**Nomophobia An Emerging Fear: A Quasi Experimental Exploration**

**Abstract**

*Modern communication technologies have become a very essential part of our lives, especially smart phones ( Salehan & Negahban, 2013). Existing literature has explored its effects on different aspects of our lives. Overuse of such devices is linked with a form of psychological dependency,and anxiety is a prominent feature of separation from these devices. Smart phones dependency is leading towards Nomophobia, an emerging Fear- phone separation anxiety. The purpose of this present study was to explore the existence of nomophobia among smart phone users. Furthermore, it was aimed to investigate whether smart phone separation causes any anxiety and panic state or not? Participants (N=300) undergraduates of Bahauddin Zakariya University Multan of age 18 to 30 years were selected.* *Quasi experimental research design was used and participants were randomly assigned to control and experimental groups. From Spielberger (1983) State-Trait Anxiety Inventory (STAI) Form (Y1) was used to measure state-anxiety. To diagnose the psychological condition of people who suffer from nomophobia NMP-Q by Yildirim, 2015 was used. Manipulation of independent variable was done on experimental group. Results revealed that majority of individuals 68% experienced moderate level of Nomophobia. One way analysis of variance (ANOVA) found significant difference on different levels of anxiety in control and experimental group (p<0.05). No significant gender differences were found for state anxiety and nomophobia.*

**Key words:** *Nomophobia, State anxiety, Experimental group, Control Group, Mobile phones, Anxiety.*

**Introduction**

Information and modern communication technologies (ICT) have captured our lives (Salehan and Negahban, 2013). Current era is considered as mobile era where there is an expansion of low-priced mobile devices, people are adopting mobile ICTs very quickly and vigorously (Oulasvirta, Rattenbury, Ma, and Raita, 2012). Smartphones are considered the latest advancement of mobile ICTs in this modern mobile age (Oulasvirta et al., 2012).“Fear of being away from mobile phone contact” is defined as nomophobia. Nomophobia is derived from three words no-mo-phobia means no-mobile-phone phobia and was first originated during a study investigated on mobile phone users who suffer from anxiety when they lose contact with their cell phone, piloted by UK Post Office in 2008. In a study conducted by King, Valença, Silva, Baczynski, Carvalho and Nardi (2014) defined nomophobia as: Not being able to communicate through internet or mobile phone (MP) is the modern world fear called nomophobia. Nomophobia consisted of cluster of symptoms or behaviors which are related to mobile phone use. Nomophobia is also known as a situational phobia which has a close reference to agoraphobia and comprises the fear of becoming ill and not able to receive instantaneous help. Another phenomenon FoMO is designated by the desire to develop a continuous link with what others people are doing” (Przybylski, Murayama, DeHaan, and Gladwell, 2013). Gradually, nomophobia is developing because people obsessively check their phones due to fear of missing out (FoMO). However, if people do not check their phones constantly they become overly concerned that they might miss a chance of any social event, experience, or any other event which would make them feel good. (Walsh, White, and Young, 2009). At the University of Connecticut Professor of Psychiatry David Greenfield supports a theory that attachment to smartphone increases the production of dopamine which is the hormone of happiness and this attachment is similar to some other addictions. According to this theory dopamine is triggered when a person hears the sound of phone ringing, receives a notification for a message and emails. When people receive a text message from someone they like, an invitation call to a party/ event or something exciting and an email with some happy news slightly increases the level of dopamine (Tanaka and Terry-Cobo, 2008). People use this technological device in order to avoid social interactions, (Billieux,Van der Linden, and Rochat, 2008) or use as a protective or defensive shell, as a transitional object or used by people in an impulsive way (Ribak, 2009). Many physical, psychological and psychosocial problems occur due to excessive cell phone use. The possible problem while using cell phone and attempting multi-tasking can cause distraction in non-primary activity (Lien, Ruthruff, and Johnston, 2006). Insomnia, poor sleep quality and excessive day time sleepiness (Khan, 2008). People who suffer from nomophobia have following characteristics in common which include: they avoid social communication, they have one or more mobile phones with internet access, they consider their cell phone as a protective layer, always keep their charger with themselves, avoid places or situations in which mobile phone use is restricted which then leads to feelings of stress and anxiety, always keep their cell phones switched on, they have few face to face social interactions and prefer to communicate through new technologies and check their phones again and again if they received a call or a message from someone (Bragazzi and Puenete 2014). Personal stress, insecurity, low self-confidence and frequent mood changes, all these problems are due to excessive cell phone use (Sansone, and Sansone, 2013). Compulsive usage of smart phone causes delusions, auditory and tactile hallucinations (Verma, Rajiah, Cheang, and Barua, 2014) (Lin, Li, Huang, & Chen, 2013). Phantom vibrations and phantom ringing/ringxiety are also called as tactile and auditory hallucinations (Baillie, 2011). Due to addiction, both individual and society are neglecting work and study (Bianchi, and Phillips, 2005).

**Anxiety**

Random anxiety is a normal part of daily life. When making an essential or critical decision, when faced with a problem or before taking a test you might feel anxious. But in anxiety disorders, fear or worry is not for limited time. Different forms of anxiety disorders include generalized anxiety disorder, social anxiety disorder and panic disorder. (National Institute of Mental Health, 2013). Anxiety is a distressful state designated as emotional, cognitive, and physiological elements such as fear, worry, nervousness, that something bad will happen, and tension. Anxiety is just like emotion of fear, although the role of long term anxiety to void from fear through process of anxiety such as worry and prediction of negative future consequences. Physiological problems that occur due to which the blood pressure increased, breathing rate increased, a prominent increase in heart rate, other cardiac related symptoms; gastrointestinal distress including diarrhea, stomach aches, nausea, and increased motility of the gut; fatigue and pain due to generalized bodily distress. Cognitively, people who suffer from anxiety over emphasize on negative predictions (Hughes, 2011). Those who face anxiety often avoid the situations or events which stimulated anxiety in their past (Barker, 2003).

**State-Trait Anxiety**

Stable tendency across many situations such as to experience, to attend and to report negative emotions like worries, fears, and anxiety refers to as Trait anxiety. Trait anxiety is the part of the personality dimension of emotional stability versus neuroticism. Body symptoms are also manifested by trait anxiety. A stable perception of environmental stimuli such as events, others and statements are characterized by people as threatening. State anxiety is also often experienced and expressed by anxious people in situations when people do not show threatening responses. This tendency is supposed to reflect a cognitive-perceptual bias. At the cognitive level, person has a distorted negative interpretation related to everything and strengthen anxious responses. At the perceptual level people’s focus of attention is only on the threatening responses. At the memory level, they only recall threatening memories (Gidron, 2013). State anxiety can be defined as when a person is faced with a threatening situation autonomic nervous system temporarily induces fear, worry and discomfort such as what are the feelings of a person when a threatening situation is perceived by him. For example, when a child confronted by a large, strange animal he feels anxious. In the same way when a person gets on a flight for the first time he becomes anxious (Spielberger, Sydeman, 1994).

**Rational of the study:**

As the use of smart phone is increasing day by day it badly disturbing the life patterns of people. As the use of smart phone and cyber loafing increases, the person becomes more vulnerable to develop smart phone addiction and self-regulation negatively correlated with smartphone addiction (Gökçearslan, Mumcu, Haşlaman, and Çevik, 2016). Existing literature explained that people experience this type of anxiety or fear when in reality their cell phone was apart from them. In one study the pattern of mobile phone usage and prevalence of nomophobia were checked and the results indicates that 73% of students were nomophobics. 21% of nomophobics experienced anxiety. 83% of students experienced panic attacks when their mobile phones were misplaced (Sharma, Sharma, Sharma, and Wavare, 2015). Many already conducted researches only ask question about their feelings if they would separate from their cell phone but uniqueness of this study is that it will measure immediate responses in real situations.

The purpose of this study was to explore the existence of the fear related to their cell phones; furthermore, it was also aimed to explore it through the real separation of cell phone. For this purpose, an experiment was designed. The idea for this research was taken from a study in which researcher examined the anxiety in American students when their mobile phones were separated from them (Cheever, Rosen, Carrier and Chavez, 2014). The replication of similar methodology in eastern culture with some changes to examine anxiety at three levels and these levels told either there was an increase in anxiety or not as the time passed when students have no smart phone with them.

**Objectives of the study:**

1. To explore the level of nomophobia among participants.
2. To investigate the level of anxiety among participants.
3. To explore which group either control or experimental group show more or less anxiety?
4. To explore which group either control or experimental show more or less nomophobia?

**Hypothesis:**

1. Experimental group will have higher level of anxiety as compared to control group.
2. Females will have higher level of anxiety as compared to males.
3. Females will have higher level of nomophobia as compared to males.

**Method**

**Participants**

Participants (N=300) were recruited from sociology and psychology department of Bahauddin Zakariya University Multan. Participants ranged in age from 18 to 30 with an average age of 20.29 (SD=3.046) where mean age for females was 20.29 (SD=3.05) and average age for males was 20.27 (SD=3.07). Mean age of experimental group was 20 (SD=1.35) and mean age of control group was 20.58 (SD=4.07). The age distribution generally represented the university students. Gender was distributed with males (n=66), 22% and females (n=234), 78% of the sample. Where (n=131) participants were from M.Sc., 43.67% and (n=169) participants were from BS, 56.33%.

**Measures**

**State-Trait Anxiety Inventory:** State-Trait Anxiety inventory was invented by Spielbergerin , 1983 and based on a self-reported instrument. Levels of state anxiety and trait anxiety was assessed by this inventory through 40 item Likert scale. Emotional status which occurs as a result of different situational factors is momentary and short-lived and this phenomenon is known as State anxiety. Where to give a reaction or response against any stressful situation with anxiety is known as Trait anxiety. Two subscales are included in this data set. We have used only state anxiety items in our research. This inventory has a very good reliability and validity (Gros, Antony, Simms and McCabe, 2007).

**Nomophobia Questionnaire:** This questionnaire is developed by Caglar Yildirimin in 2015 at Iowa State University; in order to diagnose the psychological condition of people who suffer from nomophobia NMP-Q was used. Students were asked to respond to the items on Likert scale ranging from 1 (Strongly disagree) to 7 (Strongly agree). Total scores were then added. The greater the score the greater the severity of nomophobia. The reliability for the NMP-Q is Cronbach’s alpha = .94, which is very good (Yildirim, 2015).

**Procedure**

Study was conducted in Department of Applied Psychology and in Department of sociology at Bahauddin Zakariya University Multan. Students who participated in study were enrolled in different programs. True purpose of the research was not told to participants. The debriefing statement was issued at the end of the experiment. The study took place during the regular classes. Directions and instructions were given to participants before the experiment. Researcher used quasi experimental research design. Researcher took two groups; control and experimental group. State anxiety inventory was administered three times and had three levels whereas nomophobia questionnaire was administered one time after the three times administration of state anxiety inventory.

**Experimental Group**

The description of levels in experimental groups is discussed below.

**Level 1**: At level 1 researcher administered State Anxiety inventory in order to check their present feelings, when their cell phones were with them. After the administration researcher gave participants envelops and instructed them to write their names and roll numbers on envelop, turn off their cell phones and put them in envelops and seal envelops with the tapes for security and ethical purpose. Then envelops were submitted to researcher. The cell phones were then taken out of the class by the researcher.

**Level 2:** At level 2 after one hour researcher again administered State Anxiety inventory on participants in order to check that without their cell phones either their anxiety has increased at level 2 or not.

**Level 3:** At level 3 after two hours researcher again administered State anxiety inventory. Now the time limit has been increased and this increase affects the anxiety of participants at level 3. At this level researcher also administered nomophobia questionnaire, in order to check the intensity of fear without their cell phones. After all the three levels researcher returned back the cell phones to the participants.

**Control Group**

The description of all the three levels for control group is discussed below.

**Level 1:** At level 1 researcher administered State anxiety inventory to check the present feelings of the participants. After the administration, participants were instructed strictly not to use their cell phone during the experiment and turn their cell phones off.

**Level 2:** At level 2 after one hour the researcher again administered State anxiety inventory to check whether there is an increase in their feelings of anxiety or not.

**Level 3:** At level 3 after two hours State anxiety inventory was administered again now with the nomophobia questionnaire to check if there is an increase in fear and anxiety of participants while their cell phones were off but with them. After the experiment participants were allowed to turn on their cell phones.

**Results**

The results were analyzed by using SPSS. The results were presented by using descriptive statistics, by using one way and two way analysis of variance (ANOVA) between and within groups separately for control and experimental group.

**Table 1**

*Cronbach’s Alpha of Scales*

|  |  |  |
| --- | --- | --- |
| Scale | Cronbach’s Alpha | Item No. |
| Nomophobia (NMP-Q) | 0.860 | 20 |
| State anxiety level 1 | 0.839 | 20 |
| State anxiety level 2 | 0.825 | 20 |
| State anxiety level 3 | 0.895 | 20 |

Table 1 shows the Cronbach’s α of the scales and all the values fall under the good accepted range. Table 2 shows that the frequency of group is described and expressed in terms of percentage. Frequency table shows (150) 50% respondents are belonging to control group and (150) 50% respondents are belonging to experimental group. The frequency of age is described and expressed in terms of percentage. Frequency table show (284) 94.67% respondents are under 25 years of age, (16) 5.33% respondents are between 25-30 years of age. The frequency of gender is described and expressed in terms of percentage. Frequency table show (150) 50% respondents are male and (150) 50% respondents are female. The frequency of education is described and expressed in terms of percentage. Frequency table show (131) 43.67% respondents are of M.Sc and (169) 56.33% respondents are of B.S (see Table 2).

Table 3 displays the frequency distribution of nomophobia and it is expressed in terms of percentage. Frequency table shows (80) 26.67% respondents show severe nomophobia, (204) 68.0% respondents show moderate nomophobia, (16) 5.3% show mild nomophobia where 0% respondents show no nomophobia.

**Table 2**

*Descriptive data of Demographical Variables*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Demographic variables | |  | Frequency | Percentage |
| Group | | Experimental | 150 | 50% |
| Control | 150 | 50% |
|  | | Under 25 years | 284 | 94.67% |
| Age | | Between 25-30 Year | 16 | 5.33% |
| Gender |  | F | 234 | 78% |
| M | 66 | 22% |
|  | | M.Sc | 131 | 43.67% |
| Education | | BS | 169 | 56.33% |
|  | | Total | 300 | 100.0% |

**Table 3**

*Descriptive Information of Nomophobia*

|  |  |  |
| --- | --- | --- |
| Nomophobia | Frequency | Percent |
| Not Nomophobic | 0 | 0% |
| Mild Nomophobia | 16 | 5.3% |
| Moderate Nomophobia | 204 | 68.0% |
| Severe Nomophobia | 80 | 26.7% |
| Total | 300 | 100.0% |

**Table 4**

*M., SD & t- value of anxiety at level 1, 2, and 3 among control (n=150) and experimental group (n=150)*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Group | Sample size | Mean | SD | t-statistic | p-value |
| Level 1 | Experimental | 150 | 40.15 | 8.35 | 1.25 | 0.213 |
|  | Control | 150 | 38.98 | 7.89 |  |  |
| Level 2 | Experimental | 150 | 48.60 | 7.61 | 23.36 | 0.000\*\*\* |
|  | Control | 150 | 32.29 | 4.19 |  |  |
| Level 3 | Experimental | 150 | 56.78 | 8.61 | 28.50 | 0.000\*\*\* |
|  | Control | 150 | 33.18 | 5.36 |  |  |
|  | Total | 300 |  |  |  |  |

\*\*\*p< 0.001

Group difference of anxiety at level 1, 2, and 3 is shown in table 4. However, level 1 contain experimental and control group. Results show the mean difference in anxiety at level 1 between control and experimental group. The mean and standard deviation (SD) values of experimental group are 40.15 and 8.53, respectively. The mean and SD values of control group are 38.98 and 7.89, respectively. The t-statistic value of group difference in level 1 is 1.25 so, it clearly shows that there is no significant group difference between control and experimental group of anxiety in level 1. However, level 2 contains experimental and control group. Results show the mean difference in anxiety at level 2 between control and experimental group. The mean and SD values of experimental group are 48.60 and 7.61, respectively. The mean and SD values of control group are 32.29 and 4.19, respectively. The t-statistic value of group difference in level 2 is 23.36 so, it clearly shows that there is a significant group difference between control and experimental group. However, level 3 contain experimental and control group. Results show the mean difference in anxiety at level 3 between control and experimental group. The mean and SD value of experimental group are 56.78 and 8.61, respectively. The mean and SD value of control group are 33.18 and 5.36, respectively. The t-statistic value of group difference in level 3 is 28.50 so, it clearly shows that there is a significant group difference between control and experimental group (see Table 4).

**Table 5**

*M., SD & t- value of Nomophobia among control (n=150) and experimental group (n=150)*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Group | Sample Size | Mean | SD | t-statistic | p-value |
| Experimental | 150 | 100.34 | 15.03 | 11.55 | 0.000\*\*\* |
| Control | 150 | 80.03 | 15.44 |
| Total | 300 |  |  |  |  |

\*\*\* p< 0.001

Table 5 exhibits group difference of nomophobia. However, this group contains experimental and control group. Results show the mean difference control and experimental group. The mean and SD value of experimental group are 100.34 and 15.03, respectively. The mean and SD value of control group are 80.03 and 15.44, respectively. The t-statistic value of group difference in nomophobia is 11.55 so, it clearly shows that there is a significant nomophobia between control and experimental group.

**Table 6**

*One way Analysis of Variance of Anxiety Between group and within group in Experimental Group*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Anxiety | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 20765.293 | 2 | 10382.647 | 154.410 | .000\*\*\* |
| Within Groups | 30056.707 | 447 | 67.241 |
| Total | 50822.000 | 449 |  |  |  |

\*\*\*p< 0.001

Results in table 6 shows the comparison of between groups and within groups in Experimental group. It shows the sum of squares, degree of freedom (Df), mean square, and F. The sum of squares, Df, and mean square for Between Groups are 20765.293, 2, and 10382.647 respectively. For Within groups the sum of squares, Df, and mean square, are 30056.707, 447 and 67.241. Where F is 154.410; which shows the significant results.

**Table 7**

*Comparison of Levels of anxiety in Experimental group*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Levels(I) | Levels(J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1.00 | 2.00 | -8.71\*\*\* | .94 | .000 | -10.56 | -6.84 |
| 3.00 | -16.63\*\*\* | .94 | .000 | -18.49 | -14.77 |
| 2.00 | 1.00 | 8.71\*\*\* | .94 | .000 | 6.84 | 10.56 |
| 3.00 | -7.93\*\*\* | .94 | .000 | -9.78 | -6.06 |
| 3.00 | 1.00 | 16.63\*\*\* | .94 | .000 | 14.77 | 18.49 |
| 2.00 | 7.93\*\*\* | .94 | .000 | 6.06 | 9.78 |

\*\*\*p< 0.001

Table 7 displays the post hoc test for Anxiety in Experimental Group. Post hoc test is used whenever the result is significant. Table 3.6 represents the significant difference among different levels of anxiety. For discussion here, in experimental group, anxiety difference for Level 1 shows the significant difference with level 2 in the same way level 1 shows the significant difference with level 3 respectively. Level 2 shows the significant difference with level 1 and in the same way level 2 shows significant results with level 3 respectively. Finally, level 3 shows significant results with level 1 and in the same way level 3 shows significant results with level 2 respectively.

**Table 8**

*One way Analysis of Variance in Anxiety within group and Between Group in Control Group*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Anxiety | Sum of Squares | Df | Mean Square | F | Sig. |
| Between Groups | 192.751 | 2 | 96.376 | 4.026 | .018\*\* |
| Within Groups | 10699.773 | 447 | 23.937 |
| Total | 10892.524 | 449 |  |  |  |

\*\*p< 0.01

The comparison of between groups and within groups in Control group is shown in table 8. It shows the sum of squares, Df, mean square, and F. The sum of squares, Df, and mean square for Between Groups are 192.751, 2 and 96.376 respectively and for Within groups the sum of squares, Df, and mean square, are 10699.733, 447, 23.937. Where F is 4.026; which shows the significant results.

**Table: 9**

*Comparison of levels of anxiety in Control group*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Levels (I) | Levels (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1.00 | 2.00 | -.71 | .56 | .207 | -1.82 | .39 |
| 3.00 | -1.60\* | .56 | .005\* | -2.71 | -.48 |
| 2.00 | 1.00 | .71 | .56 | .207 | -.39 | 1.82 |
| 3.00 | -.88 | .56 | .117 | -1.99 | .22 |
| 3.00 | 1.00 | 1.60\* | .56 | .005\* | .48 | 2.71 |
| 2.00 | .88 | .56 | .117 | -.22 | 1.99 |

\*p<0.05

The post hoc test for Anxiety in Control Group is shown by table 9. Post hoc test is used whenever the result is significant. For discussion here in control group, anxiety difference in control group; level 1 shows no significant difference with level 2 where level 1 shows significant difference with level 3 respectively. Level 2 shows no significant difference with level 1 and level 3 respectively. Finally, level 3 shows significant difference with level 1 where level 3 shows no difference with level 2 respectively.

**Discussion**

The purpose of this study was to explore how nomophobia is an emerging among young generation now-a-days and if their smart phones are taken away from them then this phenomenon induces anxiety or not. And anxiety increases as the time passes. In this research researcher analyzed anxiety at three levels. Many researches have been conducted on smart phone separation and addiction. In one study researcher checks the cognitive ability of participants when their iPhones were ringing and were not with them. Participants show feelings of unpleasantness and anxiety and physiological responses like increase in heart rate and blood pressure (Clayton, Leshner, and Almond, 2015).

There were two group in this study control and experimental group. Participants were randomly assigned to groups. Smart phones were taken away from experimental group where control group participants were strictly instructed not to use their phones during the experiment. The first hypothesis was that experimental group will show high level of anxiety as compared to control group. This hypothesis has been accepted. Level 1 of anxiety was a baseline, at that point both groups had their smart phones with them. Participants were normal no state was created. At level 2 when smart phones were taken away in experimental group and control group participants instructed not to use their smart phones then after this manipulation the participants of experimental group showed huge change in their state anxiety where no such change was shown by experimental group. At level 3 when again check their state anxiety, participants spent almost two hours without their smart phones and a high increase in anxiety feelings was shown by participants in experimental group whereas no such feelings were shown by participants of control group. The slight change at level 2 and level 3 in mean and SD for control group is due to the confounding variables like participants become nervous what is this happening, what type of information researchers want to collect, class environment, etc. where a high level of difference shown by experimental group because the social connection of these participants was totally cut off. They were feeling helpless when their smart phones were detached from them and as there was no chance of social communication and interaction. They were looking nervous as they were unable to contact socially with friends and family, they were thinking as if someone would be calling them or texting and they would not be able to get facebook notifications or mails etc. Heavy smart phone users often face fear of missing out. A concept which means that individuals feel that they are out of touch with others, if their social connection is lost then they would be unable to get notifications related to some event or miss some event or meeting with friends and due to these reasons, they feel worried, fearful and anxious. (Przybylski, Murayama, DeHaan, and Gladwell, 2013). FoMO increases the levels of anxiety. Participants during the experiment were coming to researcher and were asking to return their smart phones back. One of the participant was so panic that his class fellows were consoling him not to worry. A study on nomophobia in which the researcher discussed the case report of a patient who suffers from panic disorder and agoraphobia and from the same case study he examined the relationship between panic disorder and nomophobia. The patient was so much dependent on his smart phone that he felt safe with smart phone (King et al., 2010).

The second and third hypotheses was that females will show high anxiety and high nomophobia as compared to males. Theses hypotheses were rejected, in this research results indicated that both males and females show same level of anxiety and nomophobia. This can be because of the increasing trend of mobile phone use in this modern world, everyone needs an interaction with family, friends, etc. Females use smart phones in order to interact with their parents, friends, and relatives. Females use smart phones to discuss many household issues with others. As females speak more than men so they need smart phones to make interaction easy with other. Whereas, males use smart phones for negotiating, they use these technologies in order to negotiate other business companies which are not in range of them. Males use smart phones mostly for business purposes as it made their life easy and comfortable.

**Limitations and Suggestions**

Some of the limitations related to this could be STAI used to measure only state response, this inventory does not measure physiological responses like heart rate and blood pressure, so any other inventory will be needed in future to measure these responses. Control and experimental study not applied at the same time. If applied in the same class at the same time, then there would be a possibility that participants of experimental group showed more anxiousness. This research only consisted of university students and only from two departments so there is difficulty in generalizing results. Sample size was small. Limited cooperation of the sample was experienced. For future research purpose, researcher should keep in mind some suggestions in order to do it in a more precise way. Sample size should be large. Data should be collected from colleges and other universities for further studies. Some strategies in future should also be applied by teachers on students to decrease the increasing use of smart phones during their class timings. Control and experimental study should be applied at the same time in future to get better results.

**Conclusion**

The aim of this study was to investigate how nomophobia causes anxiety to increase when their smart phones separated from them for a short period of time. In this modern world the increasing trend of new technologies making people so much dependent and addicted to it. Participants were asked to sit quietly in the classroom. This restriction made them more anxious and fearful as the time passed. Qusai Experimental Research design was used in this research. Descriptive analysis, to check group and gender differences, t-test was applied, and one-way ANOVA was used to indicate results. Experimental group showed more increase in anxiety as compared to control group because smart phones were taken away from participants of experimental group. There was no gender difference found for anxiety and nomophobia.

**References**

Baillie, D. W. (2011). Phantom vibration syndrome. Sixty eight per cent of us hallucinate. *British Medical Journal*, 342.d299

Barker, P. (2003*). Psychiatric and Mental Health Nursing: The Craft of Caring.* London: Edward Arnold. ISBN 978-0-340-81026-2.

Bianchi, A., & Philips J. G. (2005). Psychological Predictors of Problem Mobile Phone Use. *Cyber Psychology &Behavior*, 39–51

Billieux, J., Van der Linden, M., &Rochat, L. (2008). The role of impulsivity in actual and problematic use of the mobile phone. *Applied Cognitive Psychology*, 22(9), 1195-1210.

Bragazzi, N. L., &Puenete G. D. (2014). A proposal for including nomophobia in the new DSM-V. *Psychology Research and Behavior Management,* 7, 155-160.

Clayton, R. B., Leshner, G., & Almond, A. (2015). The extended iSelf: the impact of iPhone separation on cognition, emotion, and physiology. *Journal of Computer‐Mediated Communication*, 20(2), 119-135.

Gidron, D. Y. (2013). Trait Anxiety. In *Encyclopedia of Behavioral Medicine* (p. 1989). New York: Springer New York. doi:10.1007/978-1-4419-1005-9\_1539

Grös, D. F., Antony, M. M., Simms, L. J., & McCabe, R. E. (2007). Psychometric properties of the State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA): comparison to the State-Trait Anxiety Inventory (STAI). *Psychological assessment*, 19(4), 369.

Hughes, J. W. (2011). Anxiety. In *Encyclopedia of Clinical Neuropsychology*, 208-209. Kent: Springer New York.doi**:** 10.1007/978-0-387-79948-3\_2063

Khan, M. (2008). Adverse effects of excessive mobile phone use. *International Journal of Occupational Medicine and Environmental Health*, 21(4), 289-293.

King, A. L. S., Valença, A. M., &Nardi, A. E. (2010). Nomophobia: the mobile phone in panic disorder with agoraphobia: reducing phobias or worsening of dependence? *Cognitive and Behavioral Neurology*, 23(1), 52-54.

King, A. L. S., Valença, A. M., Silva, A. C., Sancassiani, F., Machado, S., &Nardi, A. E. (2014). “Nomophobia”: Impact of Cell Phone Use Interfering with Symptoms and Emotions of Individuals with Panic Disorder Compared with a Control Group*. Clinical practice and epidemiology in mental health: CP & EMH,10*, 28-35. Chicago

Lien, M., Ruthruff, E., & Johnston, J. C. (2006). Attentional limitations in doing two tasks at once: The search for exceptions. *Current Directions in Psychological Science,* 15(2), 89-93.

Lin, Y. H., Lin, S. H., Li, P., Huang, W. L., & Chen, C. Y. (2013). Prevalent hallucinations during medical internships: phantom vibration and ringing syndromes. *PloS one*, 8(6), e65152.

National Institute of Mental Health (2016). *Anxiety Disorders*. Retrieved November 9, 2016, from https://www.nimh.nih.gov/health/topics/anxiety-disorders/index.shtml

Oulasvirta, A., Rattenbury, T., Ma, L., & Raita, E. (2012). Habits make smartphone use more pervasive. *Personal and Ubiquitous Computing*, 16(1), 105-114.

Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841-1848.

Ribak, R. (2009). Remote control, umbilical cord and beyond: The mobile phone as a transitional object. *British Journal of Developmental Psychology*, 27(1), 183-196.

Salehan, M., &Negahban, A. (2013). Social networking on smartphones: When mobile phones become addictive. *Computers in Human Behavior*, 29(6), 2632-2639.

Sansone, R. A., &Sansone, L. A. (2013). Cell phones: the psychosocial risks. *Innovations in clinical neuroscience*, (1).

Spielberger, C. D. (1983). Manual for the State-Trait Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C.D., Sydeman, S.J. (1994). State-Trait Anxiety Inventory and State-Trait Anger Expression Inventory. In M.E. Maruish (Ed.), The use of psychological testing for treatment planning and outcome assessment. (pp. 292-321). Hillsdale, NJ: Lawrence Erlbaum Associates.

Tanaka, W. & Terry-Cobo, S. (2008). Cell phone Addiction. Forbes. Retrieved from [http://www.forbes.com/2008/06/15/cellphone-addict-iphone-tech-wireless08 cx\_wt0616addict.html](http://www.forbes.com/2008/06/15/cellphone-addict-iphone-tech-wireless08%09cx_wt0616addict.html)

Verma, R. K., Rajiah, K., Cheang, A., &Barua, A. (2014). Textaphrenia: An emerging silent pandemic. *J Psychiatry*, 17, 510-511.

Walsh, S. P., White, K. M., & Young, R. M. (2009). The phone connection: A qualitative exploration of how belongingness and social identification elate to mobile phone use amongst Australian youth. *Journal of Community and Applied Social Psychology* DOI: 10.1002/casp.983.

Yildirim, C. (2014). Exploring the dimensions of nomophobia: Developing and validating a questionnaire using mixed methods research*. Graduate Theses and Dissertations. Paper* 14005