression among young adults, institutionalized aged and noninstitutionalized aged. *Journal of Gerontology*, *34*(5), 716-722.