

**Internet Usage Among University Students in  
Relation to their Life Style, Academic Achievement  
and Attitude towards Research**

**Thesis**

**Submitted to University of Kashmir  
for the Award of the Degree  
of  
DOCTOR OF PHILOSOPHY (Ph.D.)  
in  
EDUCATION**

**Syed Noor-ul-Amin**  
(M. A, M. Phil, UGC NET)  
**Investigator**

**Dr. Mohammad Iqbal Mattoo**  
**Supervisor**



**Faculty of Education**

**UNIVERSITY OF KASHMIR, SRINAGAR HAZRATBAL, J&K-6**

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**Prof. Mahmood Ahmad Khan**  
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**2015**



## Faculty of Education University of Kashmir, Srinagar Hazratbal - 6

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### Certificate

This is to certify that the thesis entitled “Internet Usage among University Students in Relation to their Life Style, Academic Achievement and Attitude towards Research”, is the record of the original work of Syed Noor-ul-Amin for the award of the Doctor of Philosophy in Education, carried out under my guidance and supervision. The matter reported in the thesis has not been submitted for the award of any other degree of any University.

It is further certified that he has fulfilled all the statutory requirements for the submission of this thesis.

**Dr. Mohammad Iqbal Mattoo**  
**Supervisor**

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**Syed Noor-ul-Amin**

## Acronyms

### i) Used in Tabular Work

<b>ADRRRA</b>	Attitude towards Difficulties in Research and Research Anxiety
<b>AGARRP</b>	Attitude towards General Aspects of Research and Research Process
<b>AINUs</b>	Arts stream Internet Non-users
<b>AIUs</b>	Arts stream Internet-users
<b>AOLS</b>	Academic Oriented Lifestyle
<b>ARRPSL</b>	Attitude towards Relevance of Research in Personal and Social Life
<b>ASTR</b>	Attitude Scale towards Research
<b>AURPC</b>	Attitude towards Usefulness of Research in Professional Career
<b>COLS</b>	Career Oriented Lifestyle
<b>FINUs</b>	Female Internet Non-users
<b>FIUs</b>	Female Internet-users
<b>FOLS</b>	Family Oriented lifestyle
<b>HOLS</b>	Health Oriented Lifestyle
<b>INUs</b>	Internet Non-users
<b>IUs</b>	Internet-users
<b>KMO</b>	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
<b>LSS</b>	Lifestyle Scale
<b>M INUs</b>	Male Internet Non-users
<b>M IUs</b>	Male Internet-users
<b>SINUs</b>	Science Stream Internet Non-users
<b>SIUs</b>	Science Stream Internet-users
<b>SOLS</b>	Social Oriented lifestyle
<b>SS IUs</b>	Social Science Stream Internet-users
<b>SSINUs</b>	Social Science Stream Internet Non-users
<b>TOLS</b>	Trend Oriented lifestyle

### ii) Used in Text

<b>ARPANET</b>	Advanced Research Projects Agency Network
<b>ERNET</b>	Educational and Research Network
<b>ICT</b>	Information and Communication Technology
<b>INTERNET</b>	International Network
<b>ISPs</b>	Internet Service Providers
<b>NICNET</b>	National Informatics Centre Network
<b>NSFNET</b>	National Science Foundation Network
<b>STPI</b>	Software Technology Park Scheme
<b>WWW</b>	World Wide Web

# Contents

CHAPTER	DESCRIPTION	PAGE NO.S
	Certificate	
	Acknowledgements	
	Acronyms	
	Contents	
	List of tables	
	List of figures	
	Abstract	i-xvi
<b>I</b>	<b>INTRODUCTION</b>	<b>1-34</b>
	❖ Significance of the Study	25-28
	❖ Statement of the Problem	28
	❖ Objectives of the Study	28
	❖ Hypotheses	28-29
	❖ Operational Definitions of Variables	29-34
	❖ Delimitations	34
<b>II</b>	<b>REVIEW OF THE RELATED LITERATURE</b>	<b>35-96</b>
	2.1 Studies on Internet-users and Internet Non-users	37-43
	2.2 Studies on Internet Usage and -	
	A) Life Style	43-54
	B) Attitude Towards Research	54-60
	C) Academic Achievement	60-68
	D) Gender	68-73
	2.3 Studies on Related Variables	73-82
	❖ Overview	82-95
	❖ Conclusion	96
<b>III</b>	<b>RESEARCH METHODOLOGY AND PROCEDURE</b>	<b>97-114</b>
	❖ Sample	99-101
	❖ Selection and Description of Tools	102-113
	❖ Procedure	113-114
	❖ Statistical Treatment	114
<b>IV</b>	<b>STATISTICAL TREATMENT OF THE DATA</b>	<b>115-169</b>
	<b>Section A: Descriptive Analysis</b>	<b>122-142</b>
	A1: Lifestyle, Academic Achievement and Attitude towards Research (Overall Groups)	122-124



	A2: Lifestyle, Academic Achievement and Attitude towards Research (Internet-users and Non-users)	125-127
	A3: Sub-Group Analysis Lifestyle, Academic Achievement and Attitude towards Research (Gender-wise & Faculty-wise)	128-142
	<b>Section B: Comparative Analysis</b>	<b>143-159</b>
	B1: Comparison between Internet-users and Non-users on: a) Lifestyle, b) Academic Achievement and c) Attitude towards Research	143-145
	B2: Comparison between Internet-users and Non-users (Gender wise) on: a) Lifestyle, b) Academic Achievement and c) Attitude towards Research	146-151
	B3: Comparison between Internet-users and Non-users (Faculty Wise) on: a) Lifestyle, b) Academic Achievement and c) Attitude towards Research	152-159
	<b>Section C: Factor Analysis</b>	<b>160-169</b>
	C1: Principle component Factor Analysis of Internet-users on various dimensions of Lifestyle and Attitude towards Research.	160-164
	C2: Principle component Factor Analysis of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research	165-169
<b>V</b>	<b>INTERPRETATION AND DISCUSSION OF THE RESULTS</b>	<b>170-235</b>
<b>VI</b>	<b>CONCLUSIONS AND SUGGESTIONS</b>	<b>236-249</b>
	❖ Conclusions	236-245
	❖ Suggestions for Future Research	245-246
	❖ Practical Implications	247-249
	<b>BIBLIOGRAPHY</b>	<b>250-314</b>
<b>APPENDICES</b>		<b>I-IX</b>
	❖ A Self constructed Information blank	I
	❖ Lifestyle Scale by S. K. Bawa and S. Kaur (LSS-BK, 2010)	II-V
	❖ Attitude Scale towards Research by Vishal Sood and Y. K. Sharma (ASTR-SVSY, 2012)	VI-IX

## *List of Tables*

<b>Table No.</b>	<b>Title</b>	<b>Page No.s</b>
<b>4.00</b>	Showing the Percent-wise Distribution of the overall Sample on Different Levels of Lifestyle (N=600)	<b>122</b>
<b>4.01</b>	Showing the Percent-wise Distribution of the overall Sample on different Levels of Academic Achievement (N=600)	<b>123</b>
<b>4.02</b>	Showing the Percent-wise Distribution of overall sample on different levels of Attitude towards Research (N=600)	<b>124</b>
<b>4.03</b>	Showing the Percent-wise details of Internet-users and Non-users on different levels of Lifestyle (N=300 each)	<b>125</b>
<b>4.04</b>	Showing the Percent-wise Comparison of Internet-users and Internet Non-users on different Levels of Academic Achievement (N=300 each)	<b>126</b>
<b>4.05</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (N=300 each)	<b>127</b>
<b>4.06</b>	Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Lifestyle (N=150 each)	<b>128</b>
<b>4.07</b>	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Lifestyle (N=150 each)	<b>129</b>
<b>4.08</b>	Showing the Percent-wise Comparison of Male and Female Internet-users on different Levels of Academic Achievement (N=150 each)	<b>130</b>
<b>4.09</b>	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different Levels of Academic Achievement (N=150 each)	<b>131</b>
<b>4.10</b>	Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Attitude towards Research (N=150 each)	<b>132</b>
<b>4.11</b>	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Attitude towards Research (N=150 each)	<b>133</b>
<b>4.12</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Science Stream; N=100 each)	<b>134</b>

<b>4.13</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Social Science Stream; N=100 each)	<b>135</b>
<b>4.14</b>	Showing the Percent-wise Comparison Internet-users and Non-users on different levels of Lifestyle (Arts Stream; N=100 each)	<b>136</b>
<b>4.15</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Science Stream; N=100 each)	<b>137</b>
<b>4.16</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Social Science Stream N=100 each)	<b>138</b>
<b>4.17</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Arts Stream; N=100 each)	<b>139</b>
<b>4.18</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Science Stream; N=100 each)	<b>140</b>
<b>4.19</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Social Science Stream; N=100 each)	<b>141</b>
<b>4.20</b>	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Arts Stream; N=100 each)	<b>142</b>
<b>4.21</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Lifestyle (N=300 each)	<b>143</b>
<b>4.22</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Academic Achievement (N=300 each)	<b>144</b>
<b>4.23</b>	Showing the Significance difference between the Mean Scores of Internet-users and Internet Non-users on Attitude towards Research (N=300 each)	<b>145</b>
<b>4.24</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Lifestyle (N=150 each)	<b>146</b>
<b>4.25</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Lifestyle (N=150 each)	<b>147</b>

<b>4.26</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Academic Achievement (N=150 each)	<b>148</b>
<b>4.27</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Academic Achievement (N=150 each)	<b>149</b>
<b>4.28</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Attitude towards Research (N=150 each)	<b>150</b>
<b>4.29</b>	Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Attitude towards Research (N=150 each)	<b>151</b>
<b>4.30</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Science Stream; N=100 each)	<b>152</b>
<b>4.31</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Social Science Stream; N=100 each)	<b>153</b>
<b>4.32</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Arts Stream; N=100 each)	<b>154</b>
<b>4.33</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Academic Achievement (Stream wise Comparison; N=100 each)	<b>155</b>
<b>4.34</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Science Stream; N=100 each)	<b>157</b>
<b>4.35</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Social Science Stream; N=100 each)	<b>158</b>
<b>4.36</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Arts Stream; N=100 each)	<b>159</b>
<b>4.37</b>	KMO measure of sampling adequacy and Bartlett's test of Sphericity (Group Internet Non-users)	<b>160</b>
<b>4.38</b>	Showing the Total Variance Explained of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)	<b>160</b>

<b>4.39</b>	Showing the Un-rotated and Rotated Factor Matrix of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)	<b>161</b>
<b>4.40</b>	Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet-users on various dimensions of lifestyle and Attitude towards Research (N=300)	<b>162</b>
<b>4.41</b>	KMO measure of sampling adequacy and Bartlett's test of Sphericity (Group Internet Non-users)	<b>165</b>
<b>4.42</b>	Showing the Total Variance Explained of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)	<b>165</b>
<b>4.43</b>	Showing the Un-rotated and Rotated Factor Matrix of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)	<b>166</b>
<b>4.44</b>	Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)	<b>167</b>

## *List of Figures*

<b>Fig. No.s</b>	<b>Title</b>	<b>Page No.s</b>
1	Showing the Overall Percent-wise of total Sample on Different Levels of Lifestyle (N=600)	122
2	Showing the overall Percent-wise Status of total Sample on different Levels of Academic Performance (N=600)	123
3	Showing the overall Percent-wise Status of total Sample on different levels of Attitude towards Research of (N=600)	124
4	Showing the Percent-wise comparison of Internet-users and Non-user on different levels of Lifestyle (N=300 each)	125
5	Showing the Percent-wise Comparison of Internet-users and Internet Non-users on different Levels of Academic Performance (N=300 each)	126
6	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (N=300 each)	127
7	Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Lifestyle (N=150 each)	128
8	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Lifestyle (N=150 each)	129
9	Showing the Percent-wise Comparison of Male and Female Internet-users on different Levels of Academic Achievement (N=150 each)	130
10	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different Levels of Academic Achievement (N=150 each)	131
11	Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Attitude towards Research (N=150 each)	132
12	Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Attitude towards Research (N=150 each)	133
13	Showing the Percent-wise Comparison of Science Stream Internet-users and Non-users on different levels of Lifestyle (N=100 each)	134

14	Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Social Science Stream; N=100 each)	135
15	Showing the Percent-wise Comparison Arts stream Internet-users and Non-users on different Levels of Lifestyle (N=100 each)	136
16	Showing the Percent-wise Comparison of Science stream Internet-users and Non-users on different Levels of Academic Achievement (N=100 each)	137
17	Showing the Percent-wise Comparison of Social science stream Internet-users and Non-users on different Levels of Academic Performance (N=100 each)	138
18	Showing the Percent-wise Comparison of Arts stream Internet-users and Non-users on different Levels of Academic Performance (N=100 each)	139
19	Showing the Percent-wise Comparison of Science stream Internet-users and Non-users on different levels of Attitude towards Research (N=100 each)	140
20	Showing the Percent-wise Comparison of Social science stream Internet-users and Non-users on different levels of Attitude towards Research (N=100 each)	141
21	Showing the Percent-wise Comparison of Internet-users and Non-users (Arts Stream) on different levels of Attitude towards Research (N=100 each)	142
22	Showing the Mean Comparison of Internet-users and Internet Non-users on various dimensions of Lifestyle (N=300 each)	143
23	Showing the Mean Comparison of Internet-users and Internet Non-users on Academic Achievement (N=300 each)	144
24	Showing the Mean Comparison of Internet-users and Internet Non-users on Attitude towards Research (N=300 each)	145
25	Showing the Mean Comparison of Male and Female Internet-users on Lifestyle (N=150 each)	146
26	Showing the Mean Comparison of Male and Female Internet-users on Lifestyle (N=150each)	147
27	Showing the Mean Comparison of Male and Female Internet-users on Academic Achievement (N=150 each)	148
28	Showing the Mean Comparison of Male and Female Internet Non-users on Academic Achievement (N=150 each)	149
29	Showing the Mean Comparison of Male and Female Internet-users on Attitude towards Research (N=150 each)	150

<b>30</b>	Showing the Mean Comparison of Male and Female Internet Non-users on Attitude towards Research (N=150 each)	<b>151</b>
<b>31</b>	Showing the Mean Comparison of Internet-users and Non-users on Lifestyle (Science Stream; N=100 each)	<b>152</b>
<b>32</b>	Showing the Mean Comparison of Internet-users and Non-users on lifestyle (Social Science Stream; N=100 each)	<b>153</b>
<b>33</b>	Showing the Mean Comparison of Internet-users and Non-users on Lifestyle (Arts Stream; N=100 each)	<b>154</b>
<b>34</b>	Showing the Mean Comparison of Internet-users and Non-users on Academic Achievement (Science Stream; N=100 each)	<b>155</b>
<b>35</b>	Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Academic Achievement (Social Science Stream; N=100 each)	<b>156</b>
<b>36</b>	Showing the Mean Comparison of Internet-users and Non-users on Academic Achievement Arts stream; N=100 each)	<b>156</b>
<b>37</b>	Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Science Stream; N=100 each)	<b>157</b>
<b>38</b>	Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Social Science Stream; N=100 each)	<b>158</b>
<b>39</b>	Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Arts Stream; N=100 each)	<b>159</b>
<b>40</b>	Showing the Scree Plot Graph which Represents the Eigenvalues against all the Factors of Internet-users (N=300)	<b>161</b>
<b>41</b>	Showing the Results of the Total Variance Explained by the extracted Factors and the Analysis of each of the 3 Factors Clusters of Variables Proffers a recipe for Naming the Factors of Internet-users (N=300)	<b>163</b>
<b>42</b>	Showing a Clear Pattern of the Loadings, with all items Identified with 3 Factors of Internet-users (N=300)	<b>164</b>
<b>43</b>	Showing the Scree Plot Graph which Represents the Eigenvalues against all the Factors of Internet Non-users (N=300)	<b>166</b>
<b>44</b>	Showing the results of the Total Variance Explained by the extracted Factors and the analysis of each of the 3 Factors clusters of variables proffers a recipe for naming the Factors of Internet Non-users (N=300)	<b>168</b>
<b>45</b>	Showing a clear pattern of the loadings, with all items identified with 3 Factors of Internet Non-users (N=300)	<b>169</b>







Information and communication technology is the latest in a series of technological advances that have changed the world in varied ways. The last two decades have noticed a techno-revolution caused by the rapid development of Information and Communication Technology (ICT). It is hard to imagine the future that is not supported, in one way or other, by Information and Communication Technology (ICT). An information world, called the *cyber world*, comes into being between the social and physical worlds. Looking at the current widespread diffusion and the use of ICT in modern societies, especially by the younger ones (called as *digital generation*) affects their way of life. ICTs in general and the *Internet* in particular is one of the most important and complex innovations of mankind. As we approaching a new millennium, the Internet has revolutionised our: society, economy, education as well as technological system. If there were a vote for the thing which very much influenced people's lives in the 21<sup>st</sup> century, it is none other than Internet. Most people are seen to accept Internet as a revolutionary medium which has changed the lifestyle of present generation. Gates (2000) asserted that Internet has significantly influenced the lifestyle of each one and mostly the student community. Internet is acknowledged globally as a technology dominated resource in education, social interaction and entertainment (Salako & Tihamiyu, 2007).

Michael Hart's (1995) quoted as:

*Internet, "for the first time we actually have the opportunity for a whole world's population to share not only air or water, but also to share the world of ideas, of art or of music and other sounds...anything that can be digitalized."*



The advancement of Information and communication technology shows increasingly a visible effect on education (Vandana & Rishu, 2011). The widespread availability of resources on the Internet and their potential used in educational settings has driven much debate in its use. It has made a considerable and dramatic impact on the contemporary educational practice (Chou, et al., 2002). Seeking information on Internet has become the first choice option for many teeming millions, and students seem to be no exception (Cole *et al.*, 2003). In the present era, students integrate technology into all aspects of their life for varied purposes viz. academics, research, social networking and entertainment.

Internet usage among students is negatively reported with academic activities (Aslanidou & Menexes, 2008; Tadsad, 2003; Shen & Shakir, 2009). However, other findings are contrary. Internet among students is related to their studies (Omotayo, 2006), mainly for educational purposes (Ritter & Lemke, 2000) rather than for entertainment (Sam & Nordin, 2005). Some students strongly prefer the use of Internet as their primary information source (Gibson & Mazur, 2001). They favour the Web over traditional print materials and feel that information can be located much faster via Internet (Vansickle, 2002). Students consider Internet as easier than written material in books (Edmunds & Conole, 2010; Wallace, 2004). It has increasingly influenced the information seeking behaviour of students in higher education over the past decade. Turner & Farmer, (2008) reported that surfing the Internet for course material had positive effect on the intellectual development, vocational preparation and personal development of college and university students. The mass availability of information on the web has seen significant changes in this electronic era. It accelerates university students' learning and democratizes access to educational opportunities, and support interactivity, interaction, and collaboration (Oliver, 2006). Studies carried on: effect of Internet usage on educational performance (Siomos *et al* 2008; Ghassemzadeh *et al.* 2008; Del Castillo *et al.* 2008; Recabarren *et al.* 2008; Tahiroglu *et al.* 2008). Relationship between Internet use and educational performance (Sahin & Ercan 2010). Internet usage and access to academic and entertainment networking (Tella, 2007; Anunobi, 2006; Papastergiou & Solomonidou, 2005) revealed that Internet in relation to above variables go together.



Internet as a social technology gives rise to interpersonal relationships (Merkle 2000). Some studies found Internet as a contributory to psychological well-being (Weiser, 2002, and Wellman *et al.*, 2001). Internet linking attitude has been observed with higher increase to social support (LaRose *et al.*, 2001). Mitchell *et al.* (2009), revealed Internet as a valuable means to health promotion. Lewis *et al.* (2009) refer interactive health communication applications as effective for the improved and healthier lifestyle. On the other hand, some studies indicated that Internet use among students undermines well-being because: online connections are weaker than real-life connections; online connections are often used to replace real-life relationships and activities (Nie, 2001 & Weiser, 2001). Some even observe Internet usage as a causal factor for psychological harm among youth (Eastin & LaRose, 2000). Other studies suggested Internet with direct negative effects (Choi, 2007; Sirgy, Lee, & Bae, 2006), such as social isolation, depression, loneliness and difficulties with time management. Internet use has been found associated with negative personal and social developmental outcomes (Lloyd *et al.* 2007; Morgan & Cotton, 2003; Nalwa & Anand 2003; Hilly us, & Erbring, 2002).

Gender differences in Internet usage are other attractive concerns of the research studies. No gender variation in Internet usage has been confirmed (Jackson *et al.* 2001; Odell, Korgen *et al.* 2000). Both girls and boys are equally observed comfortable with positive feelings toward the Internet. Gender does not provide consistent evidence for the presence or otherwise in Internet usage (Durdell & Haag 2002; Jackson *et al.* 2001, Schumacher *et al.* 2001; Odell *et al.* 2000, Nachmias *et al.* 2000). On the other hand, (Mishra, Yadav & Bisht 2005; Ono & Zovodny 2003; Weiser 2000; Morahan-Martin & Schumacher 2000; Nachmias, Mioduser & Shemla 2000; Madell & Sherman *et al.* 2000; Shashaani 1997) reported a significant gender difference in Internet usage. Various studies have documented that boys use Internet more frequently with longer time consumption than girls (Gross, 2004; Haythronthwaite & Wellman, 2002; Subrahmanyam, Greenfield, Kraut, & Gross, 2001). Liu & Huang (2008) revealed that male/female differences in web searching materials and female readers have been found with a strong preference for paper as a reading medium than male readers. However, male readers have experienced a greater



sense of satisfaction to online reading. Researchers like (Chen & Peng, 2008; Lin & Yu, 2008; Dholakia, 2006; Hupfer & Detlor 2006; Joiner *et al.* 2005; Madden, & Hitlin, 2005; Garbarino & Strahilevitz's 2004; Griffiths, Davies, & Chappell, 2004; Jennings & Wartella, 2004; Korgaonkar, 2003; Jackson *et al.*, 2001; Lenhart, Subrahmanyam, *et al.* 2001; Weiser 2000; Sherman *et al.* 2000; Odell *et al.* 2000; Wolin & Odell *et al.*, 2000;. Boneva, Kraut, & Frohlich 2001; Odell *et al.*, 2000; Sherman *et al.*, 2000) reported that male and female differences in web searching appear to persist such as women are more into e-mail, chat, maintaining social values, search reference materials and educational purposes. Whereas, men tend to focus on: information about personal interests and entertainment, leisure, visiting sex sites, researching for purchases, checking the news, playing games, and listening to and copying music. Female students used the Internet for communicative and academic purposes more than male counterparts and male students used the Internet for a wider variety of leisure activities than female counterparts (Jones *et al.* 2009 & Liu & Huang 2008). Most studies indicated male domination in terms of Internet usage and attitude towards the Internet; some studies showed otherwise. So, with the increased role of modern technology in day to day lives of the youth and in the light of the inconsistent findings referred above further exploration is required in this direction.

### **Significance of the Study**

Internet has been used for the last two decades in our society and we have a generation who have grown up with its routine usage. However, since its inception, Internet has not only brought convenience to mankind, but has given birth to a great deal of potential problems too. Despite the positive effects of Internet, there is growing literature on the negative effects of its use. Hicks (2002) indicated that Internet is a *double-edged sword*. Although some accept Internet as a panacea yet for others it appears in its negative growth. Researchers report that a group of students is interested in and competent with technology and a group of students' is not interested in and not very competent with technology (Vogel; Heinz 2000; & Minks 2000). Some students prefer to traditional print materials, despite the increasing prevalence of electronic sources (High& Beheshti, 2000).

Every year thousands of young students register themselves in Universities and all of them do not have the necessary skills to work with ICT resources available



to them. The gap in Internet usage is labelled as ‘the *digital divide*’ and it has been the subject of many scholarly debates. Studies conveyed that not all students are as inclined to integrate Internet use into their routine life; as is usually the case in educational debate, blame for this disparity has been most frequently attributed to deficits of skills, motivation and know-how etc on the part of students. Researchers have reasoned that some university students’ (non) engagement with the Internet is influenced by perceptions of usefulness, ease-of-use and other psychological attitudes towards both technology and learning (Cheung and Huang, 2005; Hong *et al.*, 2003; Joiner *et al.*, 2006). Users and Non-users have different ideas of what the online world is like. Peter & Valkenburg (2004) advocate a ‘digital differentiation’ approach to replace that of the digital divide, because they believe the former attributes greater importance to the characteristics of the Internet itself, rather than the characteristics of the actual users. Brotcorne (2005) reported that students’ use or not to use the Internet is not always due to a disadvantage but ‘more due to matters of “*digital choice*” rather than “*digital divide*”’.

There is a research spanning several domains, disciplines, and approaches that has investigated’ use of technology, but no work has focused on studying the influence of Use and Non-use of Internet on university students. With the surge in the use of information and communication technology, users and non-users of ICT can be considered to be more than just a simple anomaly, especially where the Internet is concerned. Internet research, therefore, is still in its infancy phase mostly among the higher education students. With regard to Internet usage a host of studies have been carried out on different categories of people. But university student population has not so far been specifically looked into. While scanning the literature, it appears that this field of research has been neglected hitherto. Besides, the investigator noticed that, there is no recent literature that bears testimony to the influence of Internet usage on university students in relation to their Lifestyle, academic achievement and attitude towards research. A gap in literature is observed by the present investigator, which led the investigator to proceed ahead by considering the Lifestyle, Academic achievement and Attitude towards research among university students in Kashmir (J&K).



## **Statement of the Problem**

### **Internet Usage among University Students in Relation to their Lifestyle, Academic Achievement and Attitude towards Research**

## **Objectives of the Study**

The following objectives have been formulated for the present investigation:

1. To identify Internet-users and Internet Non-users.
2. To find and compare the Lifestyle of Internet-users and Internet Non-users.
3. To find and compare the Academic Achievement of Internet-users and Internet Non-users.
4. To find and compare the Attitude towards Research of Internet-users and Internet Non-users.
5. To find and compare the Lifestyle of Internet-users and Internet Non-users on the basis of gender.
6. To find and compare the Academic Achievement of Internet-users and Internet Non-users on the basis of gender.
7. To find and compare the Attitude towards Research of Internet-users and Internet Non-users on the basis of gender.
8. To find and compare the Lifestyle of Internet-users and Internet Non-users on stream basis (Faculty-wise)
9. To find and compare the Academic Achievement of Internet-users and Internet Non-users on stream basis (Faculty-wise).
10. To find and compare the Attitude towards Research of Internet-users and Internet Non-users on stream basis (Faculty-wise).
11. To find out the dominant set of factors of Internet-users and Internet Non-users on Lifestyle and Attitude towards Research (separately)

## **Hypotheses**

Following hypotheses have been framed for the present investigation:

1. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on Lifestyle.
2. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on Academic Achievement.



3. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on Attitude towards Research
4. There will be a significant gender variation of Internet-users and Internet Non-users on their Lifestyle.
5. There will be a significant gender variation of Internet-users and Internet Non-users on their Academic Achievement.
6. There will be a significant gender variation of Internet-users and Internet Non-users on their Attitude towards Research.
7. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Lifestyle on stream basis (Faculty wise).
8. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Academic Achievement on stream basis (Faculty wise).
9. There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Attitude towards Research on stream basis (Faculty wise).
10. The dominant set of factors of Internet-users and Internet Non-users on Lifestyle and Attitude towards Research bear no similarity.

### **Research Design**

#### **Sample:**

A sample of 600 Post Graduate students was drawn through stratified random sampling technique from the three faculties of University of Kashmir, (J&K) India. It needs to be mentioned that the subjects enrolled in 3<sup>rd</sup> and 4<sup>th</sup> semesters were considered as the sample for the present study. The procedure for the selection of the sample is reported as under:

Three Faculties viz. i) Faculty of Science, ii) Faculty of Social Science and iii) Faculty of Arts (five departments from each faculty) participated in the investigation. These departments are: Zoology, Chemistry, Botany, Physics and Home Science (*Faculty of Science*); Sociology, Economics, Political Science, History and Social Work (*Faculty of Social Science*); English, Urdu, Persian, Hindi and Linguistics (*Faculty of Arts*). 40 students each from both the genders (20 Internet-users and 20





Internet Non-users) were drawn randomly from each department with a total of 100 Internet-users and equal number of Internet Non-users from each faculty. The Table at Page No. 100 of Chapter III shows a detailed breakup in this regard.

### Tools

Following standardised tools were used to collect the required data. Besides, an Information Blank was used to identify Internet-users and Internet Non-users. The details are given as:

1. **A Self constructed *Information blank for the identification of Internet-users and Internet Non-users.***
2. ***Life Style Scale by S. K. Bawa and S. Kaur (LSS–BK,2010)***
3. ***Attitude Scale towards Research by Vishal Sood and Y. K. Sharma (ASTR–SVSY,2012)***

- I. Information Blank:** This Information blank was developed by investigator with the purpose to identify the Internet-users and Internet Non-users.
- II. Life Style Scale (LSS–BK):** This scale has been designed by *S. K. Bawa and S. Kaur*. It consists of 60 items representing six Dimensions as i) Health Conscious Life Style, ii) Academic Oriented Life Style, iii) Career Oriented Life Style, iv) Socially Oriented Life Style, v) Trend Seeking Life Style, and vi) Family Oriented Life Style.
- III. Attitude Scale towards Research (ASTR):** This scale has been designed by *Vishal Sood and Y. K. Sharma*. It consists of forty two (42) items representing Four Dimensions, as (i) General Aspects of Research and Research Process, (ii) Usefulness of Research in Professional Career, (iii) Relevance of Research in Personal- Social Life and (iv) Difficulties in Research and Research Anxiety.

### Statistical Treatment

The data obtained was put to suitable statistical analysis by using various statistical techniques like percentage statistics (for asserting the different levels of Lifestyle, Attitude towards Research and Academic Achievement of Internet-users and Internet Non-users). Mean, Standard deviation (SD) and test of significance (“t”-test) were used in order to determine whether there is any significant difference between the Internet-users and Internet Non-users on the variables under investigation. Besides, that data collected was subjected to Factor analysis by utilizing the Principal Components Factor Analysis (PCFA).



## Findings

The study emanated certain interesting and useful results. A brief reporting of these results is summarised under the following captions.

### (A) Descriptive Analysis

Lifestyle, Academic Achievement and Attitude towards Research  
(Internet- users and Non-users)

### (B) Sub-Group Analysis

- i) Lifestyle, Academic Achievement and Attitude towards Research  
(Gender wise)
- ii) Lifestyle, Academic Achievement and Attitude towards Research  
(Faculty wise)

### (C) Comparative analysis

- i) Comparison between Internet-users and Non-users on:  
Lifestyle, Academic Achievement and Attitude towards Research
- ii) Comparison between Internet-users and Non-users (Gender wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research
- iii) Comparison between Internet-users and Non-users (Faculty Wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research

### (D) Factor Analysis

Dominant factors influencing:

- i) Internet-users on Lifestyle and Attitude towards Research.
- ii) Internet-non-users on Lifestyle and Attitude towards Research.

## Section (A): Descriptive Analysis:

### Lifestyle, Academic Achievement and Attitude towards Research

#### (Internet-users and Non-users)

The below recorded conclusions are draw with regard to this Section:

1. Percent-wise distribution of Internet-users and Internet Non-users, on various levels of Lifestyle revealed majority of Internet-users with *moderate level* of lifestyle in comparison to Internet Non-users.
2. The study concluded that Internet-users, in comparison to Internet Non users, exhibited higher academic achievement. The percent wise distribution revealed the major percentage of Internet-users in *first division* category.



3. The study revealed majority of Internet-users *moderately favourable* on attitude towards research as against to their comparable group.

### **Section (B): Sub-Group Analysis**

#### **i) Lifestyle, Academic Achievement and Attitude towards Research (Gender wise)**

The sub group analysis led to the following conclusions:

1. Percent-wise comparison of male and female Internet-users on Lifestyle revealed majority of the female Internet-users on *above average level* as against to their male counterparts.
2. The comparison between male and female Internet Non-user group on Lifestyle revealed a majority of female Internet Non-user group in *high level* category of Lifestyle as compared male Non Internet-user group.
3. The study concluded that the percent-wise distribution of male and female Internet-users on academic achievement indicated a higher frequency of female Internet-users in *first division* category as against to their male counterparts.
4. The percent-wise comparison of Internet Non-user group from both the genders on academic achievement revealed females with satisfactory results as compared to male group. Majority of female Internet Non-users were placed in *first division* category.
5. The study was concluded with the observation that both the genders from Internet-users' group were *moderately favourable* on attitude towards research.
6. The findings revealed that a considerable percentage of male Internet Non-users had a *moderate level* of attitude towards research in comparison to female Internet Non-users.

#### **Sub-Group Analysis on:**

#### **ii) Lifestyle, Academic Achievement and Attitude towards Research (Faculty wise)**

The faculty wise comparison revealed the following broader conclusions:

1. Internet Non-users from *Science stream* had *above average level* of Lifestyle as against the Internet-users of same stream.



2. The percent-wise comparison between Internet-users and Internet Non-users belonging to *Social science stream* on Lifestyle was found significantly higher (above average) in case of Internet-users on Lifestyle.
3. The study found that on *high level* category, the lifestyle of Internet Non-users from *Arts stream* was higher as against Internet-users.
4. The percent wise comparison between Internet-users and Internet Non-users from *Science stream* found a maximum percentage from Internet-user group with *first division*.
5. The comparison between the Internet-users and Internet Non-users from *Social science stream* on academic achievement revealed a large percentage of Internet-users with *first division* as compared the Internet Non-users.
6. It was concluded that Internet Non-users from *Arts stream* were considerably in higher percentage with *first division* as against the Internet-users.
7. Percent-wise comparison between Internet-users and Internet Non-users belonging to *Science stream* found a *moderate level* of attitude towards research among Internet-users in comparison to Internet-Non users.
8. While comparing the Internet-users and Internet Non-users belonging to *Social science stream* on attitude towards research, it has been observed that a significant percentage of Internet Non-users found their place on *unfavourable level* category as against the Internet-users.
9. Percent wise comparison of *Arts Stream* Internet-users and Internet Non-users on attitude towards research revealed large percentage of Internet-users as *moderate level* in comparison to Internet Non-users.

### **Section (C) Comparative Analysis**

#### **(i) Comparison between Internet-users and Non-users on:**

##### **Lifestyle, Academic Achievement and Attitude towards Research:**

This section is reported with the following conclusions:

1. Internet-users and Internet Non-users were significantly different on all the dimensions including the composite score of lifestyle.
2. The study found Internet-users with good adaptation towards Health Oriented Lifestyle, Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle.



3. Internet Non-users were found inclined towards Socially Oriented Lifestyle and Family Oriented Lifestyle. However, the overall results revealed Internet-users with better adaptability on lifestyle than their comparable group.
4. A significant difference between the Internet-users and Internet Non-users on Academic Achievement was confirmed. This confirmation supported Internet-users' group with higher academic achievement.
5. Internet-users and Internet Non-users differed significantly on all the four dimensions of Attitude towards Research. The study observed Internet-users with a favourable Attitude towards the: General aspects of Research and Research Process, Usefulness of Research in Professional Career, Relevance of Research in Personal Social Life. However, in one dimension i.e. Difficulties in Research and Possession of Research Anxiety could not be established among Internet-users.

**(ii) Comparison between Internet-users and Non-users (Gender wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research:**

Gender wise comparison emanated the following broader conclusions:

1. Male and female Internet-users differed significantly on three out of six dimensions of Lifestyle. The findings concluded that female Internet-users had excellent adaptation towards i) Academic and ii) Trend Oriented Lifestyle. Whereas, male Internet-users were found with a favourable tendency in the adaptation of better Career Oriented Lifestyle.
2. Both the groups under investigation were found equally inclined towards Health Oriented Lifestyle, Socially Oriented Lifestyle and Family Oriented Lifestyle. Overall results favoured female Internet-users with a better tendency in the adaptation of lifestyle than their comparable group.
3. The Male and female Internet Non-users differed significantly on three out of six dimensions of Lifestyle. Male Internet Non-users were found with better adaptation towards Health Oriented Lifestyle. Whereas, female Internet Non-users were equally inclined towards Socially Oriented Lifestyle and Family Oriented Lifestyle.
4. Both the groups were similar on Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle. Overall results revealed equal inclination of both the groups towards life style.



5. Male and female Internet-users on Academic Achievement were found significantly different from each other. The results favoured female Internet-users with higher academic achievement.
6. Male and female Internet Non-users on Academic Achievement were found significantly different from each other. The results favoured female Internet Non-users with higher academic achievement.
7. Male and female Internet-users differed significantly on three out of four dimensions of Attitude towards Research. Male Internet-users were found with favourable tendency on General aspects of Research and Research Process, Usefulness of Research in professional Career and Difficulties in Research and Research Anxiety.
8. Both the groups were observed with similar inclination towards the Relevance of Research in Personal and Social Life. Overall results revealed male Internet-users with a favourable leaning towards Research in comparison to their comparable group.
9. Male and female Internet Non-users were significantly different on two out of four dimensions of Attitude towards Research. Female Internet Non-users' showed favourable tendency towards the General aspects of Research and Research Process.
10. The study found male Internet Non-users favourably inclined towards the Relevance of Research in Personal and Social Life.
11. Both the groups had a similar inclination towards the Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety.
12. The overall results revealed both the groups of Internet users and Internet Non-users with an equal tendency towards their lifestyle.

**(iii) Comparison between Internet-users and Non-users (Faculty Wise) on:**

**Lifestyle, Academic Achievement and Attitude towards Research:**

The conclusions deduced in this section are put as:

1. Internet-users and Internet Non-users from *Science stream* differed significantly on four out of six dimensions of lifestyle. Internet-users were found with a tendency to adapt better Academic Oriented Lifestyle. On the other hand, Internet Non-users were found with excellent adaptation towards Socially Oriented Lifestyle, Trend Oriented Lifestyle and Family Oriented Lifestyle.



2. The dimensions of Health Oriented Lifestyle and Career Oriented Lifestyle were not found in any way different between both the groups of subjects from *science stream*.
3. The overall results revealed that Internet Non-users from *science stream* had a tendency to adapt better lifestyle than their comparable group.
4. Internet-users and Non-users from *Social Science stream* were found significantly different from each other on all the six dimensions of Lifestyle. Internet-users have shown good adaptation towards Health Oriented Lifestyle, Academic Oriented Lifestyle, Career Oriented Lifestyle, and Trend Oriented Lifestyle. Whereas, Internet Non-users were found with higher inclination towards Socially Oriented Lifestyle and Family Oriented Lifestyle.
5. The overall results revealed the Internet-users from *Social Science stream* with higher leaning on lifestyle than their comparable group.
6. The study concluded that Internet-users and Non-users from *Arts stream* were significantly different from each other on four dimensions of Lifestyle. Internet Non-users from *Arts stream* were found better on Health Oriented Lifestyle, Socially Oriented Lifestyle, Trend Oriented Lifestyle and Family Oriented Lifestyle. However, both the groups reported similarity towards the Academic Oriented Lifestyle and Career Oriented Lifestyle.
7. The overall results revealed Internet Non-users from *Arts stream* with an excellent adaptation towards lifestyle than their comparable group.
8. It was concluded that Internet-users and Internet Non-users belonging to *Science stream* were different from each other on Academic Achievement. Better grades and higher Academic Achievement favoured Internet-user group.
9. A significant mean difference on Academic Achievement between the Internet-users and Internet Non-users from *Social Science stream* was confirmed. This difference favoured the Internet-user group with higher grades and Academic Achievement.
10. Internet-users and Internet Non-users from *Arts stream* were found different on Academic Achievement. Observation of this mean difference has gone in favour of Internet Non-user group, who were seen higher on Academic Achievement.
11. It was found that Internet-users and Non-users (*Science stream*) were significantly different on two dimensions of Attitude towards Research.



Internet-user group was found favourable on both the dimensions i.e. General aspects of Research and Research Process and Usefulness of Research in Professional Career. However, both the groups could not be differentiated on Relevance of Research in Personal and Social Life and Difficulties in Research and Research Anxiety.

12. The overall results revealed Internet-users (*Science stream*) with a favourable Attitude towards Research in comparison to their comparable group.
13. Internet-users and Internet Non-users from *Social science stream* were seen significantly different in three out of four dimensions on Attitude towards Research. Internet-users were found with favourable attitude towards the General aspects of Research and Research Process, Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety. On one dimension i.e. Relevance of Research in Personal and Social Life, the difference between the two groups could not be established.
14. The overall findings revealed Internet-users (*Social science stream*) with a favourable Attitude towards Research as against to their comparable group.
15. Internet-users and Internet Non-users from *Arts stream* differed significantly in one dimensions of Attitude towards Research. Internet-users were found with a favourable condition towards the General aspects of Research and Research Process. In rest of the three dimensions of Attitude towards research i.e. Usefulness of Research in Professional Career, Relevance of Research in Personal and Social life and Difficulties in Research and Research anxiety, the differences between the two groups could not be established.
16. The overall results revealed that Internet-users (*Arts stream*) were favourable on the Attitude towards Research than Internet non user group.

#### **Section D: Factor Analysis**

##### **i) Dominant factors influencing Internet-users on: Lifestyle and Attitude towards Research**

The following conclusions are drawn by applying factor analysis:

1. The factor analysis led to the emergence of three factors in case of Internet-users with 74 % of the total variation in data. Each of the variables that loaded on the First factor with a correlation ( $r$ ) of  $0.853 \leq r \leq 0.906$  and this First factor is





designated as “*Contemporary Lifestyle with Career and Physical Efficacy*”. This factor was found more influential among the Internet-users group with high factor loadings.

2. The Second factor that loaded with correlation ( $r$ ) as  $0.717 \leq r \leq 0.903$  is designated as “*Academic Attainment and Research Affinity*”. This factor is the second influential factor of Internet-users.
3. The variables that loaded on the Third factor with a correlation ( $r$ ) coefficient of  $0.676 \leq r \leq 0.717$  is labelled as “*Research Connivance in Routine Life*”. This is the third but least influential factor among Internet-users.
4. It is to be recorded factors - “*Contemporary lifestyle with Career and physical efficacy*” and “*Academic attainment and research affinity*” exhibited a greatest variability among Internet-users.
5. Last identified factor i.e. “*Research connivance in routine life*” emerged as the 3<sup>rd</sup> factor which exhibits low variability among Internet-users.

**ii) Dominant factors influencing Internet Non-users on: Lifestyle and Attitude towards Research:**

6. Three factors emerged among Internet Non-users with 76 % of variance. Each of the variables that loaded on the First factor has a correlation ( $r$ ) coefficient as  $0.701 \leq r \leq 0.922$ . Therefore, this factor is labelled as “*Socio-familial Involvement and Professional Interest*” and is reported as the most influential factor among Internet Non-users group. This factor is the second influential factor of Internet Non-users.
  1. The Second factor on which the variables that loaded on this factor has found a correlation ( $r$ ) coefficient as  $0.510 \leq r \leq 0.815$ . This factor is designated as “*Health Efficacy with Research Perception*”.
  2. The variables that loaded on the third factor with a correlation ( $r$ ) coefficient as  $0.412 \leq r \leq 0.831$ . Therefore, the factor is labelled as “*Research Acquaintance for Existence*”. This is the third and least influential factor among Internet-users.
  3. The factor analytical method found Internet Non-users group with the greatest variability in “*Socio-familial involvement and professional interest*” and “*Health efficacy with Research perception*”.



4. The last identified factor i.e. “*Research acquaintance for existence*” emerged as the 3<sup>rd</sup> factor which exhibited a low variability among Internet Non-users.



Due to the enormous development of technologies, the present era can be called the *Age of Technology*. The most profound changes in the past decade, has been the widespread proliferation of information and communications technologies (UNICEF, 2011). It is believed that technological advancements continue to progress at a rapid rate. However the technology that was a luxury a few years ago is now considered a requirement. The main changes, this technology has caused, have been summarized by "Marshal McLuhan" as the term of "*universal village*" that people, all around the globe, can communicate as easily as the live in a village (Farshbaf, *et. al.* 2009). The fact that our world has been turning into an information-based world, the value of information increases; the acquisition of information in the right place and at the right time is of vital importance for individuals and society. The widespread use of ICT in all areas has a direct effect upon the way in which the world is perceived. The permeating presence of telematic networks in all scopes of life allows unlimited access to information and a flexibilization of time and space barriers. The last two decades have witnessed a revolution caused by the rapid development of Information and Communication Technology (ICT). It is difficult and impossible to imagine future that is not supported, in one way or another, by Information and Communication Technology (ICT). While looking into the current widespread diffusion and use of ICT in modern societies, especially by the young the so-called *digital generation* then it should be clear that ICT will affect the complete way of life today and in the future. (ICT) at present is influencing every aspect of human life. The way the different fields operate today is vastly different from the ways they operated in the past. ICT plays salient role in work places, business establishments, education, and entertainment. Moreover, ICT proves catalyst for change; change in working conditions, handling and exchanging information, teaching methods, learning approaches, scientific research,



and in accessing information. According to Blurton, (2010), the power of information technology has been significantly stronger due to its presence is *anytime-anywhere*. It has the ability to transcend time and space. Fabunmi, (2012) quoted.....

*'Information and Communication Technology (ICT) is the means of accessing or receiving, storing, transferring, processing and sending ideas, perception or information through computers and other communication facilities'.*

Technological advancement gives rise to so many ICT tools which seem to be central to contemporary societies and therefore referred this era as information technology age determined by *knowledge society*. It is reported that ICTs in general and the *Internet* in particular is one of the most important and complex innovations of mankind. The role of Information and Communications Technology (ICT) in human development has received growing attention due to the growing proliferation of the Internet, convergence in Information technology and telecommunication technologies. Creation of the Internet has brought about a change in lifestyle of the people which is reported to rely on Internet. The role of Information and technology (ICT) in human development has received momentum due to growing proliferation of the Internet. ICT has been viewed as a cluster of associated technologies defined by their functional usage in information access and communication of which one embodiment is the Internet (Ogunsola & Aboyade, 2005). Being a newly established dimension of modern technology in the contemporary world, Internet plays a vital role in the change and evolution of lives of the people in present society. From its beginning, it has grown like an octopus to affect different spheres of human endeavour. It has become a necessary tool, so that removing it from life is not imaginable (Aslvyn, 2001). It has become a global source of information accessible at *anytime* by *anyone* from *anywhere* on this planet. It has converted the whole world into a global information web. Internet has changed our lives in a revolutionary way regardless of any geographical boundaries. Due to Internet use, people across the globe have become part of a networked society, whereby time and distance have lost their meaning (Holtz 2002). This indicates that communication has shifted from the '*one-to-many*' to '*many-to-many*'. It is arguably one of the most significant technological developments of the late 20th century and a mechanism for information dissemination and a medium for collaborative interaction among and between the individuals and their computers without the geographical limitations associated with space (Leiner,



et.al. 2000). It is a 'live' but constantly 'moving', theoretically borderless, potentially infinite space for the production and the circulation of information. So, the Internet is one of the greatest recent advancement in the world that has fostered the process of making the world a **global village**. Spring (1994) quoted.....

*“The revolution will not be televised, but the proceedings will be available online.” Quoted from Whole Earth Review*

The Internet has come with an evolution that cannot be compared with the existing technologies that existed before. It is a new and innovative medium that can completely change the lives of people much as television did in fifties. The Internet is only two and half decade old, but it is already the key catalyst of the most extensive and fastest technological revolution in history. The Internet changes people's lives in terms of reaching, disseminating, creating, and evaluating a huge amount of information easily and so rapidly. Shitta (2002) asserted that the Internet is a communication super highway that links, hooks and focuses the entire world into a global village, where people of all races can easily get in touch, see, or speak to one another and exchange information from one point of the globe to another. The Internet is referred to as an **ocean of information** and knowledge which is now globally used in every facet of human endeavour. It is one of the facilities through which information and knowledge can be stored, arranged and transmitted return to its users quickly, timely, and accurately (Adegbija & Daramola, 2007). It is also regarded as a powerful communication medium due to its unique characteristics. It includes interactivity, hypertextuality and multimediariness (Severin & Tankard 2001). These characteristics help users to be active and to exchange the roles in their mutual discourse. Peter Cochrane, (1998) predicted what the world was heading towards in the 21<sup>st</sup> century by saying, **“If you are not online, you don't exist”** (Seitel, 2001). It is beyond doubt that the Internet has emerged faster than any other communication channel and has cogently changed our mundane life.

Since Internet appeared before the general public in early 1990s, and its growth rate has been seen unusual. Its penetration had far surpassed the diffusion speed of the traditional media. Internet took nearly three years to reach 50 million users, as compared to radio, and television which reached to general public with 38 and 13 years respectively (Molosi, 2001 & Dholakia, 2004). The changes brought about by the Internet surpassed the impact of television and revived the effects of the



printing press. Internet being a global network interlinking millions of computers all over the globe and provides an infinite variety of contents as well as a diverse range of applications (Goggin & Griff, 2001). It is becoming a widely accepted channel for information exchange and powerful networking because it contains the biggest resource of information in the entire world and it enables people to obtain an interactive mechanism to instantly communicate with each other through the Internet using a range of applications. voice-over-Internet-protocol (VOIP), checking traffic news, purchasing cinema tickets, and carrying out online share trading, downloading music and video, chatting and playing games, email, and have access to the encyclopaedia, newspapers, bulletin boards, video arcade, hyper mails, broadcast stations, the movies, mail order, music entertainment, etc, all at one stop in a global village (Kuhlemeier, 2007; Wishart, 2007). It provides that store of information which is not possible for any single entity to hold or manage. Ani (2005) quoted.....

*The Internet is a network of linked computers which are located at different points all over the world that provides easy communication between persons and organizations no matter where they are located.*

The 'Internet' is formed by conjoining two words that imply an international network: Inter "**international**" and Net "**network**" (Isman, 2003). The Internet therefore can be defined as an international computer network of information available to the public through modem links (Bassegy, 2003). The word Internet emanates from the words "Internet Connection Network", connecting computers around the world by the use of a standard protocol (Greenfield, 1999). IT Encyclopaedia (2001) in the same vein defines Internet as an essentially whole bunch of computers connected together by wires which they can talk over. Ogedebe (2004) Internet is a large computer network formed out of some thousands of interconnected networks, and it supports a whole range of services such as electronic, file transfer protocol, database access and many others. DiMaggio *et al*, (2001), the Internet is "electronic network of networks that links people and information through computers and other digital devices allowing person-to-person communication and information retrieval." Nwafor & Ezejiofor (2004) observe that the Internet is not a single network of computers but a network of nets, a large network that connects many smaller networks to one another. The advent of the computer and the Internet has brought a whole new world in terms of gathering, disseminating, creating, and criticizing



information and communicating with people. On the other hand, the “Internet” is a “*giant network*” which interconnects innumerable smaller groups of linked computer networks” or which virtually covers the entire globe. On this network, the *World Wide Web* provides a global platform for information storage, resource sharing, communication, research, entertainment, education and business transactions etc. The web is actually a collection of electronic documents that are stored on computers throughout the world (World Wide Web, 2002; Howe 2007). Through the use of a web browser these documents can be easily accessed by anyone who knows what to look for and are frequently identified through the use of search engines designed to access these documents based on key words (Search Engine, 2009, Schneider, *et.al.* 2006). Ezomo (2006) asserts that Internet is the gateway for libraries and information centers to enter the electronic information era and provides information generated by different organizations, institutes, research centers, and individuals all over the world. Nowadays, with the popularization of the network, the on line life is not just for those computer geeks. Also, the Internet network is widely used by people all over the world. More and more people are accustomed to search resources from the Internet which is not easy to realize without the mature network technology. It seems no matter what difficulties people meet, the first reaction is almost to ask Google or Wikipedia. Michael Hart's (1995) pointed out "for the first time we actually have the opportunity for a whole world's population to share not only air or water, but also to share the world of ideas, of art or of music and other sounds...anything that can be digitized. In fact, it is certainly true that life online is inescapable, especially in the information explosion society. The Internet can supply numerous information resources which is renewed and up to date. For instance, you can read the newspaper and books in the online library for free instead of buying a new one. This is very attractive to *Netizen* ('Netizen', which means net citizen) especially for students. That is why today, the Internet has linked thousands of nations and enterprises across the world. Hence, the world which appears physically large has been made too small by Internet and reference to it as “global village”. In addition, Chou (2001) indicated that the most appreciated Internet features included interactivity, simplicity, and availability, viz-a-viz abundant and updated information. In fact, the attractiveness of Internet has increased as a result of its availability, accessibility, and affordability. Matisse Enzer glossary of Internet terms (2000–2008) revealed.....



*Internet: As a wide-area network connecting millions of computers globally for the purpose of allowing people to access information contact each other and share information resources*

The Internet developed from a United States Department of Defence project (Dawson, 2005). During the Cold War there was concern that in the event of a nuclear attack, US communication systems could be knocked out by missiles hitting key communication centres. The initial core of what would become the **Internet** was the network that was designed by the defence ministry of America to help informing in the military and top secret projects. The network was linked to some other networks while continuing its work consider its high efficiency, and the scientists as well as research institutions were soon attracted to that. The rudimentary network was abandoned by the American Government but this developed form of network is now transmitting so much diverse and expanded information all over the world to millions of users (Sedigh, 1996). The Internet was originally developed in the 1960s, when several computer scientists were hired by Pentagon at the U.S. Defence Department headed by Dr. Robert W. Taylor (Schneider, Evans, & Pinard, 2006), to build a system to decentralize communication network primarily for military purposes. There was therefore a need to develop a distributed system that could withstand such destruction. In late 1960s, the Internet (under its original name Advanced Research Projects Agency Network–ARPANET) was designed (Hinson & Amidu 2005). ARPANET developed out of the government’s effort to connect computers together throughout the country. The main purpose of ARPANET was to secure communication between military organizations and safely store large amounts of critical information in the event of a nuclear holocaust (Bogard, 1996). The researchers soon realised the importance of networking and by 1986, the U.S. National Science Foundation network NSFNET established to extend the network to more research institutions. ARPANET ceased to exist in 1990. Over time the network grew rapidly to interconnect numerous universities, research centers as well as commercial organization. Thereafter, the word and use of the INTERNET expand globally. In 1989, the World Wide Web (WWW) went global, and brought about the instantaneous access of information to every corner of the planet. Internet spread rapidly across the globe and grew to one million users in 1992 (Giovannetti, Kagami & Tsuji, 2003). It has been providing a novel type of communication that enables the





user to access large amounts of information with a touch of a finger. The number of Internet-users started to increase in 1993 and has steadily increased since that time. The greatest increase in the number of users accessing the Internet began in 1999. Since then, the continual improvement of the Internet technology has provided an extraordinary level of public accessibility to a wide range of forms of communication, e.g. intra-organisational and inter-organisational email; data storage, management and transfer; social websites like Face book; text messaging such as Twitter, and so forth. Due to the development and spread of cheaper and more user-friendly computer technology and software (e.g., portable computers, Microsoft Word etc), the use of the Internet has increased dramatically. The remarkable growth in the Internet's functionality, capacity, accessibility and convenience, these improvements have encouraged more people to use it more often, and it has become a powerful application in modern society. The Internet access and usage in the world has been proliferating year by year, conservative estimates put the number of Internet-users worldwide. The Internet is estimated to be growing at a rate of 10.15 per month with numbers rising from about 56 million Internet-users worldwide in 1995-96 (Daly 2000), and increased 150 million at the end of 1998 and 200 million people in 1999 and at 500 million by the year 2000 to 2001(Castells, 2001) with an associated exponential growth in the number of web sites. According to the Computer Industry Almanac (2009) the worldwide number of Internet-users surpassed one billion in 2005 (up from 45 million in 1995 and 420 million in 2000). By March, 2006, there were over a billion Internet-users worldwide (Internet World Stats, 2006). The number of Internet-users grew by 114 percent when compared with the figure in 2000 (Central Intelligence Agency, 2006; Internet World Stats, 2006). Burns (2006) predicted that the adoption of various information technologies, including Wi-Fi connectivity, RSS feeds, blog authoring and podcasts, will drive Internet usage worldwide. Statistical research tell us that Approximately 1.11 billion users in 2007, 1.67 billion in 2009, and 1.97 billion in 2010 (Miniwatts Marketing Group, 2010), indicating an upward trend in the number of digitally literate people. Such a rapid growth has been interacted with people's needs and motivation. Within a decade, from 2000 to 2011 the number of Internet-users globally rose from 360 million to 2.267 billion and by the end of June 2012 there were over 2.4 billion Internet-users in the world (Internet world Stats, 2012).The number of Internet-users in the world has



experienced a growth of 480.4% between 2000 and 2011 with the number of Internet-users around the world estimated to be over 2 billion people within a world population of approximately 6.93 billion by March 31, 2011 (World Internet-users and Population Stats 2011). In 2010, the world's Internet use was 28.7% of the population. While this may not seem like a very large portion of the world's population, the growth in Internet use worldwide has increased dramatically from 2000- 2011. In recent years, the number of Internet-users has increased worldwide. The growth of Internet use in Asia is higher than that in Europe and North America. Around 40% of the world population has an Internet connection today. In 1995, it was less than 1%. The number of Internet-users has increased tenfold from 1999 to 2013. The first billion was reached in 2005. The second billion in 2010. The third billion is expected by the end of 2015.

India stands fourth in the world after US, China and Japan in terms of the Internet-users (Internet World Stats, 2010b). In India, the major group of Internet-users belongs to the academic community as the Internet came to India primarily for academicians through Educational and Research Network (ERNET). Internet came to India in the early 1990s for a restricted group of users through some leading Internet Service Providers (ISPs). The Education and Research Network (ERNET), National Informatics Centre Network (NICNET) and Software Technology Parks of India (STPI) have been offering Internet services with very different charters and growth histories. ERNET was designed to provide Internet access to the Indian educational and research institutions, NICNET was designed to provide Internet access primarily to Government departments and STPI was permitted to serve only the software exporters falling under the Software Technology Park scheme of the Department of Electronics. Later on, Videsh Sanchar Nigam Limited (VSNL), Bharat Sanchar Nigam Limited (BSNL) and Mahanagar Telephone Nigam Limited (MTNL) entered into the market. The Indian Internet services market was opened for private sector participation in November 1998. India's first private ISP is "Satyam Online" launched by Satyam Info way. Thereafter, Sify, Airtel, Netcom, Reliance and Hathway became the major private ISPs of India.

The Internet services were introduced in the *Kashmir Valley* during 1994-95 by Bharat Sanchar Nigam Limited (BSNL). With the passage of time, three more privately owned ISPs- IPEAKS, SLICNET and INFONET were registered but only



IPEAKS was operational till 1997, (Chawla, 2003). Presently, six ISPs namely BSNL, AIRTEL, AIRCEL, IDEA, Tata Indicom, Reliance, and Vodafone are operational in the Kashmir Valley. The Commercial Cyber Cafes are also available in all the major towns of the Valley. The population composition of the Internet-users ranges from decision makers to commoners, professionals to students, business giants to common workers, producers to consumers, irrespective of age, gender, generation, religion, region, race and colour. The highest percentage of Internet-users belongs to younger generation. Since its inception, the Internet has grown exponentially over the years and has emerged as the foremost healthy source of disseminating information to a large audience, transcending the limitation of time and space. There has been remarkable growth in the Internet's functionality, capacity, accessibility and convenience. These improvements have encouraged more people to use it more often (Leiner *et al.*, 2000; Singh, 2002).

The first decade of the 21<sup>st</sup> has seen dramatic changes due to the exponential proliferation of the Internet in all aspects of life. What has been called the digital culture has had an extensive influence on education. Internet use has become very popular in many areas including *education* in recent years. It has affected the field of education at all grade levels (Sati and Khalid, 2002). The widespread availability of resources on the Internet and their potential used in educational settings has driven much debate its usability (Sinha, 2004). The use of the Internet in education allows a wide range of international resources to be accessed. Resources can be very well organized on the Internet, which allow for easy information access and exchange (Hicks, 2002). Internet can be used as a supplement to traditional instructional methods, to complement a lecture; instructors may ask students to find specified web sites to gain more in-depth knowledge about a particular topic (Robinson, 2005). Integrating Internet, mobility, and multimedia as well as other software powerful facilities lead to tremendous potential in education process with special impact on students, lecturers, and researchers. It has made considerable and dramatic impact on contemporary educational practice (Chou, *et al.*, 2002; Havick. 2000; Tsai.2001). For example, the Web-based learning where educators integrate the Internet into instructional practice can not only provide learners with distant, interactive, broad, individualized and inquiry-oriented learning activities, but also promote their knowledge construction and meaningful learning (Leflore, 2000). Learners consider



Internet as the main and initial source of information (Tuncer, et al. 2011). As the Internet is broadly used for educational purposes; learners may have more rich experiences of utilizing the Internet. Levin (2003) stated the Internet as a new invented technology that holds the greater promise humanity has known for learning and universal access to quality education. As an educational tool Internet lets access to inexpensive, global, interactive and intensive computer communication and it also enables the student to improve his/her learning experience (Deniz & Coskun 2004). The comprehensive literature available shows that the Internet has the following functions in education: (i) storehouse of information, (ii) communication without boundaries, (iii) online interactive learning, (iv) electronic/online research, (v) innovation in the new world, (vi) improve interest in learning, (vii) global education, and (viii) information catalogues. As the Internet have many potentials and functions. Fuchs (2008) expressed:

*The Internet is the global techno–social system that is based on a global, decentralized technological structure consisting of networked computer networks that store objectified human knowledge*

The Internet has experienced vast expansion in recent years, leading to its extensive use by people from all generations. People in different age groups and jobs, students and academicians using the Internet because it is the easiest, fastest, and cheapest ways of accessing necessary information. For a generation of young people, technology has assumed a substantial stake in their social and educational lives. According to Chan & Fang (2007) found that Internet is used for different purposes by young people such as making friends, shopping, listening to music, having fun, doing homework, and finding information for further education. Internationally, there are many surveys on the use of the Internet, and nearly all find that Internet use is most prevalent amongst younger, more educated people (Hoffman, Novak & Schlosser, 2000). Chan & Fu (2009) Internet searching helps university students to boost their intellectual development and job preparation. Due to the endless nature of information resources on the Internet. Researches indicate that seeking information on the Internet has become the first choice option for many people, especially for students (Cole *et al.*, 2003; Lawrence & Giles, 1999). About half of the students begin using computers during their undergraduate years, and nearly two-thirds of them make use of Internet for educational purposes (Usta & Yildirim, 2007). Students



accepted that the Internet is more informative, useful, less expensive, time saving .It has made a tremendous impact on the academic activities of the students. Students use the Internet activities (facilities) especially for seeking homework and their projects by using search engines. Glenda *et al.* (2006) some of the most important reasons why students go online include research, school assignments, e-mails and chatting. Ibegwam (2004) that majority of the students used the Internet for academic purposes. They use e-journals, e-libraries, e-books, and online databases as academic resources for their related courses (Shahin & Ercan, 2010). New times are characterised by new ways of learning, primarily through use of the Internet (Kerry, 2000; Moor & Zazkis, 2000). The Internet is a relatively new channel for scholarly resources, and contains vast quantities of information that vary a great deal regarding its contents, aim, target group, reliability etc. Hence, it is important that the end-user is aware of the diverse information available on the Internet, and educated in the criteria by which the information content should be assessed (Chapman, 2002).

Today's students are believed to integrate technology in all aspects of their lives for varied purposes, particularly socializing, entertaining and shopping (Asselin, Moayeri, 2008) as well as doing homework (Lenhart & Hitlin, 2005). Students have easier access to a wider range of material, and can establish links between different information in variety of ways . Adeya & Oyelaran-Oyeyinka (2002) noted that the Internet will increase student access to education, improve curriculum and quality of instruction and increase the productivity of academic publications. It allows learners to ask questions or share ideas with teachers and friends via electronic mail (James, 2001), to do hands-on activities using Internet-based manipulative (Crawford, 2003), to engage in collaborative-projects with other students in different countries (James, 2001), to collaborate in discussion forums (Yang, 2002), to ask questions directly to experts, or to obtain primary resources (Kerry, 2000). Anything from discussions to research based activities with off country studying is possible. It allows students to broaden their academic experience, access important information and communicate to others within academic community. Ojedokun (2001) noted that the Internet has many benefits in the academic cycle, including provision of round-the-clock access to a wide variety of information sources globally and the ability to discuss and share experience. Through the Internet, many different activities can be assigned to the students, which will enhance their education. With the Internet activities, which



previously required students to be physically present in the classroom, can now be performed virtually without attending classrooms (Bellon, 2002; Foster, 2003). All of these are new ways of learning which were unknown two decades ago. Dehmler (2009) asserts that students today are growing up in an interconnected, networked world; they have unprecedented access to modern technologies and are using them in expected and unexpected ways.

Information and Communication Technology (ICT) has now broadened the horizon of the opportunities among institutions of higher learning, giving hopes to members of the academic communities to cooperate with their counterparts all over the world (Collis & Wende, 2002; OECD, 2005), and strengthened their mandate of teaching and carrying out research (CHEPS, 2000). Internet use has become a way of life for the majority of higher education students all around the world. It affects the way people learn especially in higher learning institutions (Edmunds & Conole, 2010). It serves as a useful tool in support of the various educational activities that ranged from research to teaching. It also enables scholars and academic institutions to disseminate information to a wider audience around the globe through websites (Luambano & Nawe 2004). Students prepare course assignments, make study notes, tutor themselves with specialized multimedia, and process data for research projects. Most of them exchange emails with faculty, peers, and experts working at distance places. They keep up to-date in their fields on the Internet, accessing newsgroups, bulletin boards, listservs, and web sites posted by professional organizations. Usun (2003) indicated that Internet is appealing to higher education for a number of reasons: it reduces the time lag between the production and utilization of knowledge; it promotes international co-operation and exchange of opinions; sharing information and it helps to promote multidisciplinary research. Students receive the opportunity to use the Internet to seek and obtain scholarly material. Wilkinson *et al.* (2003) reports that most of the links between universities home pages were associated with information on research or education. Omidian (2011) identified that university students prefer to use the Internet for their information need more than traditional print sources due to being quickly and easily valuable resource. It has been seen that students utilize the Internet for the university education all over the globe (Isman & Dabaj, 2004). Students use Internet because of the perceived effectiveness of the facility in information access on assignments and research projects. It is common to



say that more than 50 percent of students' assignments are based on information from the Internet (Norzaidi & Salwani, 2008a, b). Thus, today, academic life without the access to the Internet is hardly imagining (Spennemann *et al.*, 2007). However, much still is unknown about how university students use the Internet information systems for academic work (Aiken *et al.*, 2003). As a matter of fact, majority of higher institutions of learning have now established their online presence with their researchers and students also having access to journals, magazines, newsletters and books (Jagboro, 2003). There are great possibilities for higher education at all levels through the use of the Internet because curricula can be developed collaboratively and educational materials distributed and updated more cheaply, offering additional ways for students to Interact with their study materials as well as their instructors. There are also pressures to make learning more flexible even for those students who have access to the Internet on a university campus (Brown, 2001). Further, there are multiple forces driving Internet expansion in higher education including globalisation and the need for workforce training, learner on-demand services, digitisation, knowledge explosion, and cost effectiveness (Bates, 2000). University students showed a positive attitude toward using the Internet as a teaching and learning tool. Technologies like the Internet to accelerate university students' learning enhance and democratize access to educational opportunities, and support interactivity, interaction, and collaboration (Draper & Brown 2004; Oliver 2006). Schrofer (2007) stated that university students take responsibility more for determining educational learning strategies and think that the reason for this is the quality of the information obtained from Internet is getting higher. Mathew & Schrum (2003) found that university students use the Internet for communicating with the professors through emails by asking for clarification or reporting information, e-mailing papers, and getting feedback. Secondly, they use the Internet to get materials (web links, notes, practice, quizzes, hints for test etc.) from professional websites, checked grades, and accessed resources from Web CT. Adegboji & Toyo (2006) concerned that Internet contributed significantly to the ease of research through downloading course related materials. They relied mostly on Internet sources for the big projects they downloaded study aides.

In today's fast changing world, research has become one of the most important intellectual possessions for every human being to change his way life in accordance to

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the needs and demands of the society. It is a key ingredient in shaping up the world. It opens new frontiers to many fields like, education, business, economics, medicine and science. Truly, research in itself had made a significant contribution in man's giant leap towards the future. Internet has emerged as a formidable social and cultural institution of global proportions facilitating access to a wealth of information on the web for the academic society to support their academic and research activities. The use of information technology has been reported to increase the research productivity of scholars (Misra & Satyanarayan, 2001). Information is just a '*finger touch*' away from the user and it would not be inappropriate to say that the Internet has become the biggest global digital information library, which provides the fastest access to the right kind of information in nano-seconds to end user at any time and at any place in the world. With the advent of Internet, a significant transition can be seen in the academic communities' approach and the way they seek information and the methods they employ for teaching and learning activities. The principal functions of Internet are increasing the means of researches, facilitating the communication and enabling data share. Agarwal & Dave (2009) reported that students depend on the Internet as a veritable source of research information. Kumar & Kaur (2006) indicated that Internet resources are now preferred source of research information to the print resources among the students. Kamba (2008) maintains that the Internet has not only reduced the need to store information resources but has also increased the output of research publications globally. Jagboro (2003) Internet was the fourth most important resources for materials among the postgraduate students with respondents using the Internet to access research materials and for email. Internet use for academic activities would improve significantly with more access in departments and faculties. Fasae & Aladenyi's (2012) stated that students use the Internet for research more than they use it for communication and entertainment. Massaquoi (2006) also confirms that 84 percent of journal articles and 97 percent of completed research works are now available on the Internet. He adds that making use of the Internet helps in conducting research, publishing articles and exchanging ideas. Similarly, Yusuf (2006) stated that the Internet provides wide range opportunities for easy access of relevant and current literature, wide range of instruments, online opportunity for validation of instrument, simulation of an on-going research, and so on. He further adds that collaboration of research (trans-institutional, trans-national and trans-continental) is possible, and wide





range of opportunities exist for the dissemination of research findings (journals, personal web page, foundations/organizations' web pages and so on). The only way to pursue knowledge is through research and the Internet is having a profound impact on the research process and dissemination of information. The Internet therefore, be described as a '*sea of information*' and '*reservoir of information*' containing texts which are not housed between library and bookshop walls and subject areas span across all fields of knowledge. Restrictions created by distance, availability and access to information have to a large extent been removed. More information continues to become available in electronic format as this medium is embraced by publishers, museums and archives (Schmidt, 2003). It contains more information than the world's largest libraries (Emeagwali, 2000). With access to the Internet one can retrieve information from the world's largest information database. Also, thousands of libraries are connected to the Internet, permitting even casual users to access their catalogues and request learning material through interlibrary programs. In addition to those information services, the number of on-line journals, newspaper and trade magazines increase each month. Much of the information in these publications is free. It is a virtual treasure trove of information. Any kind of information on any topic under the sun is available on the Internet. It is a truly "*open technology*", allowing users with any hardware and software to derive the necessary information from the network, independently from the location of data and knowledge bases. Hence, Internet can therefore be described as a *super highway* of information carrier, where information seekers on any subject or area of discipline can obtain current and useful information and knowledge. In the academic perspective, the Internet host and allow access to subject gateways, databases and professional websites which contain various types of scholarly resources like electronic copies of journals, articles, books, datasets, short communications, formula, monographs, encyclopaedia, dictionaries, instructional notes, informative web-pages, with numerous links to search and research related websites. Consequently, researchers all over the world are taking advantage of the Internet. "The Internet has revolutionized our lives!" often heard exclamation.

The Internet has added a lot to our lives and has also made a certain things disappear. The Internet can be beneficial for students as it allows them to obtain relevant academic information; it also offers other possibilities that may be harmful to



their academic experience. In the literature, there are studies about Internet and its effects on students, the relationship between educational performance and Internet addiction (Siomos *et al.*, 2008; Ghassemzadeh *et al.*, 2008; Del Castillo *et al.*, 2008; Recabarren *et al.*, 2008; Tahiroglu *et al.*, 2008). Sahin, Balta & Ercan (2010) found strong relationship between Internet use trends and educational performance, and wrong use of the Internet can cause a major decrease in students' academic performance. Anunobi (2006) reflected that majority of university students used Internet for academic purposes and minimum students used it for entertainment purposes. Kumar & Kaur (2006) students are the most frequent users of the Internet. They used the Internet mainly for educational purposes rather than for entertainment. Papastergiou & Solomonidou (2005) majority of the students searched the web for information about school courses, while fewer of them engaged in communication activities via chat, email or video conferencing and in web page creation. Suhail & Bargees (2006) Internet usage impacts education in a positive way by increasing communication with classmates and professors, increasing access to libraries and educational databases, and improving study hours and study habits. Some studies have suggested a positive association between students' Internet use and their learning. Jackson *et al.* (2006) students, who used the Internet more, scored higher on standardized test of reading achievement and had higher grades. Similarly, Turner & Farmer (2008) students' outcomes in term of grade, of the Internet-based multimedia classroom, seen with 36 percent increase in grades, and a 56 percent reduction in failures. The significant drop in failure rate could be attributed to the integrated blending of online and in class format through the cyber classroom, since most failures were due to external problems and commitments. However, some other investigators have found negative effects of Internet use on academic outcomes (Choi, 2007; Sirgy, Lee, & Bae, 2006). Some studies found that computer and Internet has become important tools for students' communication and entertainment; however, it has not yet become a useful tool for their study (Zhang & Jia, 2002). Galuszka (2007) technologies, such as the Internet and computers, were not in widespread use for academic purposes. Some studies focused on the general pattern of the Internet usage among students found that students tend to use the Internet less for academic purposes. A study carried out by Pew Internet and American Life project (Asfaw & Bo, 2003) that college students use the Internet more for social activities like



communicating with friends than for academic-related tasks. Pierce & Vaca (2008) reported significantly lower grades of Internet-users than those who did not use the service. However, Kuh & Hu (2001) argues that surfing the Internet for course material had positive effect on intellectual development and vocational preparation, in addition to personal development of college and university students. A significant difference in academic performance between students have Internet based infrastructure and access on their campus and those that do not (Osunade *et al.* 2009). Tella (2007) was also found most of the respondents reported using the Internet for the purpose of obtaining course related information and that the Internet contributes significantly to their academic performance. Among college students, however, searching information online about course materials helps boost intellectual development and facilitates preparation for future jobs. On the other hand Luban (2000) Internet had positive influence on the number of sources found and quality of the students' written work.

Students are lured by easy access and often do not question the value or quality of material. Most of the students are careless about the reliability of the information available on Internet (Weitzner 2007). There are not necessarily quality or authenticity checks on information on the Internet. Misrepresented, fake, and pirated literature causes problems for researchers and students. There are sites that many users may find offensive, as well as instructions for carrying out violent or illegal acts. This has a bad effect on their grades when they use more accessible and less secure Internet sites in such kind of courses and projects (Yasar & Tuncay, 2010). However, researches indicate that students do not have enough ability and knowledge to search for information on the web (Wallace & Kupperman, 1997), which ends up obtaining a large amount of irrelevant information about their studies. They pay little attention to what the information is (e.g., the source, date, and reliability) focusing instead on what it says. This strategy is similar to the "copy-paste" strategy (Bereiter & Scardamalia 1989). In accord with this conception, most of these students accepted what they found on the Web as true, with no consideration of the source or purpose of the information. This brings about some important and interesting issues with it. The Internet is a 'chaotic' library because it displays no discernible order, classification or categorization. It therefore poses a challenge on the students' ability to distinguish



between information from refereed scholarly journals available digitally and the digital equivalent of vanity press publications.

However numerous students have positive perception about the quality of learning through the Internet and also identified online interactive learning, electronic research, innovation, communication and global education (Muniandy, 2010). Majority of the students have positive attitude about Internet (Asan & Koca (2006). Majority of students opine that Internet is a universal digital library which provides fastest way to reach knowledge. The idea that is learning is constructive process widely accepted; learners do not passively receive information but instead actively construct knowledge. Through the constructivist approach, integrating Internet to the education is so easy and effective. Some students strongly prefer using the Internet as their primary information source (Gibson & Mazur, 2001). One reason students give for preferring the Web over traditional print materials; they feel they can locate information faster when using the Internet (Vansickle 2002).

It has been observed that excessive online stay closely linked to low academic performance (Kubey, Lavin, & Barrows, 2001). Students who use the Internet “excessively” experience a decline in their study habits and grades (Young, 1996). Studies revealed that excessive Internet use is linked to loss of sleep. Besides, feeling that life without the Internet would be boring. Few students who use the Internet perceive they have a negative impact on their academic performance their grades, their health, or their social lives (Scherer, 1997; Anderson, 2001). Excessive use of Internet has been associated to problems with maintaining daily routines, school performance, and family relationships (Rickert, 2001). Chen & Peng (2008) non-heavy Internet-users have better relationship with administrative staff, academic grades and learning satisfaction than heavy users, and claimed that the heavy Internet-users were likely to be depressed than non-heavy users. Social network websites grab attention of the students and then divert it towards non-educational, unethical and inappropriate actions including useless chatting, time killing by random searching and not doing their jobs (Kuppuswamy & Shankar 2010). Students are seems connected with each other for sharing their daily learning experiences (Liccardi *et al.*, (2007). reported that social networking websites keep them in touch with friends (Madden, 2007). On the other hand Greenhow & Robelia (2009), Madge *et al.* (2009) & Selwyn (2009) revealed that social networking websites serve educational goal as connects students



through such informal methods. Lampe *et al.* (2008) reported that social networking websites enable collaborative sense making among students as it is used by majority of students. A number of studies have found relationship between social media and student commitment in higher education. Nicole *et al.* (2007) found strong link between social networking websites and students involvement. Such connections could help students in term of home assignments and projects in terms of job, internship and other opportunity. Madge *et al.* (2009) argue that often students use social networking websites to discuss their academics issues formally and informally and also to interact with their instructors, teachers and professors. Research examining student instructor relationships suggests that professors who have online profiles with high disclosure levels are associated with increased student motivation (Mazer *et al.*, 2007) and that self-disclosures decreased uncertainty, increased student motivation, and created more positive attitudes toward both the course and the professor (Sullivan *et al.*, 2004). In addition to its popular acceptance, the Internet is rapidly becoming an integral part of the daily lives of students. Since the Internet has become an essential component of students everyday life throughout the world. So an information world, called the *cyber world*, comes into being between the social and physical worlds. The number of people using Internet is growing day by day most of them accepts that Internet is a revolutionary new medium that has changed our lifestyle one way or the otherway. Daramola (2004) maintains that an observable trend in the Internet is that more and more resources are moving to it. The spectacular increase in the use of the Internet has stimulated research on its impact on our everyday lives. New technology brings the new lifestyle to people mostly to the students. Internet already has the ability to influence so much in our daily lives (Bloch, 2007; Driskell & Lyon, 2002; Rohlinger & Brown, 2009; Tufekci, 2008). It has significantly impacted the lifestyle of everyone; changing the way people work, live and learn (Gates, 2000).

Researchers have studied the relationship of new technologies on interpersonal communication and relationships. Merkle (2000) reported that Internet as a social technology give rise to interpersonal relationships. The online social interaction seems to affect the people. McKenna *et al.* (2002) found that Internet use reduces feelings of loneliness by increasing users' social circles and helping them to become less socially anxious. Selfhout *et al.* (2009) explored that use of the Internet for communication



predicted less depression among the youngsters who have low friendship quality and played a role in the well-being of the users. Some studies found Internet as contributory to psychological well-being (Weiser, 2002, and Wellman *et al.*, 2001). Internet communication has been shown to increase measures of social support (LaRose *et al.*, 2001). Brignall & Valeyb (2005) observed that using Internet among youngsters has increased greatly by communicating through the Internet. Among users, greater use of the Internet was associated with increased contact with family members and an increased participation in online communities. Hoffman & Venkatesh (2004) point out the Internet-users had more total contact with family members than Internet Non-users. Many Internet-users believe that using the Internet has improved their lives in this way, even providing an essential link to other. Some studies suggest that Internet-users have higher levels of community and political involvement (Wellman, 2001) and have higher levels of generalized trust and larger social networks (Cole *et al.*, 2000). Internet-users are reported to spend three times more time in attending social events than Internet Non-users (Neustadtl & Robinson, 2002). Internet-users actually have the larger social networks, it allows them to stay in touch with family and friends and, in many cases, extend their social networks (Howard *et al.* (2001). McKenna (2002) stated that people use the Internet to form new relationships online. Growth of the Information Technology caused an increment on use innovative applications, in order to promote behaviours related to healthy lifestyle (Crutzen *et al.*, 2008). Rice (2006) consider that the use of Internet as information source regarding healthy lifestyle. Mitchell *et al.* (2009) the Internet has been acknowledged as a valuable means of health promotion; with information in web spread throw static health educational sites, peer support groups, online health consultations and delivery of Internet interventions. Lewis *et al.* (2009) refer that interactive health communication applications are effective for increasing knowledge and may improve outcomes, regarding the adoption of healthier lifestyle.

On the other hand studies indicated that Internet use undermines well-being because online connections are weaker than real-life connections, or because online connections are often used to replace real-life relationships and activities (UCLA Internet Report 2001). Some even go so far as to implicate Internet use as a causal factor for psychological harm among users (Eastin & LaRose, 2000). Yet other studies suggest that the Internet can have direct negative effects such as psychological



problems including social isolation, depression, loneliness, and difficulties with time management (Choi, 2007). Katz *et al.* (2001) stated that the more time Internet-users spent on-line; the more likely they were to belong to off-line religious, leisure, and community organizations, compared to nonusers. Nie & Erbring (2000) argued that the Internet was creating a “lonely crowd” in cyberspace, because Internet use “necessarily” takes time away from family and friends. They also revealed that heavy Internet use resulted in less time spent with one’s family and friends. It has been vilified as a powerful new tool for the devil, awash in pornography, causing users to be addicted to hours each day of “surfing” hours during which they are away from their family and friends, resulting in depression and loneliness for the individual user, and further weakening neighbourhood and community ties. Nie (2001) arguing that time is a limited commodity, so that the hours spent on the Internet must come at a cost to other activities. Internet use has been found to be associated with negative personal and social developmental outcomes (Lloyd *et al.*, 2007). Therefore, time spent on online activities may cut other activities such as reading and social interaction, which are essential to normal development (Morgan & Cotton, 2003; Nie, 2001; Hillygus, & Erbring, 2002; Weiser, 2001). Internet use as linked to the quality of social relationships. Certain studies reveal that Internet use lowers the quality of social relationships (Morgan & Cotten, 2003). Yet other studies, reported that there have been no linkage found between the two (LaRose, Ghuay, & Bovin, 2002; Sanders, Field, Diego, & Kaplan, 2000). Some researchers believed that Internet is making people isolated, depressed and lonely. People who use Internet remain cut off their environment and lose face to face relations which are strong by spending time in virtual reality with unknown people, which results in weaker relations. Some other researchers supports that people become more social, have chance to meet variety of people of their interests without any time and space barrier. Some found Internet as neutral without any significant affect.

Gender differences in Internet usage has remained a matter of concern to researches are another attractive concern of the research studies (Hupfer & Detlor, 2006). Shaw & Gant (2002) found that no gender differences are detected when participants are involved in various online activities such as synchronous and dyadic chat sessions. Jackson *et al.* (2001), Odell *et al.* (2000), Nachmias *et al.* (2000) Schumacher *et al.* (2001) & Durndell & Haag (2002) does not provide consistent



evidence for the presence or otherwise of a gender gap in Internet use across different groups of males and females. Some studies indicate male domination in terms of usage and attitude towards, the Internet. Weiser (2000) observed that there is significant gender difference in Internet usage. Males tend to be more familiar with the computers and Internet as compared to females. Similarly Morahan & Schumacher (2000) observed that males were more likely to be pathological Internet-users than females. Nachmias & Shemla (2000) reported that gender differences exist in the use of the Internet with a higher and more extensive usage by males when compared to females. Males were found to spend more of their time on the Internet, indicating preferred locations for use, resource downloading, website creation and participation in discussion groups. Sherman *et al.* (2000) supported the bias towards males. More males tend to use the World Wide Web; they are also more likely to have their own e-mail addresses and web pages and spend longer hours than females surfing the Internet. He further reported that males, other than for e-mail, used the technology more often and had more positive attitudes than females. The bias is seen even though both girls and boys are equally comfortable and show positive feelings toward the Internet. Moreover, Bimber (2000) gender differences exist due to socioeconomic status, in which men and women may differ in technology adaptation which in return influences computers and Internet access and usage. He further argued that women are substantially less likely to be frequent users, equally likely to be infrequent users, and more likely to be intermediate users. Ono & Zovodny (2003) females to be less frequent and less intense users of the Internet. Mishra & Bisht (2005) majority of the students used the Internet in which male students use Internet in greater numbers than females. Numerous studies have documented that overall, boy's use the Internet more frequently, for longer and for a wider variety of uses than girls do (Gross, 2004; Haythronthwaite & Wellman, 2002; Subrahmanyam, Greenfield, Kraut, & Gross, 2001).

. It has been found that a number of studies revealed certain types of gender differences in various domains of the life. Men and women use the Internet for different purposes. Odell *et al.* (2000) the gap in use of the Internet among male and female students has nearly closed, there remain differences in how male and female students use the Internet. Researchers have shown little difference in the amount of time men and women spend online, yet they have consistently found that men and





women differ in their reasons for accessing the Internet. Hupfer & Detlor (2006) reported that male and female differences in web searching appear to persist such as women are more into e-mail, chat, and search reference materials about medical and government information whereas men tend to focus on information about investment, purchase and personal interests. Garbarino & Strahilevitz's (2004) females perceived Internet as a tool of maintaining social values. Significant difference between male and female Internet-users in terms of online health information users (Lorence & Park 2007). Males were more likely to be Internet-users but in terms of online health information users, females were the dominant users. However, Wolin & Kargaonkar (2003) gender differences in beliefs, attitudes, and behaviour towards web advertising reported a slight difference that males are likely to browse the Internet for functional and entertainment purpose while females are more into shopping reasons. Moreover, Niemivirta (1997) there is a difference in academic interest between genders; males are more extrinsically motivated while females are more intrinsically motivated in terms of furthering their education. On the other hand, Heimrath & Goulding (2001) female students felt that the Internet was too big and unstructured thus, searching the Internet difficult, not enjoyable and will use it only when unavoidable whereas male students were happy to search the Internet for relevant information.

Men were more likely than women to use the Internet for purposes related to entertainment and leisure, whereas females use it primarily for interpersonal communication and educational assistance Weiser (2000). Sherman *et al.* (2000) further supported the Internet gender gap among students by comparing the usage patterns of male students participated more in surfing, newsgroups and chat groups, while female students reported significantly higher e-mail use. Similarly Odell *et al.* (2000) men reported greater use of the Internet for visiting sex sites, researching purchases, checking the news, playing games, and listening to and copying music, whereas more women used the Internet for e-mail and school-related research. Female adolescents use the Internet to search for information and likely to use the Internet for educational purposes (Chen & Peng, 2008). On other hand male adolescents use the Internet to play games. Similarly, men surfed the Internet for entertainment or fun more than did women and male students' downloaded music and videos more than did their female counterparts (Jones *et al.*, 2009). Tsai & Lin (2004) gender differences in perceptions of the Internet among adolescents, males perceived its use



as a source of enjoyment or “toy”, while females took a more practical approach and perceived it as a “tool”, “technology” or “tour” (providing the ability to navigate around different sites and people). With respect to other uses of the Internet, there is evidence that some of these too are gendered. So the notion of Internet use among males is more task-oriented than women’s, and the tendency for women to use e-mail more accords with their greater interpersonal orientation (Jackson *et al.*, 2001). Jones *et al.* (2009) demonstrating that female college students used the Internet for communicative and academic purposes more than did their male counterparts, while male students used the Internet for a wider variety of leisure activities than did female counterparts. Liu & Huang (2008) male/female differences in web searching materials by focusing on the online reading environment shows that there is a significant difference between genders in which female readers have a strong preference for paper as a reading medium than male readers. On the other hand male readers have greater sense of satisfaction with online reading. Thus there are some significant differences between male and female behaviour in the online reading environment. In relation to the different purposes of Internet use, studies show gender differences in a range of topics of interest. Women tend to go online for a narrower range of topics, such as health and religion, while men tend to engage in a broader range of activities (Fallows, 2005). Similarly, Jones *et al.* (2009) reported that male students pursue a wider variety of activities including games, sports, technology, politics, personal finance and adult content than do their female counterparts. While some studies indicated gender differences in Internet abuse .Males were more likely to become Internet abusers than females (Bayraktar & Gun, 2007; Frangos & Kiohos, 2010; Tahiroglu *et al.*, 2008; Yang & Tung, 2007). Research shows that males are more likely to frequent sexual websites than females are (Doring 2010; Mitchell *et al.*, 2003). This difference could mean that males are exposed to more alternative sexual material when they go online, than females are. Gender difference was also found to be significant in the students’ confidence about computers and stereotypical views of computer users (Chen & Tsai, 2007). Concern about gender inequality has now shifted from access to intensity. Skills do play an important role in framing gender inequalities in terms of Internet usage. Skills are the user’s ability to locate content online effectively and efficiently. Therefore, men and women may differ significantly in their attitudes towards their technological abilities (Hargittai & Shafer, 2006).



## Significance of the Study

Information and communication technology has been a significant research area for some time, but its nature has changed considerably since the Internet became prominent just over a decade ago. The significance of present study is the fact that nowadays the Internet is pervasive in the lives of individuals, institutions, and societies all over the world, so in India. The recent decades have witnessed a dramatic increase in the use of the Internet and computer technologies which become a common instrument in our daily living and have a significant influence on quality of life (Israel, 2000). The Internet has been used for last two decades in our society and we have a generation of students, who grew up with the Internet. Since its inception, it is generally acknowledged that its appearance, not only brings convenience to mankind, but also may cause a great deal of potential problems. The benefits of the Internet have been widely researched. Despite the positive effects of Internet, there is growing literature on the negative effects of its use. Many researchers herald the Internet to be beneficial and educational (Donnerstein & Smith, 2001 & Hitlin & Rainie, 2005; Pew Internet and American Life Project 2005b). Nevertheless, concerns about online risks and consequences are increasing (Byun *et al.*, 2009; The Star, 2009; The Strait Times, 2009b). However it cannot be believed that Internet is beneficial under every circumstance and situation, regardless of its regulation. Hicks (2002) revealed Internet as a *double-edged sword*; some accept it as a panacea while others are appealing its negative growth.

Undoubtedly, appropriate attitude toward the Internet is a prerequisite for successful Internet based instruction. Attitude towards a new technology plays an important role in its acceptance and usage (Liaw, 2002). Researchers that there is a group of students interested in and are competent with technology and also a group of students not interested in and not very competent with this technology (Vogel & Heinz 2000; Minks 2000). Some students prefer to reference only traditional print materials, despite the increasing prevalence of electronic sources (Large & Beheshti, 2000). Majority of students tend not to synthesize the information in their research (Guinee, & Langlais, 2003). Students report that they don't copy from the Web or that they are less likely to copy from the Web than from traditional print sources. However, students are still reliant on their library as a physical space for the discovery of research content (Nicholas & Rowlands 2008). The benefit from the huge resources



that exist on the Internet, students must necessarily have information technology literacy. Every year thousands of young students register at universities. It becomes clear that not all of them have the necessary skills to work with all of the ICT resources available to them. The gap in Internet usage is labelled as '*the digital divide*'. Indeed, upon closer inspection many of the studies actually convey a sense that not all students are as inclined to integrate Internet use in their studies as might be assumed. As is usually the case in educational debate, blame for this disparity has been most frequently attributed to deficits of skills, motivation and know-how on the part of students. For example, some researchers have reasoned that university students' (non) engagement with the Internet is influenced by perceptions of usefulness, ease-of-use and other psychological attitudes towards both technology and learning (Cheung & Huang, 2005). Peter & Valkenburg (2004) advocate a 'digital differentiation' approach to replace the digital divide. Cushman & Klecun (2006) suggest replacing the term 'digital divide' with that of '*digital exclusion*', to better assess the complex nature of the processes involved in understanding the use and non-use of ICT. A new type of digital exclusion is emerging due to this variation of usage and appropriation. Brotcorne (2005) says use or not to use the Internet was not always due to a disadvantage but 'more due to matters of "*digital choice*" rather than "*digital divide*".

On the other hand, Hinson & Amidu (2005) analysed that lack of electronic literacy skills among the university students was a great obstacle in using Internet resources. This paints a gloomy picture of low levels of Internet skills and literacy because the natural assumption is that university students should be at the forefront of development and must be skilled in how to use the Internet. Ngulube *et al.* (2009) found that there was limited use of the Internet due to the students' poor level of network literacy. Luambano & Nawe (2004) reported that majority of university students were not using the Internet due to the inadequacy of computers and lack of skill in Internet use. Sinha (2008) reported ICT and Internet awareness among university students in India was very poor. Internet-users and Internet-Non-users have different ideas of what the online world is like. Generally, Internet Non-users are tempered by fears that the Internet is a dangerous place that its cost is beyond their reach, its content holds little meaning for them, and that they do not want to waste precious time online. Horrigan (2009) claimed that the main reason behind the



student's Internet Non-use was a lack of interest in using the Internet, as they considered it irrelevant to their daily lives. Other criteria included cost, availability and usability. In this way, Internet Non-use may be explained by a negative attitude towards ICT, as well as the perceived lack of pleasure or 'behavioural control' that reflects a desire to control the use of certain technological tools. The prevailing understanding is that they are students who, for one reason or another, have not yet gained access to the benefits that a technical application has to offer.

Over the last 15 to 20 years research has focussed on the use of the Internet by various sectors of society. These researches have considered a wide range of subjects. The impact of Internet use is being investigated increasingly, and researchers addressed greater number of related issues, like syndrome of intense preoccupation with using the Internet, excessive amounts of time spent online, compulsive use of the Internet, difficulty in managing the time spent on the Internet, feeling that the world outside of the Internet is boring, becoming irritated if disturbed while online etc. The resources of the Internet give enormous scope for a richer academic experience for students but also potentially offer a vast range of distractions. There is a large body of research spanning several domains, disciplines, and approaches that has investigated' use of technology, but no work has focused on studying the comparative Use and Non-use of Internet among higher education students. With regards to Internet use and Non-use, proportions of studies have been conducted on different categories of people but university student population have not been looked. With the surge in the use of information and communication technology, Users and Non-users of ICT can be considered to be more than just a simple anomaly, especially where the Internet is concerned. Internet usage based research is therefore still in its infancy, mostly among the higher education students as far as the concrete interests of both Users and Non-users are concerned. In light of the fact, it was found that there is paucity of research linking to Internet usage among University students. Also the investigator noticed that, there is no recent literature that documents the influence of Internet usage on university students in relation to their Lifestyle, academic achievement and attitude towards research. So from the forgoing discussion, a gap in knowledge is observed by the present investigator, which needs to be filled by this present study. Therefore, there is a critical need to have standardized and more reliable research in this area as a way of advancing the Internet usage and providing an insight to determine the



Lifestyle, academic achievement and attitude towards research among university students in Kashmir (J&K).

### **Statement of the Problem**

#### **Internet Usage among University Students in Relation to their Lifestyle, Academic achievement and Attitude towards Research**

### **Objectives of the Study**

The following objectives have been formulated for the present investigation:

1. To identify Internet-users and Internet Non-users.
2. To find and compare the Lifestyle of Internet-users and Internet Non- users.
3. To find and compare the Academic Achievement of Internet-users and Internet Non- Internet-users.
4. To find and compare the Attitude towards Research of Internet-users and Internet Non- users
5. To find and compare the Lifestyle of Internet-users and Internet Non-users on the basis of gender.
6. To find and compare the Academic Achievement of Internet-users and Internet Non-users on the basis of gender.
7. To find and compare the Attitude towards Research of Internet-users and Internet Non- users on the basis of gender.
8. To find and compare the Lifestyle of Internet-users and Internet Non- users on the basis of their stream differences.
9. To find and compare the Academic Achievement of Internet-users and Internet Non-users on the basis of their stream differences.
10. To find and compare the Attitude towards Research of Internet-users and Internet Non- users on the basis of their stream differences.
11. To find out the dominant set of factors of Internet-users and Internet Non-users on Lifestyle and Attitude towards Research (separately)

### **Hypotheses**

Following hypotheses have been framed for the proposed investigation:

1. There is significant difference between the mean scores of Internet-users and Internet Non- users on their Lifestyle.
2. There is significant difference between the mean scores of Internet-users and



Internet Non-users on their Academic Achievement.

3. There is significant difference between the mean scores of Internet-users and Internet Non-users on their Attitude towards Research
4. There is significant difference between the mean scores of Internet-users and Internet Non-users on their Lifestyle on the basis of gender.
5. There is significant difference between the mean scores of Internet-users and Internet Non-users on their Academic Achievement on the basis of gender.
6. There is significant difference between the Mean scores of Internet-users and Internet Non-users on their Attitude towards Research on the basis of gender.
7. There is significant difference between the mean scores of Internet-users and Internet Non- users on their Lifestyle on the basis of stream differences.
8. There is significant difference between the mean scores of Internet-users and Internet Non-users on their Academic Achievement on the basis of stream differences.
9. There is significant difference between the mean scores of Internet-users and Internet Non- users on their Attitude towards Research on the basis of stream differences.
10. The dominant set of factors of Internet-users and Internet Non-users on Lifestyle and Attitude towards Research bear no similarity.

### **Operational Definition of Variables**

The variables under investigation are:

1. Internet Usage
2. Lifestyle
3. Academic Achievement
4. Attitude towards Research

### **Internet Usage:**

The Internet is a vast computer network that connects computer networks and organizational computer facilities around the world (Random House Dictionary, 2005). Internet usage has been defined as the interconnected system of networks that connects computers and Internets around the world via the Internet Protocol. For the purpose of this study Internet usage has been defined as using of laptop or desktop computer. Thus, other devices, such as cell phones, I- pods have been excluded from this definition. Therefore, for the purpose of present study, the Internet usage includes



the experience and knowledge of the University students' towards using Internet. However in the present investigation Internet usage has been labelled with the following nomenclature - *Internet-users* and *Internet Non-users*.

**Internet-Users:**

Internet-users are those who have direct access to the worldwide network and have their own skill and exposure to use the Internet. One cannot access Internet-based resources without the adequate Internet skills (Okello-Obura & Magara 2008). Tella & Ayeni (2007) argue that students' ability to find and retrieve information effectively is a transferable skill. In order to make use of the growing range of Internet resources, students must acquire and practice the skills that are necessary to exploit them. In addition, students should be network literate. Network literacy has been defined as the ability to: participate in the emerging knowledge networks on the Internet and has a deep understanding of the logic or protocols of these networks. This means that students should understand how to participate on the Web by writing and connecting the public sphere (Eziani 2011). Network literacy for students consists of knowledge of network information and skills to locate, select, evaluate and use the network information. (Asemi & Riyahiniya 2007). Keeping in view the above observations an Internet user is considered as an active participant of Internet based activities in a versatile way.

In the present study *Internet-users* are those university students who have direct access to the worldwide network with their own exposure and skill in Internet usage through laptop or desktop computer and have minimum of one year's experience in the field. The similar procedure for the identification of Internet-users has also been adopted by a number of researchers in the field (Eynon & Helsper, 2011; Cushman & Klecun, 2006; Selwyn, 2003, 2004; UCLA Internet study 2001).

**Internet Non-users:**

Non-users usually are fairly well informed about the Internet despite the fact that they do not use it. Closely related to underlying reasons and motivations for the Non-usability of Internet are attitude towards technologies, as well as perceptions and experiences. The conscious or unconscious decision to be a non-user can be fuelled by many reasons, such as those who are not online is actually lacking desire, do not want the Internet, do not feel that they need it, do not feel that it holds anything of interest or value for them, economic constraints, discomfort with using technologies, not





seeing any benefit or avoiding some degree of reliance on technologies. Abudullakutty (2009), studied the digital divide among students pursuing higher education, pointed out the gulf between the haves and have nots. A high percentage of students studying for graduate and post graduate courses do not have any basic knowledge of Internet and are unable to make use of its immense possibilities in higher education. The widely assumed negativity of Internet non-use makes off liners behind and is perceived as outsiders (Klecun, 2008). Sally Wyatt (2003) presented a model that divides non-users into “have-nots” and “want-nots” and also emphasises that non-use does not only cover people who never gained access to some technology but also the behaviour of non-use may be an act of active resistance or passive avoidance. The motives for non-use are manifold and reach from a delayed adoption through a perceived lack of value for the individual to pure disinterest in the services offered. Studies on non adopters of digital technologies usually attempt to find out why some students choose not to be connected and find no uniform reason. But they have shown that socio-economic status and associated costs of adopting new technologies are less significant than factors such as: skills and efficacy (World Internet Project, 2010), motivation and disinterest (Verdegem & Verhoest, 2009; Zickuhr, 2010), and attitudes and personal traits (Davis, 1989; Matei & Ball-Rokeach, 2003; Stanley, 2003; Vishwanath & Golohaber, 2003). The lack of use among non-users can be explained by the lack of knowledge of Internet tools (Mike Cushman & Ela Klecun, 2006). Non-users” have been variously labelled and constructed as subjects of research: dropouts (Katz, Rice & Aspen, 2001), laggards (Goldenberg & Oreg, 2007), unadopters (Dailey *et al.*, 2010), narrow frequent users, occasional users and non-users (Selwyn *et al.*, 2005; Selwyn, 2006), unengaged and marginalized (Longley *et al.*, 2006), non- or sporadic users (Brandtzaeg, Heim & Karahasanovic, 2010) and lapsed users (Eynon & Geniets, 2012). Such people are hard to understand as a collective, as well, since many move back and forth between being users and non users (Mehra, Merkel & Bishop, 2004). Keeping in view the above observations Internet Non-user is reported to be unfamiliar with the Internet based activities and do not have an exposure to the online world and have never consciously accessed the Internet.

In the present study ***Internet-Non-users*** have been considered those university students who lack a direct access to the worldwide network and have not their own



exposure and skill to use Internet. Besides non-users are the respondents who never used the Internet or did not list any Internet activities. The same procedure has also been adopted by a number of researchers in the (Grant, 2012; Eynon & Geniets, 2012; Chen, Su-Yen; Fu, Yang-Chih, 2009 Hargittai, 2007; Morris, et al. 2007; Suhail & Bargee, 2006; Selwyn, 2006; Mitra, et al., 2005; Selwyn et al., 2005; Robinson, et al., 2004; Ono & Zavodny, 2003; Katherine Allen et al. 2003; Sally Wyatt, 2002); Katz & Aspden, 1997).

**Lifestyle:**

Lifestyle is a way of living of individuals, families and societies, which is manifested in coping with their physical, psychological, social, academic and economic environment on day to day basis. Lifestyle is defined as a way of living: the things that a particular person or group of persons usually does. It is based on individual's choices, characteristics, personal preferences and circumstances. It is a way of life or style of living that reflects the attitudes, habits or possessions and values of a person or group. It defines the attitudes, values and somewhat exhibits the social position. Moreover, it also includes pattern of social relations, consumption, entertainments and dressing style. It reflects person's views, habits and etiquettes and the way of life which has direct influence on the type of service. Thus, lifestyle can be defined as "a pattern of an individual's living expressed through his/her activities, interests and opinions.

*In the present study, Lifestyle has been considered as dominant set of scores as measured by Lifestyle Scale by S. K. Bawa and S. Kaur (LSS-BK).*

**Academic Achievement:**

Academic achievement refers to the degree or level of success or proficiency attained in some specific area concerning scholastic or academic work. Besides, knowledge attained and skills developed in the academic subjects by the students are referred as academic achievement. It depends on the ability to read, comprehend, and communicate at high levels (Holcomb, Castek, & Johnson, 2007). It is considered as the mean of the total examination scores or marks obtained by the sample groups in examination. It could be more than the total sum of examination marks, but only this dimension is more clear and measurable than any other. It is perhaps for this reason that almost all the researchers have considered marks in an examination as an index of



one's academic achievement. So, academic achievement has been measured in terms of aggregate of marks percentage obtained by the students.

*Academic achievement in the present study has been assessed on the basis of aggregate percentage of marks secured by the students in their two consecutive examinations i.e. aggregate percentage of marks in two semesters conducted by the University of Kashmir (J&K).* This procedure has also been adopted by a many of researchers as: (Sugra, 2004; Mir, 1996; Matoo, 1994; Chanda,1984; Zargar,1980; Mehta, 1980).

### **Attitude towards Research:**

Attitude is the readiness to act in a certain ways to certain issues. It, therefore, refers to one's positive or negative judgment about a concrete subject. Attitude is not an innate tendency rather it is learnt. More recent research indicates that attitude represents a summary evaluation of a psychological object and is described both internally and externally in dimensions such as good-bad, likeable-dislikeable, harmful-beneficial, and pleasant-unpleasant. Attitudes whether positive or negative affect a particular subject. Ajzen & Fishbein, (2000) reported "An attitude as a predisposition to respond favourably or unfavourably to an object, person, or event. As implied in this definition, attitudes possess cognitive (beliefs, knowledge, and expectations), affective (motivational and emotional), and performance (behaviour or actions) components." So, attitude is a settled way of thinking or feeling about someone or something, typically one that is reflected in a person's behaviour.

On the other hand, Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. So, attitudes toward research have been defined as a person's general evaluation or feeling towards research. The attitude towards research basically means a detailed study of thinking, feeling and the person's behaviour towards research. It also specifies how a person is acting in the research field and what importance is given to him in different aspects of research. A positive attitude enables students to solve the problem quickly whereas; a negative attitude hampers the efforts in research both technical proficiency and interpersonal relationships. The attitude towards research means a detailed study of thinking, feeling and the person's behaviour towards research. It also specifies how a person is acting in the research field and what importance is given to the different aspects of research by him? The



literature shows that many studies are designed on identifying attitudes towards research from different perspectives such as practitioners (Bjorkstrom & Hamrin, 2001; administrators, faculty and teachers (Ladebo, 2003; Tercanlioilu, 2004; Vyas, 2007), and students (Lazar, 1991; Papanastasiou, 2005).

*In the present study, Attitude towards Research refers to the dominant set of scores as measured by Attitude Scale towards Research by Vishal Sood and Y. K. Sharma (ASTR–SVSY).*

### **Delimitation**

Keeping in view the time and resources at the disposal of the Investigator, the present investigation was delimited to the Post graduate students of Kashmir University (J&K).



In this chapter an attempt has been made to present a brief review of the researches available in the present field of investigation. It is an admitted fact that new vistas of knowledge cannot be explored unless we look into the past. Therefore, it is essential to scan the previously work carried out and accordingly address the areas which have not been hitherto looked into. In this chapter, the investigator has tried to addresses various issues related to finding appropriate literature and look for the reliable and valid literature. As reported above, an investigator has to move ahead for every piece of ongoing research to connect his endeavour with the work already done. This exercise culminates him to attain the overall relevance and purpose of his field of inquiry. The review of literature, thus, becomes a link between the research proposed and the studies already conducted in the field. There are probably three stages in most of the reviews. First, find information. Next, appraise what has been found for relevance and robustness and finally, synthesize findings into a set of collective conclusions. Survey of related literature is an essential requirement to the actual planning and execution of any research voyage. It serves multiple purposes and is of prime importance for a well-designed research study. It gives an overview of a specific field of inquiry and provides information about the *design*, the *sample* and the *research tools* employed by the other investigators. It helps the future investigators to state the problem, to weigh its significance, to work out for data gathering devices, suggest research design, to identify sources of data, to make effective statistical analysis, to arrive at logical conclusions and to avoid duplication. It asks questions concerning about the prevailing theories and hypotheses, the key researchers, the current state of the research, and the methods and methodologies being used. The review of related



literature is a sort of formal training, which enables the researcher to understand an idea's genetic roots, and understand the "current conceptual landscape". In other words, the literature review shows the potential researcher how prevailing ideas fit into his own thesis and how his thesis agrees or differs from them. It is not merely a summation of the existing work; its purpose is to analyze critically the applicable "*published body of knowledge*" in order to establish the current knowledge of that topic. It also satiates the existing literature in a broader scholarly and historical context. Thus, the review of related literature is an essential aspect of a research problem as it is a step of scientific method; it forms the foundation upon which all the future works are to be built. Mouton (2006) summarises the reasons why literature reviews are important as:

*(i) to ensure that one does not merely duplicate an existing study, (ii) to find out the most recent and authoritative theories about the subject, (iii) to find out what the most widely empirical findings in the study field are (iv) to find out the available instrumentation that has proven validity and reliability and (v) to find out what the most widely accepted definitions of key concepts in the field.*

Hart (1998) defines it as:

*"The selection of available documents (both published and unpublished) on the topic, which contain information, ideas, data and evidence. [This selection is] written from a particular standpoint to fulfil certain aims or express certain views on the nature of the topic and how it is to be investigated, and how the effective evaluation of these documents in relation to the research is proposed".*

Literature review does not and cannot refer to every piece of literature in the field. Rather, a literature review is organised according to the research objective. It is a conceptually organised synthesis which ultimately provides a rationale for further research. Selection of limited number of works that is central to our area rather than trying to collect a large number of works that are not as closely connected to our topic area. Hence, an exhaustive literature search has been carried out by the investigator for the present study. In order to understand and review the existing literature for the study in hand, the researcher consulted different sources as research materials, which include monographs, conference proceedings, websites, various books, magazines, periodicals articles, journals, dissertations, handbooks, encyclopaedia, thesis and information from Internet sources as reference material etc. and had gone through the



content to abreast himself about the related studies. So, the study of related literature places the researcher in a better position only to interpret the significance of his own results.

In the present research, the investigator has scanned and reported most of the relevant studies done in India and abroad in the field of Internet usage among university students. The *Internet* is a complex, virtual, educational, psychological and social medium. To date, a complete understanding of its impacts is unclear. Thus, the Internet is an exciting and challenging research subject. The researcher reviewed literature that is related directly to the objectives and provides a sound conceptual, theoretical and practical understanding of Internet usage among university students. Therefore, in order to prepare a base for defining the problem precisely, making interpretation of data meaningful and drawing comparisons among similar studies. The present investigator studied the related literature extensively. The review provided an insight into various dimensions of the problem under investigation and related issues at different stages. In this attempt, the investigator was selective and reviewed researches, which had a direct bearing on the present study. The present chapter provides a thumbnail account of such studies, their ambit and outcomes. In this chapter, review of related literature published in the area is presented in chronological order. The available researches, which are directly or indirectly relevant to the present field of investigation, have been classified under six sub-headings as:

**2.1 Studies on Internet-users and Internet Non-users:**

**2.2 Studies on Internet Usage and**

**A) Life Style**

**B) Attitude Towards Research**

**C) Academic Achievement**

**D) Gender and**

**2.3 Studies on Related Variables**

**2.1 Studies on Internet-users and Internet Non-users:**

**Ali Zarqa (2014)** evaluated the university students' use of the Internet and their perceptions with regard to online academic life. Findings revealed that Internet use for academic purposes has both positive and negative aspects. Gender difference among students' perceptions about the use of the Internet in their academic activities has



been observed. Both the genders expressed that Internet plays a positive role in their academic activities. However, female students have been found with more positive perceptions about its use in their education than males. It has also been found that Internet-users and non-users have different perceptions about its use. The non-users disagree with the scope of Internet in the academic activities, while the users agree that the Internet has a positive role in students' academic pursuits.

**Cliff & Nicole Ellison (2013)** used the survey data which is reported to have been collected from a sample of 614 non-academic staff at a large Midwestern university. Researchers explore the demographic and cognitive factors that predict whether a person chooses to join Face book. Findings revealed that older adults and those with higher perceived levels of bonding social capital are less likely to use the Site. The Internet non-users have expressed concerns about privacy, context collapse, limited time, and channel effects in deciding about not to adopt Face book. Finally, comparison of non-adopters to adopters was seen to differ on three dimensions - perceiving bridging, and social capital. Moderate users often experienced social capital outcomes similar to, or worse than, non-users. Besides, heavy users reported higher perceived bridging and bonding social capital than either group.

**Ibia & Ekott (2013)** investigated the Internet usage and the development of social skills among youth. Gender and age differences, differences in the degree of social involvement, social tolerance, patterns of behaviour between Internet-users and non-users and the relationship between Internet usage and social skills development was also investigated. The survey research design was adopted. A sample of 500 undergraduate students was drawn by adopting stratified random sampling technique at equal gender basis from 5 out of 11 faculties of the University of Uyo, Nigeria. Internet Usage and Social Skills Development Questionnaire (IUSSDO) with reliability coefficient of .73 was used to gather the data for the study. The t-test, one-way analysis of variance (ANOVA) and Pearson's Product Moment Correlation were used. Results indicated significant gender and age differences in Internet usage; significant differences in social skills development, social tolerance and pattern of behaviour between Internet-users and non-users were observed. While a strong relationship was established between Internet usage and the social skills development. It was also observed that Internet usage negatively affected social skills development of youths.





**Narimani et al. (2013)** carried out a ‘Comparative Study on Mental Health and Aggression’ of the two groups of student's using and not using Internet. The studies on population of 120 subjects have been chosen by adopting the multistage cluster sampling procedure. A self constructed questionnaire (Ahvaz Aggression Scale) has been used to collect the data. T- test, two-way analysis of variance and Pearson correlation through the SPSS software have been used. The results showed a significant difference between the means of two groups (using Internet and not using) on mental health and aggression. The students using Internet have been observed with more unfavourable mental health and aggression control than the students of not using category.

**Orose Leelakulthanit (2013)** conducted a study on life satisfaction, psychological and spiritual characteristics, satisfaction with various domains of life, and the demographic characteristics of individuals living in Thailand. Adult Internet-users and non-Internet-users in Thailand were interviewed. Multiple regression analyses were applied. Results showed that the Internet-users were found to be more satisfied with their lives than the non- Internet users. Internet-users value optimism, personal health, and self positively whereas; consumption of goods was valued negatively. The non-Internet users’ value optimism, internal locus of control, and family positively, whereas, being moderate and social life were valued negatively. Furthermore, it was found that the Internet-users could live their lives in the way they valued, except for the aspect of the consumption of goods. Non-Internet users, on the other hand, felt that they were not able to live their lives in the way they valued, except for the aspect of family and social life.

**Pavica Sheldon (2012)** reported differences between users and non-users of social network sites on sensation seeking, life-position indicators, shyness, and loneliness. Using data from a survey of adults 19–76 years old, results revealed that compared to an average Face book user, a non-user is significantly older and scores higher on shyness and loneliness, is less socially active, and less prone to sensation seeking activities. Face book, has not been reported as a substitute channel of communication for those who are shy and lonely and lack face-to-face interactions.

**Soudeh & Masoud (2011)** compared the sensation seeking and five big factors of personality between Internet dependent and non-dependent users. A sample of 179 undergraduate students (109 female and 70 male) were selected from University of



Tehran using cluster sampling and based on upper and lower limits, 29 students from each group were investigated. IAT, SSS-V and NEO-PI-R were used as research tools. The findings revealed that sensation seeking of Internet dependents was significantly different from the non-dependents ones. The inter-net dependents showed significantly higher scores on subscales - Thrill and Adventure seeking, Non-inhibition and Boredom susceptibility as compared to non-dependents.

**Sujatha (2011)** analyzed the patterns of use of the Internet among 335 teachers and students of the five colleges in Mangalore city. The study investigated the level of academic community's access to the Internet, reasons for non-use of Internet, satisfaction with the Internet facilities provided in these institutions as well as the problems faced in the use of the Internet. The study revealed that the level of student's access to the Internet was low and the major reason was that at the time of the study, computers with Internet facilities were inadequate. The findings also revealed that the rate of Internet use was more among the teachers and students of Commerce and Science faculty as compared to the faculty of Arts. However, majority of the students expressed their interest in the use of the Internet and its resources and were enthusiastic in improving their skills in the use of the Internet.

**Zarqa Ali (2011)** aimed to find out the perception of male and female students regarding the role of the Internet in changing their relationships with the opposite sex, family members and anonymous people. As a matter of collective perception, students agreed that the Internet played a role in changing relationships with the opposite sex, family members and anonymous people; however, they expressed no opinion about the role of the Internet in increasing romantic relationships. The results revealed that the Internet has brought family members closer to each other, enhancing the unity among them and strengthening the family ties which have increased the sense of responsibility among youth. The perception of males and females was not significantly different from each other. However, the perception of users and non-users of the Internet was different. The non-users disagreed that the Internet had a role in changing relationships, while users were in agreement on its role in bringing change to youngsters' relationships.

**Elisabeth et al. (2009)** showed that *Attitude* as a variable plays an important role in explaining the adoption and diffusion of new technologies. This study presents data from a 2007 telephone survey in Austria and describes the attitude structure of users



and non-users by means of a representative random sample (N=529). The tripartite definition of attitudes serves as a useful heuristic in structuring the analysis. The findings revealed the differences between users and non-users concerning their attitude towards the Internet and new technologies. Age and level of education proved to be major determinants of attitude patterns.

**John & Steven Martin (2009)** analyzed differences between Internet-users and non-users. Researchers used a targeted module of IT-relevant questions added to the 2000, 2002, 2004 and 2006 samples in the General Social Survey (GSS) and devote particular attention to the issue of whether Internet use is associated with more or less diverse or 'liberal' political opinions and how these associations have changed since 2000. In general, the study found that i) differences between user and non user seem to exist and ii) Internet-users were more supportive on diverse and tolerant points , and iii) Internet-users were consistent with the premise that going online is a way of expressing openness to opposing points of view and new experiences. However, the differences were often non-monotonic. Moreover, there were differences for some racial/family/sexual/political attitudes but not on other patterns that do not fit easily under standard labels such as liberal, conservative or even libertarian. Internet-users also expressed slightly more optimistic and sociable attitudes on certain other GSS questions. On most GSS items, difference could not found between Internet-users and non-users.

**Shu Ching & Tung (2007)** investigated the difference between Internet addicts and non-addicts in Taiwanese high schools, and focused specifically on their Internet usage patterns, and gratification and communication pleasures. A sample 1708 high school adolescents were drawn for data collection. 236 subjects 13.8% were identified as addicts by using the eight-item Internet addiction Diagnostic Questionnaire designed by Young. The results revealed that Internet addicts spent many hours online than the non-addicts. Notably, surfing with a social/entertainment motivation and gratification was positively correlated with Internet addiction. Furthermore, Internet addicts obtained markedly higher overall PIUST scores and scored higher than non-addicts on four subscales (tolerance; compulsive use and withdrawal; related problems, including family, school, health, and other problems; interpersonal and financial problems). While Internet addicts perceived the Internet to have significantly more negative influences on daily routines, school performance, teacher and parental



relation than non-addicts, both Internet addicts and non-addicts viewed Internet use as enhancing peer relations. Moreover, students with personalities characterized by dependence, shyness, depression and low self-esteem had a high tendency to become addicted.

**Alan & Robinson (2002)** used survey data collected from the year 2000 General Social Survey (GSS). It included old questions on the extent of social visiting and new questions on the extent of social networks. The results provide little support to conclude that Internet-users and electronic mail users, with longer hour's usability, prove less active or more constricted to social lives than non-users. Little evidence of reduced social contact in relation to levels of social visiting in comparison to 1998 or to earlier GSS surveys has also been established. No difference, in the overall visiting of lesser v/s greater v/s non-Internet-users has also been reported. Internet-users have been seen to spend more evenings with friends than nonusers and fewer evenings with relatives and neighbours. There was no decline in the number of people contacted by traditional communication channels among the respondents who contacted more people by email, or who used the Internet excessively. There was more evidence to support the Newtonian model of increased social life among Internet-users than the evidence of any displacement effect.

**Ofosu (2001)** compared the Internet-dependent and non-Internet-dependent university students regarding their perception about social support focusing on the factors like self-esteem, shyness, loneliness, gender and the level of dissociation. The Internet dependents showed more perceived social support than non-Internet dependents. This revealed that the Internet dependents felt more inclined towards the use of Internet. They were seen to search for the social support and were lacking in their conventional face to face relationships with their family and friends. The majority of the participants asserted that their Internet-based social interactions were not up to the mark and were less meaningful than their real life interactions. However, 10% respondents reported that their on-line interactions were better and more meaningful than their real life social interactions. Almost eighty five percent participants expressed that they preferred their off-line interactions to their Internet-based interactions. The researcher confirmed that there was a strong association between Internet-dependence and vice-versa. The respondents' lack of social support from friends and family in the real life appeared the cause of their dependence on the



Internet. They expected perceived social support for compensation of the missing social support in their real life. Internet-dependents exhibited more shyness and were more conscious of self-esteem than the non-Internet dependents. Internet dependents expressed significantly more social loneliness than family or romantic loneliness as compared to non-Internet dependents. The male participants were more inclined in Internet dependence than female participants.

## **2.2 A) Studies on Internet and Life Style**

**Nasir Younis (2014)** intended to assess the healthy lifestyle habits among Mosul University Students and examined the relationship between the university students' characteristics and healthy lifestyles habits. Cross-sectional survey design was applied to assess the healthy lifestyle habits among Mosul University Students. Random sample consisted of 400 students (Male and Female) from Mosul University with specialty difference as 'College of Medicine, College of Dentistry, College of Nursing, College of Pharmacy, College of Fine Arts, College of Education, College of Basic Education and College of Law' from the end stage in University. Period of data collection was first December 2013 which extended to the terminal date of February 2014. An interview technique method was followed for the data collection. The data were analyzed through the application of the descriptive and inferential statistical data analysis. The results indicated that university students had a low score in the total healthy lifestyle habits, demonstrating females as higher than those of males.

**Pramod & Raju (2014)** carried out the study to i) find whether there exist any relationship between Problematic Internet usage and the general health and ii) find out whether there exists any significant difference between Internet-users in their Problematic Internet use on the basis of general health. For this purpose, the data were collected from 1093 Internet-users by administering Problematic Internet use Questionnaire and General Health Questionnaire. Correlation and one-way ANOVA and Pearson's product-moment correlation statistical techniques were used. The results indicated the existence of a significant positive relationship between Problematic Internet use and the absence of general health. The one- way ANOVA results revealed that Problematic Internet use was found to be high among Internet-users with low general health.

**Azizah et al. (2013)** studied the impact of Internet addiction among Malaysian university students. Research methodology used in this study was by distributing



survey questions to 653 university students from five different universities in Malaysia. Four possible impacts were measured which included: Academic Performances, Relationships, Personality and Lifestyle. The findings showed that the Internet addiction cause problems with respondents' academic performances, having bad personality and practicing an unhealthy lifestyle. There were significant differences in academic performance, personality and lifestyle between "Average user" and "Excessive user".

**Binnaz et al. (2013)** examined the relationship between university students' Internet use and loneliness and social self-efficacy. The sample of the study consists of 507 university students. To determine i) students' degree of Internet use, Young's (1998) 'Internet addiction Scale', by Bayraktar (2001), ii) the degree of loneliness 'UCLA Loneliness Scale' and iii) the degree of social self-efficacy, Smith- Betz's (2000) 'Social Self-efficacy Perception Scale' adapted by Turkish Palanci (2002) were used. The results suggested a meaningful relationship between Internet use and loneliness scores. However, no relationship was observed with the social self-efficacy scores. On the other hand, it has been found that students with a higher score on Internet use have a higher degree of loneliness when compared to students with moderate and low degree of Internet use.

**Chih Hung et al. (2013)** aimed to examine the temporal relationship between problematic Internet use (PIU) and lifestyle changes during the first year among college youth. Cross-lagged analysis of panel survey data collected from Taiwanese college youth (387 males and 370 females) was applied. Structural equation modelling was adopted to test several nested cross-lagged relationship models. The results showed that four measures of lifestyle changes and PIU were moderately to highly stable across one year. Moreover, PIU in freshman year predicted negative changes in lifestyle in the subsequent year, which included reduction of physical and social activities, irregular diet and unhealthy sleep. Lifestyle changes in freshman year, in contrast, did not predict PIU in subsequent year.

**Cynthia Shuster et al. (2013)** explored the development of online, technology-based, nutrition, health, and fitness education challenges using social media as a means of helping users to develop healthy lifestyle changes. Participants completed pre assessments and post assessments to determine overall program impact and to self-report perceptions of knowledge gained and practice/behaviour change. Results



indicated that participants gained knowledge on nutrition, health and fitness topics while making strides towards lifestyle changes and adoption of healthy habits. It was also observed that although healthier eating habits were developed yet physical activity was increased with many participants losing weight. Ease of participating was the most reported reason for participating in the challenges.

**Derbshire et al. (2013)** evaluated the problematic Internet use and associated risks in college students. A sample of 2108 college students (56.9% female) was examined using a self-report Internet survey concerning demographic characteristics, Internet use, health behaviour, psychosocial functioning, and psychiatric co-morbidities. The IAT was used to determine the levels of problematic Internet use (limited / none or almost no use), mild use (typical user), moderate use (occasional problems) and severe use (frequent, serious problems)) and the MINI for testing for psychiatric problems. Results revealed that 237 students (12.9%) met criteria for limited Internet use, 1502 (81.8%) for mild Internet use and 98 (5.3%) for moderate to severe Internet use. Variables have been seen significantly associated with greater frequency of Internet use including lower grade point, average, less frequent exercise, higher PHQ scores (indicative of greater depression symptoms) and higher perceived stress scores.

**Karl Peltzer et al. (2013)** determined the associations between heavy Internet use and health-promoting behaviour, health risk behaviour and health outcomes among university students. The sample included 860 undergraduate university students chosen at random from University in Thailand. Of the participants, 27.3% were male and 72.7% were female in the age range of 18–25 years. Overall, students spent on average, 5.3 hours per day on the Internet, and 35.3% engaged in heavy Internet use (6 or more hours per day). In multivariate logistic regression, adjusting for socio demographics, lack of dental check-ups, three health risk behaviours (sedentary lifestyle, illicit drug use and gambling) and three health outcomes [being underweight, overweight or obese and having screened positive for post-traumatic stress disorder (PTSD)] were found to be associated with heavy Internet use.

**Rozita Jamili et al. (2013)** explored the perspectives about the effects of Internet usage on students' personal and social behaviours along with the impact of these usages on their academic performance. To explore students' Internet usage behaviours and predicting outliers in student's community, investigators developed Web based data mining tool named Education Data Miner (EDMiner). This research study was



conducted with a sample of 5210 students from one engineering college in India during 36 months continually. The primary focus of this study was to extract Internet usage pattern of students by exploring proxy server access log files. These patterns were then used for identifying outliers in students' community by using clustering methods of factor analysis. Further, the relationship between Internet usage behaviours and various Academic and Non-academic activities were explored. Results revealed that 35 percent belongs to Websites under Extra-Curricular category. Whereas in case of curricular Websites, the results reported to be 24 percent. Moreover, results show higher average time spent on Internet results non-participation in other activities. This non-participation in other activities may prove to be an indicator for loneliness of these individuals.

**Vasilis Gialamas et al. (2013)** investigated students' perceptions about the impact of Internet usage on their learning and future jobs. The sample consisted of 448 students from the Early Childhood and Primary Education Departments at the National University of Athens, in Greece. Results showed that most of the students believe that Internet use in university study makes learning more interesting and effective, and that possessing Internet skills will assist their future job prospects. Results further shown that the more the years of digital experience and the higher the frequency of Internet usage, the more positive were students' perceptions regarding Internet's impact on their learning and future jobs. More years of digital experience resulted in less perceived complexity.

**Ilknur & Yildirm (2012)** examined the relation between problematic Internet use and healthy lifestyle behaviours among a sample of 1000 students from seven high schools in Sivas, Turkey. Data were collected using the problematic Internet usage scale and health promotion lifestyle profile. Results revealed that among male students, levels of problematic Internet use were significantly high in individuals using the Internet every day, those connecting to the Internet at home and those who use the Internet at least 5 hrs a day. Even though a weak negative correlation between problematic Internet use and healthy lifestyle behaviours was observed, gender and daily Internet use time also appeared to affect healthy lifestyle behaviours.

**Keshthiaray & Akbarian (2012)** qualitatively assessed the Internet users' experiences of cultural changes. The type of method is phenomenological. Research participants were 14 university students from Khorasgan Islamic Azad University with intensity





case sampling. The subjects were introduced by the administrator of the Internet site. Data collection was conducted through a semi-structured interview and the same were analyzed by Colaizzi 7-step method. Findings of this study, after excluding common codes, included 236 concept codes that represented the experiences of participants in this study. These are classified in three main themes as: 1- Change of Values such as Opinions, Beliefs and Morality (" Change of Beliefs " and " Lack of the Observation of Moral Laws"), 2- Norm Change ( "Life Style Changing" that come from Change of Tasks Doing Way, Change of Communication Way, Accelerate of knowledge exchanging and Social Participation Changing and " Change of Identity "that come from False Freedom and Corruption, Distrust, Social Change and Change of Wearing Mode) and 3-A Change in Verbal Symbols ("Influence of English Words in Farsi"and" Getting Loan Terms from the Internet"). These findings indicate that students have acquired a lot of positive and negative experiences while using the Internet which have affected the norms, ideas, beliefs, ethics and verbal symbols showing cultural changes in the society which mostly affect the young.

**Ligang Wang et al. (2012)** explored the association between Internet use and adolescents' lifestyles. With data from a cross-sectional survey conducted in China in 2009, a model revealing the effects of Internet use on adolescents' lifestyles was established from a series of hierarchical regression analyses. Results shows that certain Internet habits, such as excessive online time, accessing the Internet in an Internet bar, and using the Internet for catharsis, are related to poor lifestyle habits in adolescents; however, using the Internet for purposes such as gaining knowledge and finding information positively predicts healthy lifestyles in adolescents.

**Rina Dave (2012)** carried out the research to find the habits of Internet-users (university student). Efforts are on to find the search requirements related to the use of the Internet information. Data were collected by using a questionnaire and follow-up interviews with Internet-users from students. It is revealed that the students are getting quality information through the Internet. They use the Internet in different ways, such as accessing to online journals, downloading software or text, chatting, discussion, E-mail services and for finding related references. It was unveiled that the Internet services are normally used for projects. Also it is observed that the Google and Yahoo search engines are more widely used compared to other search engines. The analysis reveals that majority of Internet-users always find useful information on the Internet



and believed that quality information is available on the Internet and finally, the studied population use print, online and offline form of information for updating their subject knowledge.

**Aysegul & Nevin Kilic (2011)** aimed to find out the purpose and prevalence of the Internet usage among university students, and to study some individual variables such as personality factors, psychological symptoms and social support in relation to Internet addiction. In addition, the relationships between Internet addiction and demographical variables have been explored. The sample consisted of 1198 university students, 672 female and 525 male, from state and private universities in Istanbul and Ankara. Internet Addiction Scale, Big Five Personality Inventory, Social Support Inventory, Brief Symptom Inventory and demographical information form had been used as measurement devices. It has been found that the mean duration the students spent for Internet in a day is 1.53 hour; 18.89 percent of the students could be defined as Internet addict and male students were found to have higher addiction scores than female students. In addition, the students from higher SES were found to have higher Internet addiction scores than the students from lower SES. The regression analyses results showed that the daily time spent for Internet (duration) and using Internet for social interaction, being in higher SES, to have lower life satisfaction and lower self-control and to have higher neuroticism, anxiety and somatisation predict Internet addiction among university students.

**Paulo Pinheiro et al. (2011)** evaluated differences among people in the use of new information technologies as information source on Physical activities (PA), regarding their perceptions of benefits of an active lifestyle and characteristics of adequate physical activity to health improvement. The study included a randomly recruited sample of 879 subjects (53% males; 47% females), age  $42.3 \pm 19.4$  years old. A survey was designed to (1) identify main information sources; (2) relate perceived knowledge and PA information sources; (3) relate knowledge retention on adequate PA for health benefits and PA information sources; (4) relate perceived necessity of more information regarding PA and information sources and (5) relate PA levels and information sources. Results show that generically, groups show no statistical difference, regarding perceptions of the benefits of an active lifestyle and characteristics of adequate physical activity, so, new information technologies exposure do not change significantly knowledge on physical activity/health relation.



This result should promote a reflection regarding what kind of information and technology should be considered, to increase active lifestyle adherence.

**Richard Belanger et al. (2011)** examined the relationship between different Internet-use intensities and adolescent mental and somatic health. Data were drawn from the 2002 Swiss Multicenter Adolescent Survey on Health, a nationally representative survey of adolescents aged 16 to 20 years in post-mandatory school. From a self-administered anonymous questionnaire, 3906 adolescent boys and 3305 girls were categorized into 4 groups according to their intensity of Internet use: Heavy Internet-users (HIUs; >2 hours/day), regular Internet-users (RIUs; several days per week and  $\leq$  2 hours/day), occasional users ( $\leq$ 1 hour/week), and non-Internet-users (NIUs; no use in the previous month). Health factors examined were perceived health, depression, overweight, headaches and back pain, and insufficient sleep. In controlled multivariate analysis, using RIUs as a reference, HIUs of both genders were more likely to report higher depressive scores, whereas only male users were found at increased risk of overweight and female users at increased risk of insufficient sleep. Male NIUs and female NIUs and occasional users also were found at increased risk of higher depressive scores. Back-pain complaints were found predominantly among male NIUs. Study provides evidence of a U-shaped relationship between intensity of Internet use and poorer mental health of adolescents. In addition, HIUs were confirmed at increased risk for somatic health problems.

**Shields & Kane (2011)** evaluated the relationship between frequency of Internet use (and types of use) and several social and psychological variables, alcohol and drug use, and academic achievement among 215 students at an urban, commuter university. Results revealed that frequency of Internet use was not related to symptoms of depression, but three of the types of use (starting the day on the Internet, visiting news sites, viewing videos) reduced symptoms of depression. Internet use was generally related to more face-to-face interaction, suggesting that Internet use is used to augment rather than replace social interaction. However, the significant relationships between Internet use and quality of relationships with parents and significant others tended to be negative. These results are discussed in relation to “The Rich Get Richer” and the “Social Compensation” approaches. Binge drinking and drug use were related to Internet use that might be used to promote social activities. Visiting a sexually explicit web site was the exception, and suggests it could serve a purpose



similar to substance use. Grade point average (GPA) was both positively and negatively associated with specific types of Internet use, but the most surprising finding was a positive association between GPA and visiting sexually explicit sites.

**Vida Fallahi (2011)** concentrated on the effects of Information and Communication Technology (ICT) on the youth behaviours. According to some studies people who have been using Internet more or in another word addicted to the net, are faced to the social isolation. To test the relationship between these two factors, ICT and social behaviour, a random sampling included 500 people were selected from the society of Shiraz University students. UCLA Loneliness Scale (Russell, 1996) and Young Scale for Internet addiction (Young, 1998) used for to data collection. The Results indicated that %13.2 of student's are addicted to the net and more result showed significant difference between differed users groups. Addicted group are more alone than other groups.

**Yair Hamburger & Hayat (2011)** analysed results from the World Internet Project, comprised of representative samples from 13 countries (22,002 participants). Thus creating an exceptional international representative sample. In order to achieve a comprehensive understanding of the Internet's influence over individuals' social lives; it is essential to consider the different types of social connections that might be influenced by the Internet. Influence of Internet use over social interactions in separate life domains (e.g. with family members; friends; colleagues). Analysis confirms that Internet usage can actually enhance the social lives of its users. Qualifications to the research are discussed while highlighting the different life domains in which we found significant correlations between Internet usage and increased social interactions.

**Ju, Sun (2009)** assessed students' Internet use behaviours and to determine the extent that Chinese college students' Internet use impact on their health and study. For this study, survey of college students that examines the nature of their Internet use is conducted. A statistic analysis about Chinese college students' Internet use behaviour is presented. The statistic results indicate that many college students in China used the Internet frequently and spent long hours online. The college students using Internet for entertainment has a large proportion in their Internet activities. College students use sex or violence Web-sites maybe have a significant impact on their health and study. A significant fact is that some students use Internet all-night, they are



infatuatedly online so that forget to eat and sleep. Some students are accustomed to using Internet by skip classes. These Internet use behaviour will seriously influence their study in campus.

**Kim et al. (2009)** examined the correlation of heavy Internet use and determine the associations of heavy Internet use with various health risk behaviours and health-promoting behaviours among Chinese adolescents, an anonymous, self-administered health behaviour questionnaire was completed by 2427 matriculates into a Hong Kong university (mean age=18.9 years) and returned at compulsory health examination. Of students, 14.8% reported heavy Internet use (>4h/day) and such use was associated with lower likelihood of engaging in health-promoting activities such as exercising and seeking medical care. At the same time, heavy Internet use was correlated with multiple risk behaviours such as skipping meals and sleeping late as well as poorer health outcomes such as higher likelihood of being overweight or having hypersomnia. Given the double burden of poorer health outcomes and less health-promoting behaviour, heavy Internet-users represent a particularly challenging group for adolescent health promotion.

**Louis Leung (2009)** carried out the exploratory research is to examine the inter-linkage among Internet connectedness, information literacy, and quality of life. Results based on a probability sample of 756 Internet users, found that Internet connectedness is not related to quality of life. However, there is a significant relationship between Internet connectedness and information literacy, and a strong link between information literacy and life quality.

**Mohseni et al. (2008)** investigated social isolation of Internet-users and type of their Internet use. There have been hopes and fears of the Internet's social impact since it emerged. Among different social impact this study focuses on the impact of Internet on people's social connection. The main question of this study is that whether Internet use affects people's social ties? A sample of 204 cybercafe users in Tehran was nominated to participate in the survey. Results indicated 66% of respondents found friends on Internet and 50% have met these friends out of Internet. Time spent online during the day has a negative relationship with social isolation. Analyzing the findings, it is appeared that the both Internet use and social use of Internet will be slightly associated with reduced level of social isolation.



**Neil Selwyn (2008)** used survey data collected from 1222 undergraduate students studying at UK higher education institutions; this study addresses students' engagement with the Internet as a source of academic information for their studies. In particular this study explores how academic use of the Internet is patterned by a range of potential influences such as students' wider Internet use, access and expertise, their year of study, gender, age, ethnic and educational background. Results revealed that students' academic Internet use is most strongly patterned along the lines of gender and subject-specialism rather than other individual characteristics or differences in technology access or expertise.

**Gordon & Syed (2007)** investigated the Internet use and well-being among college students, with focus on frequency of use. This study aimed to determine what students use the Internet for and how each of these affects their performance in college. A survey was performed on a representative sample of undergraduate students. This study identifies the top five types of Internet use reported by students in the sample. The five types identified were: emailing friends, getting help with school work, talking with friends, emailing family, and instant messaging. These uses did not differ significantly between genders. Frequency of Internet use was not found to be correlated with any of the well-being measures. It was found that the amount of time spent online was significantly associated with social anxiety. The findings in this study suggest that the specific type of Internet use relates to depression, social anxiety and family cohesion much more so than does frequency of use. It was also found that the Internet has become an important aspect of college students' lives. It was revealed that students mainly used the Internet to email family and friends, IM, talk with friends, and get help with school work. This shows that students were drawn to the Internet primarily as a means of communication with friends and family.

**Cam Escoffery et al. (2005)** examined the Internet use, health-seeking behaviours, and attitudes related to the use of the Internet to obtain health information among college students. The authors surveyed 743 undergraduate students at 2 academic institutions. Results showed that 53% of the respondents indicated that they would like to get health information online, and 28% reported that they would like to attend a health program online. Overall, 74% of the students reported having ever received health information online, and more than 40% reported that they frequently searched the Internet for information. They used various search engines and multiple Web sites



to find health information. Issues related to the credibility of the information on health Web sites were crucial considerations for students. The study also found differences in Internet use for health information by gender and by level of Internet experience.

**Dennis & Moore (2004)** investigated the relationships between the levels of identity development, Internet use and social anxiety among a sample of 161 older adolescents/young adults aged between 18 and 25. Results indicated that, for males only, higher levels of social anxiety and less mature identity statuses were associated with more frequent Internet use, specifically time spent in chatrooms, online browsing for personal use, and games. For females (who were in this sample less socially anxious, more identity-developed, and lower users of the Internet than males), social anxiety and identity status were not significantly associated with time spent online.

**Itamar et al. (2003)** examined the benefits of a dialogue with Making Better Career Decisions MBCD, by analyzing 712 users' perceptions of its contribution to their career decision-making process, and locating variables associated with these perceptions. A pre-dialogue and a post-dialogue questionnaire were used to collect the users' perceptions of its benefits and measure the change in the degree of decidedness. Perceived benefit was derived from participants' ratings of the degree of progress they had made in their career decision-making process, whether they had learned about additional factors to be considered and their career-related preferences, as well as their ratings of the quality of the list of "promising" career alternatives presented to them during their dialogue with MBCD. This composite perceived benefit was found to be positively associated with the users' decidedness at the completion of the dialogue with Making Better Career Decisions MBCD. Users' satisfaction with the length and variety of their personal "promising alternatives" list was associated with a higher perceived benefit.

**Samuel and Tatia Lee (2001)** determined the patterns of computer usage among adolescents and to examine whether computer usage is associated with less physical activity and social support among adolescents. 2110 secondary school students (52% boys and 48% girls) in Hong Kong completed a set of questionnaires to measure their computer usage and lifestyle. Mean age of the respondents was 14.16 years). Computer usage was taped by asking the students to indicate how much time (in minutes) they spent on the computer each day for doing homework assignments; playing computer games; "surfing" the Internet; and communicating with others. The



students also provided information on their social-physical lifestyle. T-tests and analysis of variance were used to examine group differences. Pearson product moment correlations were used to explore relationships between computer usage and lifestyle. Results revealed boys who use computers for doing homework, “surfing” the Internet, and communicating with others engage in more social-physical activities than others. Boys who use computers to play games tend to be more social-behaviourally inactive. For girls, patterns of computer usage are not related to lifestyle. Computer users tended to engage in social-physical activities more frequently and had higher social support than nonusers. But among computer users, the amount of time spent daily on the computer was not associated with lifestyle. Instead, patterns of computer usage are more related to lifestyle and the relationship is moderated by gender.

## **2.2 (B). Studies on Internet and Attitude towards Research**

**Amadi & Ogunkunle (2014)** determined the application of and preference for information and communication technology (ICT) among vocational education students in Niger Delta area of Nigeria. A structured questionnaire was administered to eighty students in the study area. Data was analyzed with the use of frequency, percentage and mean. The findings revealed that the application of and preference for information and communication technology was important in learning vocational education subjects. Approximately 90% of the respondents use World Wide Web (www) in their learning process. Also, 86.3% of the respondents use word processing in learning. The students use word processing for writing research projects and in taking notes in class. In the same vein, 81.3% of the respondents use a chat room for learning. Respondents agreed with the statement that ICT is used for writing research papers and agreed that Power point is useful in seminars and workshop presentations. Respondents also agreed that ICT is used for storing information based on speed and accuracy.

**Abimbola & Airen (2013)** investigated the influence of gender on the use of ICT among undergraduates in two university libraries in Nigeria. Undergraduates from three faculties were randomly selected to give a sample of 223, which is 30% fraction of the total population of 12,353. Questionnaire method was used for data collection. Results revealed that the undergraduates use ICT for the research purpose in addition to supportive course of study.





**Bandele & Adebule (2013)** investigated the patterns of graduate students' attitude to research in order to have insight into how they carried out their research work. The study employed the research design of the survey type. A sample of three hundred and sixty students from three faculties, Education, Arts and Social Sciences was selected using stratified random and judgemental sampling techniques. A 35 item questionnaire tagged University Graduating Students' Attitude towards Research Work (UGSATRW) served as instrument for data collection. The findings revealed that research work makes the students anxious, nervous, bored, and scared and that they would not have enrolled for the course if given opportunity. Also, the findings showed that, irrespective of type of gender and faculty of the students, a similarity in their pattern of attitude to research work. It can be concluded that almost all the graduating students had negative attitude towards research work.

**Odede Israel (2013)** investigated the attitudes of undergraduates in Delta and Edo states towards educational use of the Internet. The instrument used in collecting data was the questionnaire. 238 copies of the questionnaire were administered to the sample size which consists of undergraduates' information science students in Delta and Edo states. The questionnaire contained 8 items that have been structured to elicit information representing the undergraduates' attitude towards the educational use of the Internet since attitude are not directly observable, but can be inferred from responses given that show some state or disposition that has been engaged. The five items that met with the strongest agreement from the sampled undergraduates are 'the Internet is as important as other research tools' (91.6%), 'using the Internet easier than using the library' (91.2%), 'Internet is a universal digital library' (90.8%), 'Internet can allow you to do more imaginative work' (88.2%), 'Internet has a potential to be an effective teaching/training tool' (87.8%). This finding revealed that undergraduates have positive attitudes towards educational use of the Internet.

**Ibegwam et al. (2012)** examined the utilization of Internet by post graduate students for research. The citation analysis method was employed to discover the extent of Internet sources use in the Thesis and Dissertations (TDs) written and submitted to the MOUAU Library. Results revealed on the whole, a total number of 327 TDs was studied representing all the submissions from 22 departments of 6 different colleges in MOUAU offering Master and Doctor of Philosophy programmes from the year 2000 to 2010. It was observed that Internet use in the Thesis and Dissertations (TDs)



studied was poor and insignificant in comparison to other sources of information used by the postgraduate students.

**Thomas Babalis et al. (2012)** examined the relationship between research attitude and innovative-creative thinking, as well as, the differences among men and women. The results indicated in-significant differences between men and women in the innovative-creative thinking. On the other hand, significant differences revealed between men and women regarding research attitude. Conclusively, the women showed a more “conservative” attitude preferring works characterized by explicit instructions and clear goals, while men showed that they choose works in which they have the opportunity to make personal decisions, indicating a preference on non-integrated research works.

**Alison & Eisenberg (2011)** analysed college students’ everyday life information-seeking behaviour and is based on findings from 8,353 survey respondents on 25 U.S. college campuses. A large majority of respondents had looked for news and, to a slightly lesser extent, decision making information about purchases and health and wellness within the previous six months. Almost all the respondents used search engines, though students planning to purchase something were more likely to use search engines, and those looking for spiritual information were least likely to use search engines. Despite the widespread use of search engines, the process of filtering relevant from non-relevant search results was reportedly the most difficult part of everyday life research. As a whole, these students used a hybrid information-seeking strategy for meeting their everyday life information needs, turning to search engines almost as much as they did to friends and family.

**Chinwe Nwezeh (2010)** assessed the impact of Internet resources and the evaluation of their usefulness on teaching, learning and research among university students. This study is based on a descriptive survey using questionnaires for data collection. The respondents constitute students (750) and academic staff (115) from OAU. Descriptive statistics (frequency counts and percentages) were used to analyze the data. Findings revealed that a majority of the surveyed academic staff and the students found the Internet to be very useful. Internet resources mostly used by both groups were e-mail and the World Wide Web (WWW). Search interfaces were used for looking for research information. It was discovered that the users were not given adequate user education to enable them make use of the Internet resources available.



**Kaan & Gozen (2010)** investigated the factors affecting students' attitudes towards participation in a scientific study based on their viewpoints. Data has been collected via a survey, which aims to gather information about the socio-demographic information of the individuals, the characteristics of the researcher, the characteristics of the assessment tool and the psychological traits of the individual, from a total of 86 students attending at Ankara University Faculty of Educational Sciences in the 2009-2010 academic years. The findings of the study reveal that there may be a relation between some variables and the university students' attitudes towards participation in scientific studies.

**Milan & Katerina (2010)** focussed on students' scientific competencies, measured their knowledge and provided questionnaires focussed on different aspects of life. This study based on the programme for International Student Assessment. One aspect was students' experience with information and communication technology (ICT). A secondary analysis of variance of the Czech Republic data (N=5,932 students) was conducted using the science knowledge test score and ICT familiarity items. The main result was that students who were connected in some way with ICT achieved better scores on the science knowledge test in comparison with students who were not. Furthermore, students whose ICT activity was connected with the educational process achieved a higher score in comparison with students whose ICT activity was not connected with the educational process.

**Negahban Bagher (2010)** assessed the extent of utilization and familiarity in accessing digital technologies of information among 97 post graduate students. The results revealed that in familiarity with accessing digital sources, more familiarity was found in journals on the Internet and less familiarity was observed for encyclopaedia on net, directories and yellow pages and digital libraries. The selected sample had more familiarity with book search and book shops on net, Internet relay chatting and email and less of teleconferencing on the net. Research scholars had higher familiarity with book search and book shops on the Internet than students.

**Rehman Kashif et al. (2010)** investigated Internet usage by students of the University, whether it is an effective learning tool for students and teachers and also examines the level of use Internet and whether the Internet is useful for distance learners. The sample of the data is taken from the universities of the twin cities (Islamabad and Rawalpindi). The quantitative technique for data analysis was SPSS.



The results revealed that most students find that the Internet knowledge is essential for students and teachers. Above all respondents in the questionnaire that students feel comfortable using the Internet and provides substantial information and half of those surveyed felt that Internet use is difficult in school. Results show that the Internet is easier to use than the collection of research tools, while the Internet is very important.

**Biradar & Sampath (2008)** investigated Students and Faculties' searching behaviour and the Internet use of search engines for retrieval of scholarly information. The study investigated the use of search engines, use of popular search engines, factor that influenced on search engines use, use of search strategy for information retrieval and also to know the methods of learning search strategy by students and faculties in the university background. 120 questionnaires were distributed to students and faculties of Kuvempu University, Shimoga. Of these, 100 users filled and returned the questionnaires. Equal number of students and faculties and also equal proportion of science and social science department's respondents were considered for the study. 96% of faculties and 76% of students used Internet for different purposes. Many of the respondents reported that the information available on the Internet had proved to be a great asset and they responded that with Internet resources their professional competence were improved and they were abreast with the latest information. The most popular used search engines by students and faculties were Yahoo and Goggle. The factors influenced on the use of search engines were search engines popularity, more information and user friendliness.

**Margam Madhusudhan (2008)** focused on the use of e-resources by 64 research scholars and students of Kurukshetra University. It was found that the e-resources could be good substitutes for conventional resources, if the access was fast, and more computer terminals were installed to provide fast access to e-resources. Google was the most widely used search engine for locating information electronically.

**Khare et al. (2007)** examined to i) ascertain the knowledge of users about the Internet resources, ii) identify the popular search engines, iii) determine the level of their satisfaction with the services, and iv) suggest ways of providing better Internet services to users. Questionnaire was the methodology adopted for the study. A sample of 100 Ph.D. scholars representing 10 scholars from each of the ten faculties. It was found that 66% of research scholars use Internet and 34% were non users of Internet. Results revealed that the purposes of the users of Internet were educational, job



search, entertainment, communication and business. E-mail was the most commonly used Internet services and there were no users of TELNET and USENET service. Google, Yahoo, Web crawler were the most used search engines. The difficulties faced by research scholars in using the Internet were technical problems, language related problems and network related problems. Regarding the satisfaction with the information retrieved from the Internet, 42.42% users were of the view that retrieved information was not pin-pointed, 30.30% believed that information is sufficient, 19.7% believed that is not fully sufficient and 7.58% users believed that 50 retrieved information from the net was not sufficient for their research purpose.

**Mahajan Preeti (2006)** analysed the use of the Internet by the researchers at Punjab University, Chandigarh in all the three field of knowledge sciences, social sciences and humanities, so as to determine its influence on their academic life. 200 questionnaires were distributed, 80 researchers in sciences, 80 to researchers in social sciences and 40 to researchers in humanities. 80% of science researchers and 90% of social science researchers used Internet at their respective departments. But in the case of humanities researchers' cyber cafes were the Internet accessing point. 90% of science, 30% of social science and 5% of humanities researchers use Internet for academic purpose. The study revealed that researchers in sciences are more positive about Internet use and its impact on their educational needs. All the science researchers had gone online to access information from the e-journals that were available through the university library whereas only 40% in the social sciences and 5% in humanities were using online journals. Researchers use electronic resources more than paper resources as they were confident to find resources through Internet rather than paper resources. The other purposes of using Internet were document delivery services, online job seeking, publishing research papers in e-journals etc. The majority of researchers in all fields who used Internet for accessing information use search engines like Yahoo, Google, Infoseek and AltaVista. Most (99%) of the science researchers and 50% of the social science researchers agreed that Internet had a positive impact on their study and research, while researchers in humanities did not agree with the above statement.

**Oghenevwogaga et al. (2005)** explored how students are increasingly using the Internet to support instruction and research needs in addition to heavy e-mail usage. A questionnaire was used to survey a sample of students about their Internet practices.



Finding revealed that students are now coming to university with more background in technology and the role of the Internet and other ICTs. The demand for Internet service will continue to grow and how the university should respond to meet this greater demand is the focus of this research. The extension of this research suggests more positive impact from the Internet in almost every aspect of academic life.

## **2.2. (C). Studies on Internet and Academic Achievement**

**Eshaghali Azizi (2014)** who assessed relationship between Internet competency (IC) and academic achievement (AA) among science students in bachelor level with various combination of subjects. This was a correlation study with prediction and analytical research. A total of 254 science students in bachelor level of final year were drawn randomly from the four chosen. One college under each type: Private Aided College, Private Unaided College, Government College and Mysore University Constituent College. One of chosen using convenience sampling technique. The IC questionnaire prepared by the researcher employed to assess IC in total and component wise. The data analyzed using Pearson's Correlation Coefficient and Multiple Regression. The findings indicated that component of information search significantly and negatively correlated with AA of science students in bachelor level. Further results showed that in total there was no significant positive relationship between Internet competency (IC) and academic achievement (AA) of Science Students in Bachelor Level.

**Fauzi et al. (2014)** assessed the students durations spent on the Internet for academic and non-academic purposes based on a survey on 1675 students randomly selected from five different fields of study, viz. social sciences, sciences, and engineering, agriculture and computer sciences. On average, the participants accessed the Internet 4.48 hours per day. There were also significant differences in the time spent using the Internet among students in different fields of study, with computer science students spending more time online (5.61 hours per day) than the others. In terms of Internet use for academic purposes, students in social sciences, agriculture and computer sciences scored the highest. In an analysis involving all the students in this study, the total time on the Internet was found to be weakly correlated with the time spent online specifically for academic purposes. For social science students, a low but significant positive correlation existed between the overall time spent online and the time spent on the Internet for academic research. In a similar analysis carried out for science



students, a negative low correlation was observed. In the fields of agriculture, engineering and computer sciences, however, no correlation was found between Internet access duration and the use of the Internet for academic purposes. The very low correlations encountered above, even though statistically significant, showed that students who spent more time on the Internet did not make much greater use of it for academic purposes as compared with students who used the Internet less.

**Ibrahim & Mehmet (2014)** analyzed the students' academic performance by comparing the blended learning environment and traditional learning environment. The investigator intended to find whether there exists any significant difference in the academic achievement grade dispersions between male-female students. The study has been carried out in 2010-2011 academic year first semester biology courses. For the study, two quantitative courses sections have been selected among the classes formed by secondary school senior students. Cluster analysis has been conducted to provide the objectivity when forming the experiment and control groups. The study has been conducted with 54 participants, 19 males and 8 females for the experiment group and 18 males and 9 females for the control group. The experiment group continued its education in blended learning environment and the control group continued its education in traditional learning environment. The created learning environments have focused the genetics topic of the biology course and lasted for 6 weeks. During the study, pre-test and final-test have been used for the academic achievement analysis. The results revealed that a significant difference could not be found between the two groups at the end of the pre-test applied to experiment and control groups. Besides, in accordance with the averages of the final test grades, the experiment group has been found to be more successful than the control group. In both the learning environments, female students have turned out to be more successful than the male ones.

**Magwa Simuforosa (2013)** provided an overview of the impact of modern technology on the educational attainment of adolescents. The purpose was to examine the relationship between adolescent usage of computers and academic performance. Within the qualitative research the case study design was adopted. Interviews and focus group discussions were the primary tools used to gather data. The study found out that modern technology impacts learning both positively and negatively.



**Sunday Paul (2013)** investigated the relationship between Internet browsing and students' achievement in Agricultural Science. A sample of 300 students was drawn from 10 schools from the five local government areas of Ogbomoso. Internet Browsing Pattern Questionnaire (IBPQ) and Agricultural Achievement Test (AAT) were used to collect data. Cronbach alpha correlation coefficient of 0.807 (IBPQ) and 0.9531 (AAT) were estimated for the instruments. Four research questions were answered. Descriptive statistics and Pearson product moment correlation were used to analyze data. Results revealed that majority of the students have access to the Internet. Most of the students that have access to the Internet browse more for non-educative information (socio-networking sites). The relationship between Internet browsing and students' achievement in Agricultural Science through positive are not significant.

**Anomo & Oyenuga (2012)** determined the impact of the use of Internet on technical college vocational students' academic performance, Nigeria. The purpose of the study among other things focuses on identifying the attitudes of students toward the use of Internet; to determine the purpose of Internet usage by students; to find out the intensity of Internet usage by students and to find out whether the use of Internet improves the academic performance of students or not. Survey method was adopted. Data were collected from one hundred and forty (140) technical college students in seven (7) technical colleges, Nigeria. Means and standard deviation were used to answer the research questions. Interviews were also conducted with students to compliment the data collected. The findings of the study reveals that most of the secondary school students access computer connected to the Internet through the use of the cyber cafe or settings open to the public; the students spend more of their time outside the school and their homes to use the Internet; female students are more disposed to the use of the Internet for social networking than their male counterparts; most of the special sites students visit on the Internet are not for academic engagements or school work; most of the devices used are connected to the Internet through the use of modem and the use of Internet technology show significant relationship with students academic achievement and it motivates the students to get along with schoolwork.

**Horzum & Mehmet Baris (2012)** determined the effect of web based instruction on students' web pedagogical content knowledge, academic achievement and the general satisfaction of the course. The study was planned and completed according to pre test





and post test with control group experimental design. The study was carried out on 29 students. The web content knowledge of the students in both group showed significant change after the experimental procedure. The web pedagogical content knowledge and the attitudes towards web based instruction of the experiment group were found to be higher than control group after the course. Also the academic achievement of experiment group was higher than control group and there was no difference in course satisfaction.

**Ela Goyal et al. (2011)** examined the satisfaction and usability of Internet usage on students' assignment completion tasks and their performance. Using the extended task-technology fit (TTF) model. In the extended TTF model, technology resistance and technology usage was also considered. The study was conducted at a management institute in Mumbai and questionnaires were distributed to 221 post-graduate students. The results indicate that technology satisfaction and the Internet usage significantly explains the variance on students' performance. Task-technology fit is the predictor for Internet usage, whereas it is not a predictor for technology resistance. Technology Satisfaction is the predictor of Technology resistance, student's performance and Internet usage. Internet usage is the predictor of Technology satisfaction and student's performance. Since these factors are found to have a significant relationship with students' performance, the management and decision makers in universities and institutes need to give higher importance as to how students could use the Internet efficiently and effectively.

**Scott et al. (2011)** carried out an empirical investigation of the academic performance and the web-usage pattern of 2153 undergraduate students. Data from university proxy logs allows us to examine usage patterns and compared this data to the students' academic performance. The results showed a small but significant (both statistically and educationally) association between heavier web browsing and poorer academic results (lower average mark, higher failure rates). In addition, among good students, the proportion of students who are relatively light users of the Internet is reported significantly greater than would be expected by chance.

**Zainol Bidin et al. (2011)** aimed to investigate the factors influencing students' intention to use the Internet for academic purposes amongst 204 final year business students in public universities in Malaysia. This study integrated theory of planned behaviour (TPB) and theory of acceptance model (TAM) as the base model toward



that purpose. The research model employs the variables from both theories namely attitudes, subjective norms, perceived behavioural control, perceived usefulness, perceived ease of use, intention, and behaviour. A multiple regression analysis provides empirical support for the applicability of integration of TPB and TAM in predicting students' intention to use the Internet for academic purposes. Results of the study showed that attitudes, perceived behavioural control, and perceived usefulness are statistically significant in influencing intention to use the Internet for academic purposes. It can be concluded that students' intention to use the Internet for academic purposes could be predicted from their attitudes, perceived behavioural control, and perceived usefulness at 49% level.

**Zhu Yu et al. (2011)** investigated the relationship between vocational students' information seeking activities on the Internet, academic self-efficacy and academic performance. Researchers propose that academic self-efficacy (both mediates and moderates) has the relationship with Internet information seeking and academic performance. Using survey data from 295 vocational high school students. Results revealed that the positive effect of Internet information seeking to students' academic performance is mediated through academic self-efficacy. Academic self-efficacy, at the same time, moderates the relationship between Internet information seeking to academic performance such that students' with low academic self-efficacy benefit more from Internet information seeking in regard to their academic performance.

**Ahmet Aypay (2010)** examined the ICT usage and academic achievement of Turkish students in Programme for International Student Assessment (PISA) 2006 data. The sample of the study included 4942 students from 160 schools. Frequencies, independent samples t-tests, ANOVAs, Pearson correlation coefficients, exploratory factor analysis, and regression analysis were used. A high percentage of students reported that they had access to computers. From the exploratory factor analysis, two factors were emerged: Computer usage for software purposes and computer usage for entertainment and Internet purposes. The factors found to be reliable. There was no significant relationship found between students ICT skills and academic achievement. The Turkish students were found to be similar in the general PISA findings. SES and gender differences were found.

**Fariborzi Khodadadi (2010)** determined the relationship between the amount of Internet usage and academic achievement in higher Education in Iran. This research



was a descriptive Correlational study. The participants in this study were students who were studying in the second semester 2007/08 in the Islamic Azad University-Mashhad Branch in Iran. SPSS version 16 was used for analyzing the data of study. The validity and reliability ( $=0.83$ ) of instrument were tested. The result indicates that there was no significant relationship between the amount of using Internet and the academic level of student. Also, there was no significant relationship between the amounts of using Internet by instructors in class presentations or conferences and his/her help to students to know how to use Internet in the course affairs, students' tendency in competing, cooperation and participation in academic discussion with the amount of using Internet. However, there was a positive relationship between their attitude towards the effects of using database and digital library in learning the course content with the amount of using Internet. Finally, the finding displays there were not significant differences about the academic achievement between students who use Internet for learning the course and students who did not. The study reveals that maybe students who use Internet, they spent time for doing other tasks than the course.

**Shamimul & Hasan Fouj (2010)** explored the relationship between ICT and the performance of students at the undergraduate level. The research sample was taken from a group of undergraduate students studying BBA at ASA University Bangladesh (ASAUB). The study found that the impact of ICT on the academic performance of the students was very negligible. The findings also reveal that majority of the students are in the dark about the potential role of ICT in their academic life. Moreover it has been found in the research that the ICT access provided to the students are not utilized to enhance academic performance but it is rather a source of recreation.

**Adel & Mounir (2008)** examined the relationship between the use of information and communication technologies (ICT) and student performance in higher education. This study aims to summarise the main findings of the literature and to give two complementary explanations. The first explanation focuses on the indirect effects of ICT on standard explanatory factors. Since a student's performance is mainly explained by a student's characteristics, educational environment and teachers' characteristics, ICT may have an impact on these determinants and consequently the outcome of education. The differences observed in students' performance are thus more related to the differentiated impact of ICT on standard explanatory factors. The



second hypothesis advocates that ICT uses need a change in the organisation of higher education. While ICT equipment and use rates are growing very fast in the European Union, the adoption of complementary organisational designs is very slow and differs from one institution to another. This may explain the observed differences in students' achievement.

**Alodied et al. (2008)** explored the extent and effects of Intranet use on Ajman University students' achievement and self-confidence. This study used the quantitative method. Fifty-eight male and female students taking the Modern Education Technology course at Ajman University participated; 29 of them were put into the control group, and the other half in the experiment group. The study found that experiment group used the Intranet and more often than the traditional group. Students in the control group and the experimental group had a positive, high level of confidence in all items. Also, the study found that there was no significant difference in achievement based on the number of hours spent using the intranet; also, there is no significant difference in self-confidence or achievement between male and female students in the control group. In addition, the study found a weak correlation between self-confidence and achievement.

**Chen & Peng (2008)** examined the relationships between university students' Internet use and students' academic performance, interpersonal relationships, psychosocial adjustment, and self-evaluation. The study was based on data drawn from a national survey of college students in Taiwan. A stratified sample of 49,609 students (2005-2006 academic year juniors) was randomly selected from 156 universities (174,277 students). Students completed a questionnaire online. The results show that Heavy Internet-users and non heavy Internet-users differed significantly on a number of dimensions. Non heavy users had better relationships with administrative staff, academic grades, and learning satisfaction than heavy Internet users. Heavy users were more likely to be depressed, physically ill, lonely, and introverted than non-heavy Internet-users.

**Yavuz et al. (2008)** investigated the factors that affect learners' academic achievement and attitudes in web based education. 127 students enrolled in the e-MBA Masters Degree of Bilgi University constituted the study group of the research. A survey method was used for the study and the data were collected by a Demographic Information Questionnaire and Web Based Education Attitudes Scale



was administered to the e-MBA students. Then, the e- MBA Degree average course grades (GPA) were obtained from the department to determine academic achievement of the students. Results revealed that web based education have positive effects on the improvement of academic achievement. The effect of web based education on attitude toward learning suggested that web use had positive effects mainly on motivation for learning and interested in the lessons.

**Qiping et al. (2007)** analysed the performance of two groups of students studying in the traditional mode and the online mode in a master's program delivered by a Department of Computing at a university in Hong Kong. Over 2,000 students have participated in the study between 2000 and 2004. This study includes a comparison of the results between different delivery modes of study each year as well as between different classes over the 4-year period. Although traditional mode students have achieved a slightly better performance in examinations in comparison to online mode students, the research concluded with insignificant differences in overall performance among the students.

**Kubey & Barrows (2001)** intended to i) to find out the evidence which support the prevalence of Internet dependency among college students ii) ascertain whether Internet dependency is associated with self-reported academic problems. The study was conducted on students (N = 572) at Rutgers University who completed a 43-item questionnaire about their Internet use, study habits, academic performance and personality. 53 students (9%) reported that they might have become “a little psychologically dependent on the Internet” and could be considered Internet dependent; 80 students (14%) reported that their “schoolwork had been hurt” because of time spent online and could be regarded as experiencing Internet-related academic problems. Results further revealed Internet-dependent students were more likely to experience Internet-related academic problems than students who were not dependent on the Internet. In addition, Internet-dependent students reported spending significantly more time online as compared to students who were not Internet-dependent and students with Internet-related academic problems reported spending significantly more time online as compared to the total sample. Furthermore, students with academic problems reported that they stayed up late, felt tired on the next day and missed class due to their use of the Internet. While female students accounted for



two-thirds of the sample, male participants made up almost half (49%) of the Internet-dependent group.

**Norshuhada Shiratuddin (2001)** determined the effect of Internet instructional method on students' performance; two groups of unrelated students over a period of two semesters in Multimedia Design course offered at the School of IT, University Malaysia were used as samples. One group was taught with conventional teaching method and the other with Internet based electronic book. As this was a first attempt in deploying Internet in teaching environment, it was primarily employed as educational means of web courses and supplements to courses. This study reports a personal experience and a case study of implementing Internet based electronic book and the effect it has on students' performance in the course. Through hypotheses testing, it is conclude that employing Internet in educational settings proves to have significant effect on students' performance.

## **2.2. (D). Studies on Internet and Gender Differences**

**Amanda et al. (2013)** who carried out the research to take a contemporary look at the gender differences. Using an online survey, investigators asked participants about their experiences with multiple forms of mediated communication: social networking sites, e-mail, video calls, instant messaging, texting, and phone calls. Results indicated that women, compared to men, are generally more frequent mediated communication users. Compared to men, women prefer and more frequently use text messaging, social media, and online video calls.

**Ann & Maltby (2013)** analysed the impact of the Internet on men's and women's lives. A content analysis of 200 postings from men and 200 from women, on the topic of "has the Internet changed your life" invited by a news website, was undertaken then examined for gender differences. Results showed more women's postings mentioned having made new friends or having met their partner, renewing old friendships, accessing information and advice, studying online, and shopping and booking travel online, while more men's postings mentioned that the Internet had helped or given them a career, positive socio-political effects, and negative aspects of the technology. The results are interpreted as supporting the view that the Internet represents an extension of broader social roles and interests in the "offline" world.

**Chih-Hung & Gwung (2013)** expressed the effect on the interpersonal relationships in terms of peer, parent-child, teacher-student, and net-friend from the gender



difference and various Internet usage perspectives. Data were gathered from 444 college students for structural equation modelling analysis. The results of this study revealed that Internet usage on social interaction and information seeking can positively affect all kinds of interpersonal relationships. Online game playing can enhance net-friend relationship, but is harmful to teacher–student relationship. Surprisingly, video watching can positively affect peer and parent–child relationships. Besides, through the intermediation of higher game playing, males have lower extent of teacher–student relationship and higher level of net-friend relationship. Contrarily, through the intermediation of lower video watching, males have lower extent of peer relationship and parent–child relationship.

**Patrick et al. (2013)** attempted to study the gender differences in urban adolescents Internet access, usage and motives. Data were collected from 914 students in Malaysia. Factor analysis revealed that eroticism, entertainment, social–interaction, shopping and information/surveillance are the key drivers for adolescence Internet usage. No differences between boys and girls were detected in Internet accessibility and home computer ownership. Boys and girls differed in their intensity of usage, place of access and their motivations to use the Internet. Girls were more motivated by social–interaction, shopping and surveillance/ information, while boys were more motivated by eroticism and had a higher tendency to be addicted to the Internet. However, boys and girls did not exhibit any significant differences in online entertainment motivation.

**Anna Bujala (2012)** carried out the research based on the Polish edition of the World Internet Project 2011 indicate gender differences both in the intensity of Internet usage and the ways in which it is used. Women spend less time online, have shorter experience online, and express less openness towards online relationships or services. The main gender difference in the kinds of activities undertaken online concerns entertainment–men engage much more often in activities such as playing games, listening to music or the radio, watching films, or looking for humorous content than women do. Having said that, it should be noted that the differences are not dramatic, indicating the small size of the “gender gap” among Polish Internet users.

**Tao Hu et al. (2012)** attempted to study the gender differences among college students in their usage perceptions of the Internet. A multiple-variable logistic model was proposed and tested using data gathered from 805 college students. The results of



the study suggest gender differences in usage perceptions of the Internet can be detected among college students. Specifically, the differences are reflected in that male college students have a higher level of perceptions of Internet self-efficacy, experience, and information overload than females.

**Yousef Eyadat (2012)** determined the level of Internet use as it varies by gender among university students in Jordan. A random sample of 278 students from one university of Jordan. Results of the study indicated that university students under study experienced excessive use of the Internet as indicated by the overall mean value and the results indicated that the university students under excessive use of the Internet neglect household responsibilities and neglect exams and courses to spend more time online. Results also indicated that there were no significant differences in the excessive use of the Internet based on differences in gender.

**Christy & Lee (2011)** explored the gender differences in student acceptance of an Internet-based learning medium (ILM). Specifically, the gender differences in the relative impact of both extrinsic and intrinsic motivations, as well as the social influence on student acceptance of an ILM. A total of 504 students participated in this study. Results revealed that attitude has the strongest direct effect on behavioural intention for both male and female students. Perceived usefulness influences attitude and behavioural intention to use an ILM more strongly for male students than it influences female students, whilst subjective norm is a more important factor determining female students' intention to use an ILM than it is for male students.

**Loan, F.A. (2011)** identified the gender variability in the Internet use of college students. The stratified sampling technique was employed to select students and data was collected via a questionnaire. The study confirms the existence of gender differences in the Internet use of the college students. However, the differences are slight for most uses. In comparison, more male students are frequent users of Internet than females. Female students use the Internet more than males for information and education whereas male students use the Internet more than females for communication and entertainment. Neither male nor female students record high use the Internet sources like online libraries, databases, e-books, e-journals, wikis, and blogs. The study also finds that both male and female students face problems like information overload and information pollution while searching the Internet, though





with slight variations. Finally, the problem of Internet illiteracy is found to be more common in female students than in their male counterparts.

**Wong Su et al. (2008)** carried out to investigate the gender disparity in Internet usage and the attitudes among 152 student teachers (80 females and 72 males) at a public Malaysian university. Results revealed no gender disparity in Internet usage; the female student teachers were found to spend as much time using the Internet as their male counterparts. The results also revealed that the students exhibited positive attitudes toward the Internet regardless of gender.

**Alan & Zsolt (2005)** analysed the gender experiences of computer self efficacy, computer anxiety and attitudes towards the Internet. Seventy-four female and 76 male Romanian university students, from a wide mixture of courses, completed a Computer Self Efficacy Scale, a Computer Anxiety Scale, and an attitude to the Internet Scale and gave information about their use of the Internet. Significant zero order correlations were obtained with the relationships being between higher computer self efficacy, lower computer anxiety, more positive attitudes towards the Internet and longer reported use of the Internet. Significant gender effects were found throughout, with males tending to report greater computer self efficacy, lower computer anxiety, more positive attitudes towards the Internet and longer use of the Internet than females. However, regression analysis indicated Internet experience (use) was the only variable independently linked to gender.

**Ann Brit (2005)** investigated how attitudes towards the Internet technology differ between boys and girls, and how this affects their critical approach when seeking information. The approach is ethnographic, and the material was collected by means of observations, conversations, questionnaires, interviews, computer logs and reading documents. The analyses were made with the help of software for qualitative analysis, where all sentences both from interviews and field notes were coded. Some analyses were strictly quantitative and compared data from coded qualitative material with questionnaires and computer logs in a database sheet. Others were of qualitative nature and based on selected material from the coded texts. Results indicated that it cannot be seen that boys and girls have different interests in the Internet technology in practice. But boys talk about their knowledge to a greater extent, and this interplays with their reflections about the Internet's reliability.



**Richard Joiner et al. (2005)** investigated the effects of gender, Internet anxiety, and Internet identification on use of the Internet. The study involved 608 undergraduate students (490 females and 118 males). Researchers surveyed the students' experience with the Internet, as well as their levels of Internet anxiety and Internet identification. Results revealed gender differences in participants' use of the Internet. Males were proportionally more likely to have their own web page than were females. They used the Internet more than females; in particular, they were more likely to use game websites, to use other specialist websites, and to download material from the Internet. However, females did not use the Internet for communication more than males. There was a significant positive relationship between Internet identification and total use of the Internet, and a significant negative relationship between Internet anxiety and total use of the Internet. Controlling for Internet identification and Internet anxiety, study found a significant and negative correlation between gender and use of the Internet.

**Madell & Muncer (2004)** determined whether or not a gender difference exists in the Internet use activity and to inform later studies of more specific aspects of this activity among the English secondary school students. 1300 students aged between 11 and 16 years old, were selected for the study. Among the respondents 50.5% were males and 49.1% were females. Questionnaires were distributed to the respondents for collecting data. In gender wise distribution 85.7% males and 80.2% females had used Internet. Respondents who were not using Internet stated that lack of access to Internet facility, lack of interest or motivation, lack of knowledge about how to use the Internet, cost of computer hardware and software and lack of time. For non-usage of Internet by gender wise distribution, girls were more likely to give the reason, "no one in house hold knows how to use it" than boys. In the use of E-mail, there was not a significant difference between the genders. However males were significantly more likely than females to use the Internet for the www. With regard to gender differences, it was found that the number of hours per week that males used the Internet was significantly higher than the number that females used it. Boys were more likely than girls to use the Internet for playing or downloading music, browsing to find out information about goods and services, buying or ordering goods, tickets or services, down loading software, including games and also using the net for accessing government or official services. However girls used the Internet more than boys for using E-mail, finding information related to education and using chat rooms or sites. There were significant



gender differences in finding out about new web sites/web pages via hyperlinks from other web pages, from Internet search engines and from Internet directories. Boys were more likely to use these methods than girls. More boys than girls were using Internet. But girls were more confused than boys while using Internet. Males did not perceive the Internet to be any more important in their lives than females.

**Eric Weiser (2000)** assessed the gender differences in specific uses of the Internet. The survey included 19 items and was made available to Internet users. For comparison, a paper-and-pencil version was administered to several hundred introductory psychology students. Numerous gender differences in preferences for specific Internet applications emerged. Results showed that males use the Internet mainly for purposes related to entertainment and leisure, whereas women use it primarily for interpersonal communication and educational assistance. However, additional analyses showed that several gender differences were mediated by differences in age and Internet experience.

**Odell et al. (2000)** used survey data collected from college students of institutions of higher learning in Georgia, considers these questions: (1) Has the gender gap in Internet use narrowed among college students to the same extent as it has in the general adult population? (2) Do female students differ from males in how they spend their time on the Internet? (3) Does family income, parental education or type of college influence female college students' use of the Internet? Results indicate that while the gender gap in use of the Internet has nearly closed, differences still remain in how male and female undergraduates use the Internet.

### **2.3. Studies on Related Variables**

**Abdullah et al. (2014)** investigated 210 Jordanian English as a foreign language (EFL) student' perceptions use of the Internet for both general purposes (e.g., e-mail, chat, aimless browsing, games, and music) and EFL learning purposes (e.g., practicing various language skills, vocabulary, and structure through instructional software). The findings revealed that 47% of the sample reported using browsers to view documents, while slightly smaller percentages reported using the Internet for personal purposes, mailing lists and discussion groups, and e-mail. Furthermore, the majority of the respondents reported never or rarely using the Internet for any EFL learning purposes, except for 58% and 52% respondents, who reported using it for developing speaking skills through chat and locating authentic texts, respectively. The



findings further revealed a low correlation between the students' use of the Internet for general and EFL learning purposes. Class level, but not gender, was found to significantly affect the students' use of the Internet.

**Bahman et al. (2014)** noticed the amount of Internet usage and its effective factors among high school students of Khafr County (Fars Province) in the educational year of 2009-2010. The population of this descriptive survey research included all the male and female students of Khafr County. The sample of this study included 340 students of which 153 were males and 187 were females. To describe, categorize, and summarize the data, descriptive statistics that included simple frequency distribution tables were used and to investigate the hypotheses and theoretical model testing of the study, referential statistics of Kendall tau correlation coefficient was used. The results showed that the students used Internet in so many cases and that there is significant relationship between Internet dependence and educational downfall, leisure time, communicating with others, tendency to aggression, social isolation, and life satisfaction.

**Shabana et al. (2014)** focused on the trends of using Internet by the students of Sargodha University. It also examined the gender difference regarding Internet usage. The sample of the data was taken from the University of Sargodha. A survey of 252 students both male and female was randomly selected to participate in the study. The result of the study showed that most of the students of university consider Internet as a tool for information. They use it for study purposes. They think that Internet is an easier way to get information than library.

**Razaque et al. (2013)** examined the 200 students and the result revealed that, 36.5% of the students use Internet for entertainment. While 42.2% of the respondents use Facebook. However, 65.5% use Google website for searching the articles, reports and other material for their class assignments. The use of Facebook result showed that 42.2% of the respondents use Facebook. The result revealed that most of the students use Internet for entertainments and obtaining the information for making their assignments of the class.

**Jalalinejad et al. (2012)** investigated the prevalence of Internet addiction among the girls and boys university students and also the relationship between Internet addictions with anxiety. Participants were 330 students who randomly selected from different universities. The Questionnaires of Internet addiction and anxiety scale were



used as instruments for data collection in this study. The data were analyzed using mean, standard deviation, t-test and regression analysis. The results of this study demonstrated that prevalence of Internet addiction among boys' were more than girls and in science and engineering students were more than arts and humanities students. There was a significant difference among these four groups in anxieties.

**Ofodu Graceful Onovughe (2012)** examined the Internet use and reading habits of higher institution students in Ekiti State. The study was conducted using a descriptive survey research method. The population for the study consisted of one state university, one private university and a federal polytechnic. The simple random sampling technique was used to select the sample that was used for the study. 266 first year students from higher institution were randomly selected. This cut across all disciplines ranging from arts to science to engineering and social sciences, inclusive of both sexes. The survey instrument was a questionnaire titled 'Internet use and reading habits of higher institution students in Ekiti state'. All data were analyzed using simple percentages. Finding revealed that a large percentage of the respondents generally enjoy reading and it could be safely said that the reading culture of the students is favourable since the advent of Internet. It also reveals that large number respondents actually engage in activities that may not add value to their academic performance.

**Ayyad, Khayrat (2011)** compared the Internet usage vs. traditional media usage among university students of the University of Sharjah (UOS) in the United Arab Emirates. It adopts the 'uses and gratification' approach to explain how students are goal-oriented in their use of mass media and the Internet. A questionnaire was designed and tested on a sample of 270 students of the UOS. The questionnaire included 21 questions covering patterns of using traditional media (television, radio and newspapers) and the use of the Internet among students. Findings of the study show that patterns of exposure to mass media and new media among the students reflect the importance of the Internet in comparison to traditional media. All students access the Internet extensively and use it to gratify their personal needs, social needs and educational needs. Findings also show that the Internet has effects on students' exposure to traditional media. This finding indicates that while the effect of the Internet on watching TV and reading newspapers is obvious, its effect on listening to radio is moderate. The Internet is seen as one of the most important mediums and a



threat to traditional mass media. As for the differences between male and female students, findings of the study show that the gender of students has an obvious affect on his/her usage of mass media and the Internet. As for the Internet, while the main reasons for accessing the Internet among male student are to communicate through e-mails and to follow up current affairs, female students use the Internet mostly to entertain themselves and to search for information related to their studies.

**Hatice Odaci (2011)** designed a study to assess whether academic self-efficacy and academic procrastination can act as predictors of problematic Internet use among university students. The study group consisted of 398 students attending education, medicine, architecture and economics programs at the Karadeniz Technical University in Turkey. The Problematic Internet Use Scale, Academic Self-efficacy Scale, Academic Procrastination Scale and a Personal Data Form were used as scaling instruments. Pearson's correlation coefficient, multiple regression analysis, independent samples *t*-test and one-way ANOVA were used to analyze the data collected. The results show a significant negative correlation between academic self-efficacy and problematic Internet use, while the relation between problematic Internet use and academic procrastination was not statistically significant. Furthermore, academic self-efficacy was determined to be a significant predictor of problematic Internet use.

**Munur & Tugun (2011)** identified the university students' Internet usages. It's a type of descriptive study. This research has been existence about 169 students whose studying at Near East University. There are 35 questions to identify the student's demographical profiles in this questionnaire. After the accumulation of this questionnaire the data has been coded and has been analysed by SPSS statistics programme. Also frequency analysis has been done for all variabilities. Results revealed that the huge percentage of the students is using the Internet for researching and no differences found between the university's departments Internet usages.

**Silvia & Tsai (2011)** investigated the students' perceptions of three aspects of learning collaboration, self-regulated learning (SRL), and information seeking (IS) in both Internet-based and traditional face-to-face learning contexts. A multi-dimensional questionnaire was designed to evaluate each aspect in terms of perceived capability, experience, and interest. The analyses explore (1) potential differences of students' perceptions between Internet-based and face-to-face learning environments



and (2) potential differences in the three aspects in relation to learners' attributes and the use of the Internet and enrollment in online courses. This study surveyed students in a higher education institute who had had experiences with Internet-based and face-to-face learning. The results showed that students perceived higher levels of collaboration (capability only), SRL (capability and experience) and IS (capability, interest, and experience) in Internet-based learning than in traditional learning environments. In terms of students' education level, graduate students perceived higher levels of capabilities and interests in some of the aspects, than undergraduate students. In addition, for Internet-based learning, significant differences in collaboration and SRL were found derived from time spent on the Internet related to learning; and students' perceptions of collaboration, SRL, and IS were all positively correlated to students' online course-taking experience.

**Shakes (2010)** studied the attitudes of students at the Islamic University of Bahawalpur, Pakistan towards learning through the Internet. A structured questionnaire was used for data collection. It was found that a vast majority of the students learnt how to use the Internet by themselves or with the assistance of their friends. The findings showed that their attitude towards the Internet was very positive and they used it mainly for study purpose. They used online databases, dictionaries, encyclopaedias and online courses. Google was the most popular search engine for retrieving information on the Internet.

**Sudhier & Seethalekshmi (2011)** examined the use of e-resources by the students and research scholars of Faculty of Arts in the University of Kerala. 127 questionnaires were distributed among the respondents from the six departments of the faculty of Arts, out of which 120 were returned. Results show that 56.67% of the respondents use Internet for educational purposes and 19.16% of respondents use Internet for checking e-mail. Google is the most preferred search engine for the most of the respondents. Yahoo is their second choice. The purpose for the use of e-resources revealed that 49.2% respondents use e-resources mainly for academic purposes, 27.5% respondents for seminar presentations and 11.7% use for project works. The study revealed that Internet resources are the most used e-resources among the respondents from the Arts Faculty.

**Maharana et al. (2010)** designed a study to find the necessity and usage of the Internet and e-resources by 91 students undertaking the master's course in Business



Administration in Sambalpur University, Orissa, India. The investigation result showed that majority of the students have a long experience of using Internet for 2 – 4 years and all were more or less aware of the applications of Internet technology. More than half of the students surveyed in the study strongly felt that management study would be severely affected without the use of the Internet and e-resources.

**Michael et al. (2008)** aimed to assess the level of penetration of Internet usage among undergraduate students in Nigeria using Obafemi Awolowo University as a case study. Result showed that about 92% of undergraduate students have embraced the Internet and are using it consistently. The online mean time is 3.5hrs/week while on the average, undergraduate experience of Internet usage is about 4years. Results revealed that the students use the Internet mostly for e-mail, information search and online chatting; all of these were found to have significant impact on their academics and social life. Further analysis revealed that gender attitude is also an important issue; male students appear to use the Internet more than their female counterparts; just as science based students use it more than the non-science based students.

**Mohammad Nazim (2008)** focused the results of a survey conducted at Aligarh Muslim University (AMU) to determine the extent to which Internet-users are aware and make use of the Internet resources and services. The study examines the information searching behaviour of Internet users. A questionnaire and follow-up interviews with the postgraduate students, research scholars and academic staff were conducted to collect data. A total of 489 questionnaires were distributed to the selected sample of eight faculties; 405 valid samples were collected. The data were analyzed according to the background of Internet users, Internet information searching behaviour, use of Internet resources and services, quality of Internet information, problems of the Internet access and need for Internet literacy. The study found that the majority of respondents had a 5 year history of Internet access. The academic staff spent more time on the Internet than the students and research scholars. Although Internet search engines were the preferred information searching tool, other methods such as databases, gateways and World Wide Web (WWW) were also used. Online journals and databases were the preferred information sources among the Internet users. Respondents chose e-mail, WWW and search engines as important Internet services. About 60% of respondents believed that the good quality of information on the Internet made it a useful tool for education and research. Slow





speeds, lack of training and information overload were indicated as some of the factors affecting Internet usage.

**Oduhlade (2008)** identified the extent of students' access to and use of the Internet by science undergraduate students of university of Ibadan and university of Lagos as a case study. The study also aimed at comparing the rate of use among this group of students and determines which is mostly used between the Internet and the Library. The research showed that majority of science undergraduate students do make use of the Internet because it was considered to provide wide coverage of information, contains adequate and current information, it is quickly and easily accessible, it provided electronic journals. The studies further revealed Net provided the student resource to carry out assignment enhances their knowledge and allow them to communicate faster. It was discovered that though a greater percentage of them patronize the library, the satisfaction required were not provided. Some of the reasons were inadequacy of library materials, obsolete materials and poor library conditions.

**Sakina et al. (2008)** presented the results of a survey of the undergraduate, graduate and post graduate students of the University of the Punjab, Lahore, Pakistan. The objective of the study was to explore the Internet use behaviour of students. The results show that most of the students use this technology for course related reading and research needs. They use it at the University Library's Digital Lab Unit as well as their departments and homes. A large number of them have learnt to use the Internet tools by themselves, or relying on assistance from friends without attending any formal training programs. Ease of work and time saving are the reasons of Internet use among university students. Google as a search engine and Yahoo as an email service are the most popular among students.

**Arulchelvan (2007)** analysed the patterns of Internet usage among different categories of students. Examining notions on the possession, purpose, frequency, timing and duration of usage of Internet in higher education, the study also assessed the outcomes indicated by user satisfaction. The study found that Internet enjoys high popularity among students for educational usage and that its effectiveness is satisfactory the online contents match the curriculum requirements.

**Beverly et al. (2007)** assessed the Internet use, abuse, and dependence. Sample comprised of 411 undergraduate students. Results revealed that 90% participants reported daily use of Internet. Approximately half of the sample met the criteria for



Internet abuse, and one-quarter met the criteria for Internet dependence. Men and women did not differ on the mean amount of time accessing the Internet each day; however, the reasons for accessing the Internet differed between the two groups. Depression had a correlation with high frequency usage of Internet to meet people, socially experiment, and participate in chat rooms, and with less frequent face-to-face socialization. Besides, individuals meeting criteria for Internet abuse & dependence endorsed more depressive symptoms, more time online, and less face-to-face socialization than did those not meeting the criteria.

**Ammobi Chinwe (2006)** identified the rate and purpose of Internet use by students in order to be well positioned to provide effective Internet services to them. The study was conducted on 1200 students of Federal University of Technology Nigeria. Questionnaire was randomly distributed to 1200 students out of which 67.6% were returned. The survey showed that 95.5% male and 90.4% female students had used Internet. Most (50.2%) of the students accessed Internet only once in a week and only 3.5% used Internet daily. Students used Internet for the purposes such as entertainments and sports, academic purposes, correspondences and social and business purposes. The areas of academic activities these students focused on the Internet included according to their responses are knowledge improvement, collection of materials for assignment and collection of materials for research, projects and assignment. The enumerated purposes were achieved through accessing and downloading academic material, access and downloading software, visiting other university sites and sending or receiving e-mails.

**Anasi (2006)** examined the pattern of Internet use by undergraduate students at the University of Lagos, Nigeria. It revealed that the level of Internet use is low among undergraduate students from both the Faculty of Education and Faculty of Law. It also revealed that though majority of the students browse the Internet many of them cannot design search strategies. However, the study showed that Internet use has very high impact on the academic/career related activities of the students.

**Kumar and Kaur (2005)** analysed the Internet use in the Engineering Colleges of Punjab, India. Questionnaire was employed to sample opinion of 474 students. It was revealed that 30.8% of the students have 2 – 4 years of experience in using the Internet followed by 1 – 2 years with 27.4%. A majority of the respondents used the Internet located at the college; use Internet for education and research purposes, while



half of them use it for communication purpose. More than half of the students use the Internet for consulting technical reports. It was further indicated that the major problem faced by the users was slow access speed of the Internet. In comparing Internet with conventional documents, 91.6% of the respondents noted that the Internet is easy to use, 89.1% agreed that it is informative and 88.1% felt it is time saving.

**Chung-Chuan Yang (2000)** discussed whether academic homosexual individuals perceive the Internet to be more fair and impartial in terms of news reporting than traditional mass media and to investigate why they use the Internet. This study employs a questionnaire survey method to collect data in Taiwan. The quantitative survey data (N=701), from a self-completed questionnaire using modified snowball sampling technique. Principal component analysis with Varimax rotation led to seven factors that account for 66.31% of the variance. These factors are social interaction and information, entertainment and relaxation, personal revelation, preference, privacy and escapism, pass time and, novelty-seeking. Correlation analyses also suggested those respondents' demographics, Internet usage frequency and, time are associated with their use motivation.

**Anderson (2001)** identified how the students' use of Internet has affected their academic and social lives. Investigator surveyed 1300 college students in classrooms at 8 academic institutions, 7 in the United States and 1 in the Ireland. Investigator motivated to do the research by some case studied and data were collected through open-ended questionnaires. Results found that, one-tenth of college students are dependent on Internet. Nearly 10% of Internet using college students spends enough time online. Their usage meets criteria for Internet dependence. Results also showed that, students majoring in the hard sciences i.e., Chemistry, Math, Engineering, Physics and Computer Science spent significantly more time online than other students.



## Overview

The overview of related literature involves locating, reaching and evaluation of research as well as the reports of casual observation and the opinions that are related to the researchers' planned research project. Overview provides a comprehensive coverage of the researches related to the topic. Investigator relatively to frame a summary of the previous researches which indicate the areas of agreement or it is presumed that the survey of related studies will make the present investigation more direct and to the point. The general purpose of the overview is to help the researchers develop a thorough understanding and insight into work already done on the areas left untouched and unexplored. One hundred twenty-two studies have been discussed in the present chapter under six captions, but the divergent results have come out. Besides, number of studies which also have shown contradictory results. The comprehension of all these studies present as under:

### 1. Studies on Internet-users and Internet Non-users

Few studies have been conducted on Internet-users and Internet Non-users as:

*Ali, Zarqa (2014)* revealed Internet-users and non-users with different perceptions. The non-users disagree with the scope of the Internet in their academic activities while the users agree that the Internet has a positive role in academic pursuits. *Cliff & Nicole Ellison (2013)* compared non-adopters against users on three dimensions of use. Light users often experience social capital outcomes similar to, or worse than, non-users, and heavy users reported higher perceived bridging and bonding social capital than either group. *Ibia & Ekott (2013)* indicated significant gender and age differences in Internet usage; significant differences in social skills development, social tolerance and pattern of behaviour between Internet-users and Non-users while a strong relationship were established between Internet usage and social skills development. It has also been observed that Internet usage negatively affected social skills development of youths. *Narimani et al. (2013)* showed that there is a significant difference between the means of two groups, using Internet and not using, and the variables of mental health and aggression. Results revealed that students using Internet report more unfavourable mental health and aggression control than the students not using. *Orose Leelakulthanit (2013)* revealed the Internet-users as more satisfied with their lives than the non-Internet users. Internet-users value optimism, personal health,



and self positively. The non-Internet users' value optimism, internal locus of control, and family positively, whereas being moderate user, social life were valued negatively. *Pavica Sheldon (2012)* compared average Face book users and Non-users, concluded that Non-users are significantly higher on mean scores on shyness and loneliness. Non-users, on the other hand are reported less socially active, and less prone to sensation seeking activities. *Soudeh & Masoud (2011)* found sensation seeking of Internet dependents significantly different from non-dependents. Internet dependents showed significantly higher scores on subscales of thrill and adventure seeking no inhibition and boredom susceptibility compared with non-dependents. *Sujatha (2011)* revealed the rate of Internet use more among the students of Commerce and Science faculty as compared to the faculty of Arts. However, majority of the students expressed their interest in the use of the Internet and its resources and seemed to be enthusiastic in improving their skills in the use of the Internet. *Zarqa Ali (2011)* revealed that the Internet has brought family members closer to each other, enhancing the unity among them and strengthening the family ties which have increased the sense of responsibility among youth. The perception of males and females was not significantly different. However, the perception of users and non-users of the Internet was different. *Elisabeth et al. (2009)* revealed age and education as major determinants of attitude patterns towards Internet and new technologies. The influence of the affective component has to be especially emphasized, not only when overcoming the initial obstacle of getting online, but also when it comes to willingness to learn and become a sophisticated user (second order digital divide). *John & Stven Martin (2009)* found Internet-users expressed most general social Survey items, however, either there were no differences between Internet-users and non-users, or the differences could be explained by age, education, race, and gender or income factors. *Pierce (2008)* found that those who used various communication technologies had significantly lower grades than those who did not. Teens who used various communication technologies while doing their homework reported having lower grades than those who did not use the technology while doing their homework. *Shu Ching & Tung (2007)* revealed that Internet addicts spent almost twice as many hours on line on average than the non-addicts. Internet addicts obtained markedly scored higher than non-addicts on four subscales (tolerance; compulsive use and



withdrawal; related problems, including family, school, health, and other problems; interpersonal and financial problems). While Internet addicts perceived the Internet to have significantly more negative influences on daily routines, school performance, teacher and parental relation than non-addicts. *Alan & Robinson (2002)* found Internet-users reported spending more evenings with friends than nonusers and fewer evenings with relatives and neighbour. *Ofosu (2001)* revealed Internet dependents showed more perceived social support than non-Internet dependents. Internet dependents felt more inclined to use the Internet to search for the social support that they were lacking in their conventional face to face relationships with their family and friends. It has been observed that there was a strong association between Internet-dependence and dissociation. Internet dependents expressed significantly more social loneliness than family or romantic loneliness as compared to non-Internet dependents.

## **2. Studies on Internet and Life Style**

Various studies have been conducted on Internet and lifestyle as:

*Nasir Younis (2014)* reported university students with a low score in the total healthy lifestyle habits and female with higher than those of male. *Azizah et al. (2013)* revealed that, Internet addiction causes lower academic performances, bad personality and unhealthy lifestyle. There were significant differences in academic performances, personality and lifestyle between “Average user” and “Excessive user”. *Binnaz et al. (2013)* revealed that there is a meaningful relationship between Internet use and loneliness scores, whereas no relationship was observed with social self-efficacy scores. On the other hand, students with a higher score on Internet use have a higher degree of loneliness as compared to students who have moderate and low degree of Internet use. *Chih Hung et al. (2013)* showed that problematic Internet use predicted negative changes in lifestyle including a reduction of physical and social activities, irregular diet and unhealthy sleep. *Cynthia Shuster et al. (2013)* indicated that students gained knowledge on nutrition, health and fitness topics while making strides towards lifestyle changes and adoption of healthy habits from online, technology. *Derbshire et al. (2013)* revealed that greater frequency of Internet use included lower Grade Point Average, less frequent exercise (indicative of greater depression symptoms) and higher Perceived Stress Scores. *Karl Peltzer et al. (2013)* revealed that there are three health risk behaviour (sedentary lifestyle, illicit drug use and



gambling) and three health outcomes [being underweight, overweight or obese and having screened positive for post-traumatic stress disorder] were found to be associated with heavy Internet use. *Rozita et al.* (2013) revealed that the Internet usage adversary affects the academic performance. Moreover, results show higher average time spent on Internet did result into nonparticipation in other activities, which are very essential for the growth of the students. *Vasilis Gialamas et al.* (2013) showed that students believe that Internet use in university study makes learning more interesting and effective, and that possessing Internet skills will assist their future job prospects. More the years of digital experience higher the frequency of Internet usage. *Ilknur & Yildirm* (2012) found weak negative correlation between problematic Internet use and healthy lifestyle behaviour, gender and daily Internet use time also appeared to affect healthy lifestyle behaviour. *Keshtiaray & Akbarian* (2012) indicated that university students have acquired a lot of positive and negative experiences while using the Internet which have affected the norms, ideas, beliefs, ethics and verbal symbols. *Ligang Wang et al.* (2012) revealed that certain Internet habits, such as excessive online time, accessing the Internet in an Internet bar, and using the Internet for catharsis, are related to poor lifestyle habits in adolescents; however, using the Internet for purposes such as gaining knowledge and finding information positively predicts healthy lifestyles in adolescents. *Rina Dave* (2012) revealed that the majority of Internet-users always find useful information on the Internet and believed that quality information is available on the Internet. They use the Internet in different ways, such as accessing to online journals, downloading software or text, chatting, discussion, E-mail services and for finding related references. It was unveiled that the Internet services are normally used for projects. Also it is observed that the Google and Yahoo search engines are more widely used compared to other search engines. *Aysegul & Kilic* (2011) showed that the daily time spent for Internet (duration) and using Internet for social interaction, being in higher socio-economic status to have lower life satisfaction and lower self-control and to have higher neuroticism, anxiety and Internet addiction among university students. *Paulo et al.* (2011) revealed that new information technologies exposure do not change significantly knowledge on physical activity/health relation *Richard et al.* (2011) examined heavy Internet-users of both genders were more likely to report higher



depressive scores, whereas only male users were found at increased risk of overweight and female users at increased risk of insufficient sleep. Male non-Internet-users and female Internet-users and occasional users also were found at increased risk of higher depressive scores. *Shields & Kane (2011)* found frequency of Internet use was not related to symptoms of depression, but three of the types of use (starting the day on the Internet, visiting news sites, viewing videos) reduced symptoms of depression. Internet use is used to replace social interaction. However, the significant relationships between Internet use and quality of relationships with parents and others tended to be negative. *Vida Fallahi (2011)* indicated that some students are addicted to the net and more result showed significant difference between differed users groups. Addicted group are more alone than other groups. *Yair et al. (2011)* revealed that Internet usage can actually enhance the social lives of its users. Different life domains in which significant correlations between Internet usage and increased social interactions was found. *Ju Sun (2009)* indicated that the college students using Internet for entertainment maybe have a significant impact on their health and study. A significant fact is that some students use Internet all-night, they are infatuatedly online so that forget to eat and sleep and skip classes and this behaviour will seriously influence their study. *Kim et al. (2009)* confirms heavy Internet use was associated with lower likelihood of engaging in health-promoting activities such as exercising and seeking medical care which results skipping meals and sleeping late as well as poorer health outcomes. *Louis Leung (2009)* found that Internet connectedness is not related to quality of life. However, there is a significant relationship between Internet connectedness and information literacy, and a strong link between information literacy and life quality. *Mohseni et al. (2008)* revealed that time spent online during the day has a negative relationship with social isolation. It is appeared that the both Internet use and social use of Internet will be slightly associated with reduced level of social isolation. *Neil Selwyn (2008)* found students' academic Internet use is most strongly patterned along the lines of gender and subject-specialism rather than other individual characteristics or differences in technology access or expertise. *Gordon & Syed (2007)* found that the amount of time spent online was significantly associated with depression and social anxiety. *Cam Escoffery et al. (2005)* showed that majority of the students indicated that they would like to get health information online, and





attend a health program online. The study also found differences in Internet use for health information by gender and by level of Internet experience. *Dennis & Moore* (2004) indicated that, for males only, higher levels of social anxiety and less mature identity statuses were associated with more frequent Internet use. For females (who were in this sample less socially anxious, more identity-developed, and lower users of the Internet than males), social anxiety and identity status were not significantly associated with time spent online. *Itamar et.al* (2003) revealed that composite perceived benefit was found to be positively associated with the Internet users' decidedness at the completion of the dialogue with making better career decisions. *Samuel and Tatia Lee* (2001) revealed computer users tended to engage in social-physical activities more frequently and had higher social support than Nonusers. But among computer users, the amount of time spent daily on the computer was not associated with lifestyle. Instead, patterns of computer usage are more related to lifestyle and the relationship is moderated by gender.

### **3. Studies on Internet and Attitude towards research**

Some studies have been conducted on Internet and attitude towards research as:

*Amidic et al.* (2014) who revealed that the application of and preference for information and communication technology was important in learning vocational education subjects. Students use World Wide Web (www) in their learning process and use word processing for writing research projects and in taking notes in class. They also agreed that ICT is used for storing information based on speed and accuracy. *Abimbola & Airen* (2013) revealed that the undergraduates used ICT for research purpose and to support course of study. *Bandele & Adebule* (2013) revealed that research work makes the students anxious, nervous, bored, and scared and that they would not have enrolled for the course if opportune. Irrespective of type of gender and faculty of the students they are similar in their pattern of attitude to research work, almost they had negative attitude towards research work. *Odede Israel* (2013) found students have positive attitudes towards educational use of the Internet and used it as important tool for research and they believed that 'using the Internet is easier than using the library. *Ibegwam et al.* (2012) revealed that Internet use in the Thesis and Dissertations studied was poor and insignificant in comparison to other sources of information used by the postgraduate students. This is contrary to the



findings in some recent studies where graduate students were reported to have made high use of the Internet for Thesis and Dissertations research. *Thomas et al.* (2012) indicated insignificant differences between men and women in the innovative-creative thinking. On the other hand, significant differences revealed between men and women regarding research attitude. *Alison & Eisenberg* (2011) revealed that students used a hybrid information seeking strategy for meeting their everyday life information needs, turning to search engines almost as much as they did to friends and family. *Chinwe, Nwezeh* (2010) revealed that a majority of the surveyed academic staff and the students found the Internet to be very useful. Both groups used World Wide Web for research information. *Kaan & Goksu* (2010) revealed that there may be a relation between some variables and the university students' attitudes towards participation in scientific studies. *Milan & Vickove* (2010) found that students who were connected in some way with ICT achieved better scores on the science knowledge test in comparison with students who were not. Students whose ICT activity was connected with the educational process achieved a higher score in comparison with students whose ICT activity was not connected with the educational process. *Negahban & Bagher* (2010) revealed that students have more familiarity was found in journals, book search and book shops on the Internet and less familiarity was observed for chatting, email, encyclopaedia, directories and yellow pages. *Rehman et al.* (2010) revealed that most students are comfortable using the Internet and provide substantial information and easier to use than the collection of research tools. *Biradar et al.* (2008) found that the information available on the Internet had proved to be a great asset. The most popular used search engines by students and faculties were Yahoo and Goggle. *Margam* (2008) found that the e-resources could be good substitutes for conventional resources. Google was the most widely used search engine for locating information electronically. *Khare et al.* (2007) found that majority of research scholars use Internet and less percentage of research scholars were non users of Internet. The purposes of the users of Internet were educational, job search, entertainment, communication and business. Some believed that information is sufficient and some users believed that retrieved information from the net was not sufficient for their research purpose. *Mahajan* (2006) revealed that researchers use electronic resources more than paper resources as they were confident to find



resources through Internet rather than paper resources. The other purposes of using Internet were document delivery services, online job seeking, publishing research papers in e-journals etc. Most of the science researchers and social science researchers agreed that Internet had a positive impact on their study and research, while researchers in humanities did not agree with the above statement. *Oghenevwogaga et al.* (2005) revealed that students are now coming to university with more background in technology and the role of the Internet and other ICTs. The demand for Internet service will continue to grow and how the university should respond to meet this greater demand.

#### **4. Studies on Internet and Academic Achievement**

Several studies have been carried out on Internet and academic achievement as:

*Eshaghali Azizi* (2014) indicated that component of information search is significantly and negatively correlated with academic achievement of science students with different combination of subjects. No significant relationship between Internet competency and academic achievement of science students was established. *Fauzi et al.* (2014) found computer science students spending more time online than the others. Social science students, a low but significant positive correlation existed between the overall time spent online and the time spent on the Internet for academic research. Science students, a negative low correlation was observed. In the fields of agriculture, engineering and computer sciences, however, no correlation was found between Internet access duration and the use of the Internet for academic purposes. *Ibrahim & Demirkolb* (2014) revealed that the academic performance of the students from the blended learning environment group has been found more successful than the students from traditional learning environment group. In both of the learning environments, female students have turned out to be more successful than the male students. *Magwa Simuforosa* (2013) found out that modern technology impacts learning both positively and negatively. *Sunday Paul* (2013) revealed that most of the students that have access to the Internet browse more for non-educative information (socio-networking sites). The relationship between Internet browsing and students' achievement was not significant. *Anomo & Oyenuga* (2012) revealed that female students are more disposed to the use of the Internet for social networking than their male counterparts; most of the special sites students visit on the Internet is not for academic



engagements. Use of Internet technology show significant relationship with students' academic achievement. *Horzum & Baris* (2012) revealed pedagogical content knowledge and the attitudes towards web based instruction of the experiment group were found to be higher than control group after the course. Also the academic achievement of experiment group was higher than control group and there was no difference in course satisfaction. *Ela Goyal et al.* (2011) indicated that technology satisfaction and the Internet usage significantly explains the variance on students' performance. Technology Satisfaction has been found the predictor of Technology resistance, student's performance and Internet usage. Internet usage is the predictor of Technology satisfaction and student's performance. *Scott et al.* (2011) found small but significant (both statistically and educationally) association between heavier web browsing and poorer academic results (lower average mark, higher failure rates). *Zainol et al.* (2011) revealed that attitude, subjective norms, and perceived behavioural control are statistically significant in influencing intention to use the Internet for learning purposes. Students' intention to use the Internet for academic purposes could be predicted from their attitude, subjective norms, and perceived behavioural control. *Zhu et al.* (2011) revealed that the positive effect of Internet information seeking to students' academic performance is mediated through academic self-efficacy. Academic self-efficacy, at the same time, moderates the relationship between Internet information seeking to academic performance such that students' with low academic self-efficacy benefit more from Internet information seeking in regard to their academic performance. *Ahmet Aypay* (2010) revealed that there was no significant relationship found between students ICT skills and academic achievement. *Fariborzi & Khodadadi* (2010) found that there was no significant relationship between the amount of using Internet and the academic level of student. There were not significant differences about the academic achievement between students who use Internet for learning the course and students who did not. *Shamimul & Hasan Fouj* (2010) revealed that majority of the students are in the dark about the potential role of ICT in their academic life. Moreover it has been found in the research that the ICT access provided to the students are not utilized to enhance academic performance but it is rather a source of recreation. *Adel & Moony* (2008) revealed that the student's performance is mainly explained by a student's characteristics, educational



environment and teachers' characteristics; ICT may have an impact on these determinants and consequently the outcome of education. The differences observed in students' performance are thus more related to the differentiated impact of ICT on standard explanatory factors. *Alodied et al.* (2008) found that there was no significant difference in achievement based on the number of hours spent using the intranet; also, there is no significant difference in self-confidence or achievement between male and female. *Yavuz et al.* (2008) revealed that web based education have positive effects on the improvement of academic achievement. The web based education had positive effects mainly on motivation for learning and interested in the lessons. *Chen & Peng* (2008) revealed that Non-heavy Internet-users had better relationship with administrative staff, academic grades and learning satisfaction than heavy Internet users. Heavy Internet-users were more likely than non-heavy Internet-users to be depressed, physically ill, lonely and introverted. Web based education had positive effects mainly on motivation for learning and lessons interest. *Qiping et al.* (2007) found traditional mode students have achieved a slightly better performance in examinations in comparison with online mode students, the research concludes that there are no significant differences in overall performance between the students. *Kubey & Barrows* (2001) revealed that students with academic problems reported that they stayed up late, felt tired the next day and missed class due to their use of the Internet. *Norshuhada Shiratuddin* (2001) confirmed that employing Internet in educational settings proves to have significant effect on students' performance.

### **5. Studies on Internet and Gender Differences**

A significant number of studies have been conducted on Internet and gender differences as:

*Amanda et al.* (2013) who indicated that women, compared to men, are generally more frequent mediated communication users. Compared to men, women prefer and more frequently use text messaging, social media, and online video calls. *Ann & Maltby* (2013) showed more women's postings and made new friends, renewing old friendships, accessing information and advice, studying online, and shopping, while more men's postings mentioned that the Internet had helped or given them a career, positive socio-political effects, and negative aspects of the technology. *Chih-Hung & Gwung* (2013) found that Internet usage on social interaction and information seeking



can positively affect all kinds of interpersonal relationships. Males have lower extent of teacher-student relationship and higher level of net-friend relationship than females. *Patrick et al.* (2013) revealed that boys and girls differed in their intensity of usage, place of access and their motivations to use the Internet. Girls were more motivated by social–interaction, shopping and surveillance/ information, while boys were more motivated by eroticism and had a higher tendency to be addicted to the Internet. *Anna Bujala* (2012) indicated gender differences both in the intensity of Internet usage and the ways in which it is used. Women spend less time online, have shorter experience online, and express less openness towards online relationships or services. Whereas as men engage much more often in activities such as playing games, listening to music or the radio, watching films, or looking for humorous content than women do. *Tao et al.* (2012) found gender differences are reflected in that male college students have a higher level of perceptions of Internet self-efficacy, experience, and information overload than females. *Yousef Eyadat*, (2012) indicated that the university students under excessive use of the Internet neglect household responsibilities and neglect exams and courses to spend more time online. There were no significant differences in the excessive use of the Internet based on differences in gender. *Christy & Lee* (2011) revealed that attitude and behavioural intention to use an Internet-based learning medium, more strongly for male students than it influences female students, whilst subjective norm is a more important factor determining female students’ intention to use an Internet-based learning medium than it is for male students. *Loan* (2011) found female students use the Internet more than males for information and education whereas male students use the Internet more than females for communication and entertainment. Neither male nor female students record high use the Internet sources like online libraries, databases, e-books, e-journals, wikis, and blogs. *Wong et al.* (2008) revealed no gender disparity in Internet usage; the female students were found to spend as much time using the Internet as their male counterparts. The results also revealed that the students exhibited positive attitudes toward the Internet regardless of gender. *Alan & Zsolt* (2005) significant gender effects were found throughout, with males tending to report greater computer self efficacy, lower computer anxiety, more positive attitudes towards the Internet and longer use of the Internet than females. *Ann Britt* (2005) indicated that it cannot be



seen that boys and girls have different interests in the Internet technology in practice. But boys talk about their knowledge to a greater extent, and this interplays with their reflections about the Internet's reliability. *Richard et al.* (2005) revealed that males were proportionally more likely to have their own web page than were females. They used the Internet more than females; in particular, they were more likely to use game websites, to use other specialist websites, and to download material from the Internet. *Madell & Muncer* (2004) with regard to gender differences, males were significantly more likely than females to use the Internet for the WWW. Boys were more likely than girls to use the Internet for playing or downloading music, browsing to find out information about goods and services, buying or ordering goods, tickets or services, down loading software, including games and also using the net for accessing government or official services. However girls used the Internet more than boys for using E-mail, finding information related to education and using chat rooms or sites. *Eric Weiser* (2000) showed that males use the Internet mainly for purposes related to entertainment and leisure, whereas women use it primarily for interpersonal communication and educational assistance. *Odell et al.* (2000) indicated that while the gender gap in the use of Internet has nearly closed.

### **Studies on Related variables**

Various studies have been carried out on Internet usage among students as:

*Abdullah* (2014) who revealed that majority of students using browsers to view documents, while slightly smaller percentages reported using the Internet for personal purposes. *Bagman et al.* (2014) indicated significant relationship between Internet dependence and educational downfall, leisure time, communicating with others, tendency to aggression, social isolation, and life satisfaction. *Shabana et al.* (2014) revealed that most of the students of university consider Internet as a tool for information. They use it for study purposes. They think that Internet is an easier way to get information than library. *Razaque et al.* (2013) revealed that most of the students use Internet for entertainments and obtaining the information for making their assignments of the class. *Jalalinejad* (2012) demonstrated that prevalence of Internet addiction among boys' university students was more than girls and in science and engineering students was more than art and humanity students. There was a significant difference in these four groups on the level of anxiety. *Maria et al.* (2012)



Internet-users found fairly high level of risk of Internet attitudes and behaviour. *Oforu Graceful* (2012) revealed that university students generally enjoy reading and it could be safely said that the reading culture of the students is favourable since the advent of Internet. It also reveals that large number respondents actually engage in activities that may not add value to their academic performance. *Ayyad, Khayrat* (2011) found students access to Internet extensively and use it to gratify their personal, social and educational needs. While the main reasons for accessing the Internet among male student are to communicate through e-mails and to follow up current affairs, female students use the Internet mostly to entertain themselves and to search for information related to their studies. *Hatice Odaci* (2011) revealed a significant negative correlation between academic self-efficacy and problematic Internet use, while the relation between problematic Internet use and academic procrastination was not statistically significant. *Munur & Tugun* (2011) revealed that the huge percentage of the students is using the Internet for researching. *Silvia & Tsai* (2011) revealed that students perceived higher levels of collaboration in Internet-based learning than in traditional learning environments. In terms of students' education level, higher education students perceived higher levels of capabilities and interests in Internet-based learning. *Sudhier & Seethalekshmi*, (2011) revealed that most of the students used Internet for educational purposes. They used e-resources mainly for seminar presentations and for project works. *Shakeel & Rubina* (2010) revealed that students' attitude towards the Internet was very positive and they used it mainly for study purpose. They used online databases, dictionaries, encyclopaedias and online courses. Google was the most popular search engine for retrieving information on the Internet. *Maharana et al.* (2010) revealed that students strongly felt that study would be severely affected without the use of the Internet and e-resources. *Michael et al.* (2008) revealed that the students use the Internet mostly for e-mail, information search and online chatting; all of these were found to have significant impact on their academics and social life. Male students appear to use the Internet more than their female counterparts; just as science based students use it more than the non-science based students. *Nazim* (2008) revealed that online journals and databases were the preferred information sources among the Internet users. Majority of respondents believed that the good quality of information on the Internet made it a useful tool for education and





research. *Odunlade* (2008) showed that students do make use of the Internet because it was considered to provide wide coverage of information, contains adequate and current information, it is quickly and easily accessible, it provided electronic journals that could be purchased online and so on. *Sakina et al.* (2008) showed that most of the students use this technology for course related reading and research needs. Ease of work and time saving are the reasons of Internet use among university students. *Arulchelvan* (2007) found that Internet enjoys high popularity among students for educational usage and that its effectiveness is satisfactory the online contents match the curriculum requirements. *Beverly et al.* (2007) found depression was correlated with more frequent use of the Internet. Dependence on Internet endorsed more depressive symptoms, more time online, and less face-to-face socialization. *Ammobi, Chinwe* (2006) students used Internet for various purposes. The areas of academic activities these students focused on the Internet included according to their responses are knowledge improvement, collection of materials for assignment and collection of materials for research, projects and assignment. *Anasi* (2006) revealed that Internet use has very high impact on the academic/career related activities of the students. *Kumar & Kaur* (2005) revealed a majority of the respondents involved in the use of the Internet for education and research purposes, while many of them use it for communication purpose and for consulting technical reports. *Anderson* (2001) found one-tenth of college students dependent on Internet. Nearly ten percent of college students have been to spend enough time online. Their usage meets criteria for Internet dependence. Students from hard sciences i.e., Chemistry, Math, Engineering, Physics and Computer Science spent significantly more time online than other students.

It is observed that in these studies different methodologies have been used and different aspects of Internet use and Non-use have been dealt with. After reviewing all these studies, a clear idea is arrived to carry out the present study.



## **Conclusions**

This chapter reviews thoughts and inputs of various researchers in the field of Internet-use and Non-use among students around the world in order to gain insight into various variables which form the basic constructs of this study. It identifies and discusses the various variables for the present study, which form the basis for setting objectives and formulating hypotheses. These studies provide conceptual framework, historical perspective of Internet usage among “university students”.

The present investigator consulted various studies carried out during the past few decades on Internet usage has been systematically presented in the preceding pages. These researches have considered a wide spectrum of areas viz.a.viz. variables. Hence, these research studies formulated a strong foundation to the structure and the contour of the present study. The present study differs from the earlier ones with respect to the purpose, region and conditions in which it has been conducted. But there seems no such research endeavour which could directly appraise about the Internet usage and Internet Non-usage among university students and its influence on the variables under investigation. In fact, no such effort seems to have been reported so far to undertake a factor analytical type of investigation on Internet usage among university students on various dimensions of lifestyle and attitude towards research. Therefore, it can be concluded that the scope of research is unlimited and beyond imagination. Thus, on the basis of review and conclusions drawn, a fresh relook and filling up the existing gap in research related the Internet usage among university seems to be genuine and the present study is a direction in this regard.



**R**esearch is considered as an endeavour to arrive at answers to intellectual and practical problems through the application of scientific and logical methods. The present chapter deals with the methods that the researcher has used in order to collate and evaluate the data in accordance with the goals of the study. Methodology is like a strategy or plan for achieving some goal; methods are the tactics that can be used to service the goals of the methodology. The research methodology is the specification of method of acquiring the information needed to structure or solve the problem. Methodology refers to ways of obtaining, organising and analysing data. Polit & Hungler (2004) reported, “Methodology refers to the process of following the steps, procedures and strategies for gathering and analysing the data in a research investigation. It is a framework of theories and principles on which methods and procedures are based (Holloway, 2005). Methodology as coherent group of methods that complement one another and that have the ability to fit to deliver data and findings that will reflect the research question and suit the researcher purpose (Henning, 2004).

Any study cannot be meaningful unless the scientific techniques such as tests and tools are administered accurately. The systematic knowledge gained and collected around the facts pushes off the clouds of ignorance. This amounts to proper selection of research tools which helps to increase the existing fund of knowledge. Before conducting a scientific research, one must formulate a proper paradigm to collect the relevant information and to analyse it in a meaningful way. The appropriateness of investigation depends on the tools of data collection, representativeness of the sample and the statistical devices which one employs to analyse the data and to arrive at reliable and valid conclusions and generalizations. The nature of the problem



determines which basic design is most appropriate and how the design should be tailored to meet the needs in investigation. Therefore, before embarking on any research problem, it is of paramount importance for a prospective researcher to look into it from various angles so that logical conclusions become possible.

Research design refers to the structure of the given enquiry. It is a logical matter rather than a logistical one. It refers to the overall strategy that researcher chooses to integrate in different components of the study in a coherent and logical way, thereby, ensuring how effectively a researcher addresses the research problem; it constitutes the **blueprint** for the collection, measurement, and analysis of the data in a scientific way. It is a blueprint for conducting the study (Burns & Grove, 1998). It gives an outline of everything from defining the problems viz. a.viz. the objectives to the final analysis of data. It has been argued that the central role of research design is to minimize the chances of drawing incorrect and causal inferences from data. It is a master plan which specifies the methods and procedures for collecting and analysing the required information in a research study. It is an outline of any research study which forms the basis to the investigator from the formulation of hypothesis and its operational implications to the final analysis of data. It constitutes decisions regarding what, why, where, when and how of an inquiry or a research study. Parahoo (1997) describes a research design as, “a plan that describes how, when and where data are to be collected and analysed”. Polit *et al.* (2001) speaks about research design as, “the researcher’s overall efforts for answering the research question or testing the research hypothesis.” Research design can be thought of as the **structure** of the research - it is the "glue" that holds all of the elements in a research project together. Finally, the selection of a research design is based on the nature of the research problem or the issue to be addressed, the researchers’ personal experiences, and the audiences for the study.

In this regard **Kerlinger (1986)** recommends,

*“....A research design is a plan, structure and strategy of investigation so conceived so as to obtain answers to research questions or problems. It expresses both the structure of the research problem and the plan of investigation used to obtain empirical evidence on the relations of the problem. It describes the procedures for conducting the study, including when, from whom and under what conditions data were obtained. It is a complete scheme or programme of the research”.*



Accordingly **Burns and Grove (2003)** States,

*“Designing a study helps researchers to plan and implement the study in a way that will help them obtain the intended results, thus increasing the chances of obtaining information that could be associated with the real situation. Methodology includes the design, setting, sample, methodological limitations, and the data collection and analysis techniques in a study. This is the know-how of the scientific methods and techniques employed to obtain valid knowledge”.*

In the words of **O’Leary (2004)**,

*“Methodological design is the plan for conducting a study that includes methodology, methods and tools involved in quantitative or qualitative research. It can be described as the framework associated with a particular set of paradigmatic assumptions that can be used to conduct research”.*

This chapter discusses some paradigms and different research approaches which have been used in previous and similar studies. Based on the above observations, the investigator continued with the appropriate procedure for the present investigation. The research methodology and designs for the study were chosen in order to achieve the set objectives. The rationale for each choice is explained and discussed in terms of research process which involves the description of the research approach, study setting, design, population, selection of the sample, the sampling technique, procedure of data collection, the instrument to be used, development and validation of the instruments, their administration and statistical techniques used for data analysis.

### **Research Design:**

#### **Sample**

A sample of 600 post graduate students (300 Internet-users and 300 Internet Non-users) were selected through stratified random sampling technique from various departments of three faculties (faculty of Science, faculty of Social science and faculty of Arts) of University of Kashmir, (J&K) India. It needs to be mentioned that the subjects (Internet-users and Internet Non-users) enrolled in 3<sup>rd</sup> and 4<sup>th</sup> semesters have been considered as the sample for the present study. The procedure for the selection of the sample for the present investigation is discussed as under:

The sample for the present study was obtained from the three faculties (Faculty of Science, Faculty of Social science and Faculty of Arts). It comprised of 15 departments with a representation of five departments from each faculty. These



departments are: Zoology, Chemistry, Botany, Physics and Home Science (*Faculty of Science*); Sociology, Economics, Political Science, History and Social Work (*Faculty of Social Science*); English, Urdu, Persian, Hindi and Linguistics (*Faculty of Arts*). It is pertinent to mention here that 40 students from both the genders (20 Internet-users and 20 Internet Non-users) were drawn randomly from each sample department with a total of 100 Internet-users and 100 Internet Non-users from each faculty. The below given table shows the breakup of the sample subjects on gender and faculty basis.

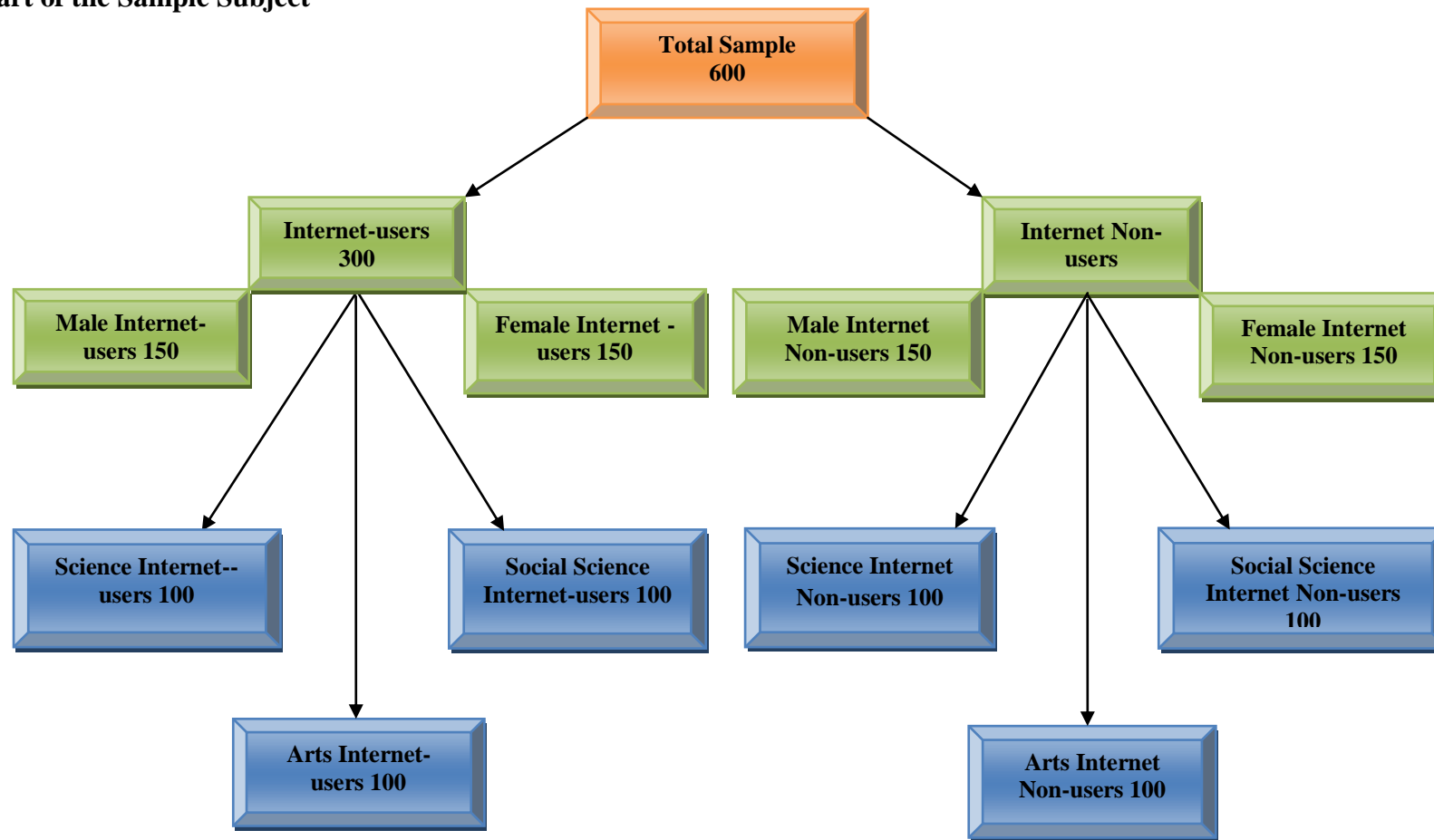
**Sample Breakup**

Faculty	Department	Male +Female Users	Internet User	Male +Female Non-Users	Internet Non-user	Total
Science	1. Zoology	10+10	20	10+10	20	40
	2. Chemistry	10+10	20	10+10	20	40
	3. Botany	10+10	20	10+10	20	40
	4. Physics	10+10	20	10+10	20	40
	5. Home Science	10+10	20	10+10	20	40
Total		50+50	100	50+50	100	200
Social Science	1. Sociology	10+10	20	10+10	20	40
	2. Economics	10+10	20	10+10	20	40
	3. Political Science	10+10	20	10+10	20	40
	4. History	10+10	20	10+10	20	40
	5. Social Work	10+10	20	10+10	20	40
Total		50+50	100	50+50	100	200
Arts	1. English	10+10	20	10+10	20	40
	2. Urdu	10+10	20	10+10	20	40
	3. Persian	10+10	20	10+10	20	40
	4. Hindi	10+10	20	10+10	20	40
	5. Linguistics	10+10	20	10+10	20	40
Total		50+50	100	50+50	100	200
Grand Total		150+150	300	150+150	300	600

The above break-up is further explained in the flowchart that follows:



Flow chart of the Sample Subject





## Selection and Description of Tools

The tools for the present study were selected in a manner so as to achieve an optimum level of confidence for the direction and steps to be adopted by the investigator. The investigator, after screening a number of available tests, adopted the following standardised tools to collect the relevant and required data. Besides, an Information blank was administrated for the identification of Internet-users and Internet Non-users. The details are given as:

1. **A Self constructed *Information blank* for the identification of Internet-users and Internet Non-users.**
  2. **Lifestyle Scale by S. K. Bawa and S. Kaur (LSS–BK, 2010)**
  3. **Attitude Scale towards Research by Vishal Sood and Y. K. Sharma (ASTR–SVSY, 2012).**
- I. Information Blank:** This Information blank was developed by the investigator with the purpose to identify the Internet-users and Internet Non-users. For details about Internet-Internet-users and Internet Non-users, Refer Chapter 1, Page: 29-31.
- II. Lifestyle Scale (LSS–BK):** This scale has been designed by S. K. Bawa and S. Kaur. It is standardized on students of higher education. This scale consists 60 items with the inclusion of six Dimensions as i) Health Conscious Life Style, ii) Academic Oriented Life Style, iii) Career Oriented Life Style, iv). Socially Oriented Life Style, v) Trend Seeking Life Style, and vi) Family Oriented Life Style. The dimensions are explained as:
- i) **Health Conscious Lifestyle:** The lifestyle in which the individual always remains conscious for keeping himself/herself physically fit and fine.
  - ii) **Academic Oriented Lifestyle:** It refers to the lifestyle of an individual who always remains involved in his/her academic field.
  - iii) **Career Oriented Lifestyle:** An individual's lifestyle said to be career oriented when he/she is always curious to gain more and more knowledge in his career.
  - iv) **Family Oriented Lifestyle:** A person is always in close touch with his/her family and shares each & every moment of his/her daily activities with family.
  - v) **Socially Oriented Lifestyle:** An individual, who always participates in social activities and is always keen to do good for society.





vi) **Trend Seeking Lifestyle:** An individual, who is keen to adopt new fashion and always willing to update himself with new trends.

**Version and Applicability:**

The scale has been standardised in three versions, i.e., English, Hindi and Punjabi. It can be used to know the lifestyle of persons from 16 years and onwards.

**The Draft of the Scale:** After deciding the six dimensions of the scale, a total number of 117 items were constructed. These 117 items were sent to nine experts in the field of educational research.

**The Face Validity:** As per the suggestions and the opinions received from experts, to whom the draft of scale was sent, 57 items were deleted and 15 items were modified. Dimension-wise draft, modified and final number of items has been given in Table 1.

**Table 1**

Sr.No	Dimensions of Scale	No. of Items in Preliminary Draft	No. of Items Deleted	No. of Items Modified	No. of Items Retained
I.	Health Conscious Lifestyle	21	10	3	11
II.	Academic Oriented Lifestyle	24	15	2	9
III.	Career Oriented Lifestyle	20	11	3	9
IV.	Socially Oriented Lifestyle	17	9	4	8
V.	Trend Seeking Lifestyle	14	3	2	11
VI.	Family Oriented Lifestyle	21	11	1	12
	<b>Total</b>	<b>117</b>	<b>57</b>	<b>15</b>	<b>60</b>

Thus, the Lifestyle Scale contains 60 valid items belonging to six different dimensions of lifestyle. The final form of the test has been prepared with 60 items (43 positive and 17 negative) in all and the distribution of items as per dimensions is given below as:



**Table 2**

Sr. No	Dimensions	Type of items	Items No.	Total Item/s
I.	Health Conscious Lifestyle	Positive	4, 5, 6, 8, 9, 10, 11	11
		Negative	1,2,3,7	
II.	Academic Oriented Lifestyle	Positive	2,5,6,7,8,9	09
		Negative	1,3,4	
III.	Career Oriented Lifestyle	Positive	2,3,4,5,6,8,9	09
		Negative	1,7	
IV.	Socially Oriented Lifestyle	Positive	2,3,4,5,6,8	08
		Negative	1,7	
V	Trend Seeking Lifestyle	Positive	1,2,4,5,6,7,9,10,11	11
		Negative	3,8	
VI.	Family Oriented Lifestyle	Positive	1,3,5,6,8,9,11,12	12
		Negative	2,4,7,10	

**Total No. of Items**

**60**

**Reliability:**

- a) **Test-Retest Method:** Test-Retest method was applied to determine the reliability of the scale. It was administered to 200 students of higher education. Reliability coefficient has been found to be 0.96. The reliability index is .98.
- b) **Internal Consistency:** The reliability of the scale pertaining to lifestyle was also determined by using internal consistency method. To find out the internal consistency in each sub-scale, correlation coefficients were calculated between each sub-scale and total score of the whole scale, as shown in Table 3.

**Table 3: Coefficient of Correlation**

Sub-Scale	Coefficient of Correlation
Health Conscious Lifestyle	0.766
Academic Oriented Lifestyle	0.707
Career Oriented Lifestyle	0.819
Socially Oriented Lifestyle	0.793
Family Oriented Lifestyle	0.656
Trend Seeking Lifestyle	0.747

Thus, lifestyle scale with 60 items was found to be valid and reliable to measure lifestyle of an individual.

**Discrimination Index:** To calculate discrimination index, Lifestyle scale was administered to 1001 male and female students of higher education.



The Table 4 shows the discrimination index of the items in lifestyle scale. The items with ‘D’ value .20 of a scale have been retained in the test, as all the items were found with positive ‘D’ values. Thus, all the 60 items were finally retained in the scale.

**Table 4: Discrimination Index**

Item No.	Discrimination Index	Item No.	Discrimination Index	Item No.	Discrimination Index	Item No.	Discrimination Index
1.	0.21	16.	0.33	31.	0.55	46.	0.53
2.	0.24	17.	0.24	32.	0.61	47.	0.49
3.	0.27	18.	0.50	33.	0.61	48.	0.39
4.	0.29	19.	0.49	34.	0.54	49.	0.41
5.	0.28	20.	0.43	35.	0.53	50.	0.52
6.	0.32	21.	0.57	36.	0.54	51.	0.56
7.	0.26	22.	0.56	37.	0.54	52.	0.49
8.	0.21	23.	0.43	38.	0.45	53.	0.51
9.	0.29	24.	0.66	39.	0.46	54.	0.54
10.	0.39	25.	0.52	40.	0.56	55.	0.56
11.	0.42	26.	0.44	41.	0.54	56.	0.58
12.	0.45	27.	0.36	42.	0.49	57.	0.50
13.	0.41	28.	0.45	43.	0.51	58.	0.49
14.	0.38	29.	0.52	44.	0.39	59.	0.46
15.	0.42	30.	0.45	45.	0.48	60.	0.35

**Scoring Procedure and Scoring Key:** The scale contains of 60 items. Each item has five optional responses i.e., Strongly Agree, Agree, Indifferent, Disagree and Strongly Disagree. The respondent has to select one option out of the given five options: There are 43 positive items and 17 negative items. The positive items are scored as 4,3,2,1,0 and negative items are scored as 0,1,2,3,4 for the responses *Strongly Agree, Agree, Indifferent, Disagree and Strongly Disagree*.

**Table 5: Positive and Negative Items**

Sr.No	Type of item	Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree
1.	Positive	4	3	2	1	0
2.	Negative	0	1	2	3	4

**The Norms:** For the purpose of preparing Standard Score Norms (z-Scores), the mean and standard deviation for each dimension and total scale were calculated which are being presented in Table 6.



**Table 6: Means and Standard Derivation**

Sr. No.	Dimensions	Mean	SD
i.	Health Conscious Lifestyle	21.93	7.86
ii.	Academic Oriented Lifestyle	20.72	6.42
iii.	Career Oriented Lifestyle	24.19	4.17
iv.	Socially Oriented Lifestyle	19.6	7.56
v.	Trend Seeking Lifestyle	27.97	8.53
vi.	Family Oriented Lifestyle	32.49	6.23
<b>Total Lifestyle Scale</b>		<b>147.00</b>	<b>20.60</b>

**Table 7: Norms for interpretation of Lifestyle Scale Status (i) Full Scale and (ii) All the Dimensions**

Sr.No.	Range of Raw Scores	Category	Level of Life Style Status
1	<b>196 and above</b>	<b>A</b>	<b>Very high level Adapting the style</b>
2	184.195	B	High level Adapting the style
3	172.183	C	Above Average level Adapting the Style
4	<b>156.171</b>	<b>D</b>	<b>Moderately Adapting the Style</b>
5	144.155	E	Below Average level Adapting the Style
6	132.143	F	Low level Adapting the Style
7.	<b>131 &amp; below</b>	<b>G</b>	<b>Very low level Adapting the Style</b>

**III. Attitude Scale towards Research (ASTR):** This scale has been designed by *Vishal Sood and Y. K. Sharma*. This scale has been designed to measure the attitude towards research among post graduate students, M. Phil, and Ph. D. students, students aspiring for Ph. D., teacher educators, college and university teachers. The scale consists of forty two (42) items with Four Dimensions, viz. (i) General Aspects of Research and Research Process, (ii) Usefulness of Research in Professional Career, (iii) Relevance of Research in Personal- Social Life, (iv) Difficulties in Research and Research Anxiety. The dimensions are explained as:

**(i) Attitude towards General Aspects of Research and Research Process:**

This dimension includes statements indicating inclinations of respondents with respect to concept of research, research process, current scenario of research



works, role of supervisor in research works, the relationship between research student and supervisor, publication of research findings etc.

**(ii) Attitude towards Usefulness of Research in Professional Career:**

This dimension comprises of the statements concerning respondents' predispositions or feelings with regard to significance and usefulness of research and research findings in their professional life and career.

**(iii) Attitude towards Relevance of Research in Personal and Social Life:**

This dimension of attitude is related to students' and teachers' notions or ideas about relevance of research and research-related activities in their personal and social life. This dimension deals with application of research methods/processes and findings to solve daily problems in one's personal-social life.

**(iv) Attitude towards Difficulties in Research and Research Anxiety:**

Under this component, those statements were included which reflects the respondents' dispositions at the time of planning or conducting research activities. It shows students' and teachers' feelings of anxiety, tension or easiness as well as difficulties faced by them when they are asked to engage themselves in different sort of theoretical and practical research-related activities.

**Technique Employed for Construction of Attitude Scale:**

The method of summated ratings' as given by Likert (1932) had been employed for constructing the present scale. Each item/ statement of the scale is to be rated on five consecutive points i.e. *strongly agree, agree, undecided, disagree and strongly disagree*. An individual respondent's score on the attitude scale is the sum total of his /her ratings on all statements / items.

**Construction**

After carrying out critical discussions with research experts, research scholars, college and university teachers, teacher educators and keeping in view the four dimensions of attitude towards research, the investigators developed the attitude scale by employing following steps:

**Item Pool** — Initially, a list of 69 items / statements were pooled after getting the statements of opinion from research experts, research scholars, college and university teachers and teacher educators. The statements were prepared in English language. The draft statements were arranged randomly and given to research experts from



different fields to critically judge and evaluate the content accuracy, relevance-and coverage. The research experts were requested to adopt following criteria for evaluation of draft statements.

Mark '0' for 'Unacceptable' Item.

Mark '1' for item that 'may or may not be accepted'.

Mark '2' for 'Acceptable' Item.

Thus, on the basis of above criteria and getting a minimum of 80% consensus of experts in respect of each item, two items were rejected and some items were modified. The assistance of language experts was also sought in order to check the linguistic accuracy and editorial quality of statements. Thus, the preliminary draft (try-out form) was prepared which contained a total of 67 items/statements. The distribution of these 67 items in four different dimensions of attitude towards research was as follows: (i) General aspects of research and research process-20, (ii) usefulness of research in professional career-15, (iii) relevance of research in personal and social life - 13 and (iv) Difficulties in research and research anxiety - 19. Out of these 67 statements, 41 were of positive (favourable) nature and remaining 26 statements were of negative (unfavourable) type.

**Try-out of the Scale:** The preliminary draft of the scale was administered on a sample of 160 individuals who were students of M. Ed., M. A. (Education), M. A. (Psychology), M. Phil, and Ph. D. students, teacher educators and college teachers of Himachal Pradesh. The sampling was done by employing stratified sampling technique and it was assured that every stratum of population must get its representation in the sample. The scoring of positive and negative items was done in the following manner:

**Table 1: Scoring System**

Nature of Item	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Positive	5	4	3	2	1
Negative	1	2	3	4	5

**Selection of Statements:** On the basis of the scores obtained by the respondents on all statements, the scales were arranged in descending order. Then, top 43 individuals (top 27 percent) with highest total scores on the scale and the bottom 43 respondents (bottom 27 percent) with lowest total scores on the scale were extracted out to form



two criterion groups in order to evaluate each individual item of the scale as suggested by Edwards, 1957. Afterwards, means and standard deviations were computed for each individual item separately for top 27% and bottom 27% group of respondents. Finally, the t-value for all the 67 statements was calculated and only those statements were retained for final form of the scale which were having t-value equal to or greater than 1.75. A 't-value' equal to or greater than 1.75 indicates that the average response of the top and bottom groups of respondents to a statement differs significantly. Thus, on the basis of this, out of 67 statements, 25 statements were rejected and remaining 42 items were selected for final form of attitude scale. The t-values in respect of 67 statements are given in Table 2.

**Table 2: t-values in respect of 67 Statements of Attitude Scale (Try-out Form)**

Item No.	t-value	Item No.	t-value	Item No.	t-value	Item No.	t-value
1	1.891	18	3.301	35	2.29	52	2.33
2	2.304	19	2.59	36	<b>1.34</b>	53	<b>1.57</b>
3	2.566	20	2.86	37	3.16	54	2.61
4	<b>1.10</b>	21	<b>1.38</b>	38	1.78	55	1.9
5	<b>0.00</b>	22	3.36	39	2.39	56	2.38
6	2.74	23	<b>0.77</b>	40	<b>1.64</b>	57	<b>1.18</b>
7	<b>1.68</b>	24	<b>1.31</b>	41	<b>1.16</b>	58	<b>0.31</b>
8	3.43	25	2.29	42	<b>0.53</b>	59	<b>0.00</b>
9	2.39	26	3.16	43	1.89	60	2.77
10	1.89	27	1.93	44	2.56	61	3.23
11	<b>0.53</b>	28	1.78	45	2.80	62	<b>1.19</b>
12	<b>1.37</b>	29	<b>1.45</b>	46	<b>1.03</b>	63	4.16
13	1.33	30	3.39	47	4.12	64	1.98
14	2.566	31	4.07	48	2.71	65	<b>0.53</b>
15	3.77	32	2.304	49	1.76	66	<b>1.37</b>
16	2.804	33	<b>1.39</b>	50	<b>1.10</b>	67	2.80
17	1.98	34	<b>1.33</b>	51	1.89	68	----

Note: Items shown in Bold indicate rejected items ( $t < 1.75$ )

The final form of the scale thus comprised of 42 statements out of which 26 were of positive (favourable) type and remaining 16 items were of negative (unfavourable) type. The distribution of these statements (both favourable and unfavourable) carried out in four dimensions of attitude towards research is provided in Table 3.



**Table 3: Distribution of Statements (both favourable and unfavourable) in Four Dimensions of Attitude towards Research**

Sr. No.	Dimension	Nature of Item	Item wise Sr. No.		Total
1	General Aspects of Research and Research Process	Favourable	22, 24, 36, 37, 41	5	15
		Unfavourable	1, 7, 8, 11, 12, 16, 21, 25, 29, 31	10	
2	Usefulness of Research in Professional Career	Favourable	3, 10, 13, 32, 33, 39	6	08
		Unfavourable	5, 38	2	
3	Relevance of Research in Personal-Social Life	Favourable	9, 14, 15, 18, 26, 35, 40	7	08
		Unfavourable	42	1	
4	Difficulties in Research and Research Anxiety	Favourable	2, 4, 17, 19, 23, 27, 28, 30	8	11
		Unfavourable	6, 20, 34	3	
Total Favourable Items (Positive)				26	42
Total Unfavourable Items (Negative)				16	

### Scoring Procedure

ASTR is a self-administering and self-reporting five point scale. Items of the scale are in statement form requiring information for each item on either of the five options on a continuum as follows; Strongly Agree, Agree, Undecided, Disagree and Strongly Disagree.

The items are scored in such a manner that if the answer to a positive item is 'Strongly Agree', a score of 5 is given; for 'Agree', a score of 4; for 'Undecided' option, a score of 3; for 'Disagree', a score of 2 and for 'Strongly Disagree' option, a score of 1 is awarded. On the other hand, in case of negative items, the above scoring procedure is completely reversed. The scoring procedure is as given in Table 1.

In the Test Booklet, after the negative items serial number, a star (\*) has been put to indicate that the nature of that item is negative. Serial number without (\*) are positive items.

The sum of scores on all statements of the scale is considered as respondent's total attitude score. The score on the scale can range from 42 to 210. The higher total score on the scale will reflect favourable attitude towards research and vice-versa. There is no time limit for giving responses to all items of the scale.

### Reliability

The reliability of the scale was established by: (i) Test-Retest method, and (ii) Split-Half method. For this, the scale was administered on a sample of 100 individuals who were post-graduate students (M. Ed. and M. A.), teacher educators, college teachers, M. Phil, and Ph. D. students from the field of behavioural sciences. These respondents





were different from those who were earlier selected for carrying out item analysis of the scale.

**(i) Test-Retest Reliability:** This type of reliability was computed by applying 'Product Moment Correlation' method. For computing test-retest reliability of the scale, a time gap of one month was given between testing and retesting stage. The product moment correlation 'r' i.e. reliability index, between two testing was 0.739 which is significant at .01 level of significance and scale has high reliability.

**(ii) Split-Half Reliability:** The split-half reliability of the scale was also estimated by employing 'Product Moment Correlation' method. For this, the scale was divided into two halves by adopting odd-even procedure. The split-half reliability coefficient came out to be 0.63. After applying Spearman Brown Prophecy formulae, the reliability index for whole of the scale (complete scale) was found to be 0.773. This value is significant at .01 level of significance that the scale is internally consistent to measure attitude towards research.

**(iii) Internal Consistency:** The internal consistency of the scale was estimated with the help of coefficients of correlation (product moment correlation) between total score on the scale and score on each of four dimensions of attitude scale towards research. The values of correlation coefficients representing internal consistency of the scale are given in Table 4.

**Table 4: Correlation Coefficients showing Internal Consistency of Scale for Attitude towards Research (N = 100)**

Sr. No	Dimension	'r' value
I.	General aspects of research and research process	0.34*
II.	Usefulness of research in professional career	0.52*
III.	Relevance of research in personal and social life	0.44*
IV.	Difficulties in research and research anxiety	0.58*

\* Significant at 0.01 level of significance

**Validity**

**(i) Content Validity:** The content validity of the scale was established by carrying out critical discussions with the research experts at the time of development of preliminary draft of attitude scale. The experts were of the opinion that the statements of the scale are fully adequate and relevant to measure the attitude towards research. In addition to this, only those items were retained in the preliminary draft of attitude scale for which there



had at least 80% agreement amongst experts with regard to relevance of items to the attitude towards research. Thus, the scale possessed adequate content validity.

**(ii) Item Validity:** The scale can be considered to be valid enough in terms of item validity because only those items were retained in the final form of the scale which were having-t-value greater than 1.75 (highly discriminating items).

**(iii) Intrinsic Validity:** The correlation coefficients computed between scores on each of four dimensions and total score of attitude towards research ensured internal consistency of the scale. Also, the split-half reliability coefficient of 0.773 was also appreciable and ensured intrinsic validity of the scale.

**(iv) Face Validity:** The face validity refers to know whether present scale for attitude towards research looks valid to the subjects who take it (Anastasi, 1970). The face validity was established by having the reactions of research experts, teacher educators and college and university teachers towards present attitude scale. They were of the opinion that present scale seemed to be valid enough for measuring Attitude towards Research.

**(v) Cross Validity :** Each sample of respondents for carrying out item analysis, establishing reliability and for developing norms respectively was different entirely from one another so as to avoid the chance errors of carry over effect and hence, this ensured cross validity of the scale.

**Norms:** The scale was administered on 272 individuals who were college and university teachers from different faculties, teacher educators and students of M. Ed., M. A. (Education and psychology), M. Phil, and Ph. D. courses in various faculties. These respondents belonged to colleges and universities of the state of Himachal Pradesh and Punjab. The selection of these respondents was made by following stratified random sampling technique and it was ensured that the sample (for whom present scale is mainly intended) should be appropriate in terms of its adequacy and representativeness. On the basis of data collected, the certain descriptive statistics were calculated which are given in Table 5.

**Table 5:**

Mean	Median	Mode	S.D.	Q.D.	Skewness	Kurtosis	N
163.51	166.03	171.08	15.94	11.465	-0.474	0.264	272

The possible range of scores on this scale is 42 to 210. The score of the individual forms the raw score for this scale.

**Table 6: Norms for Interpretation of Level of Attitude towards Research**

Sr. No.	Range of Raw Scores	Category	Level of Attitude Towards Research
1.	<b>196 and above</b>	<b>A</b>	<b>Extremely favourable</b>
2.	184.195	B	Highly favourable
3.	172.183	C	Above Average favourable
4.	<b>156.171</b>	<b>D</b>	<b>Moderately favourable</b>
5.	144.155	E	Unfavourable
6.	132.143	F	Highly Unfavourable
7.	<b>131 &amp; below</b>	<b>G</b>	<b>Extremely Unfavourable</b>

### **Applicability and Usefulness of Scale**

The scale is fairly reliable and valid to measure attitude of post graduate students, school teachers, M. Phil, and Ph. D. research scholars, college and university teachers towards research and research related activities. The present scale can be employed to compare the attitude of different categories of respondents classified on the basis of different socio-demographic as well as other independent variables.

### **Procedure**

For the purpose of the present study, the sample subjects were contacted personally by the investigator. Three faculties of University of Kashmir were the main focus- Sciences, Social sciences and Arts. 600 respondents, 200 from each faculty were identified as Internet-users (N=300) and Internet Non-users (N=300) and this identification was made with the help of self constructed *Information Blank* which had two parts: **Part A** pertaining to demographic information and **Part B** about the Internet-usability and Non-usability (See Appendix Page No. I). Before administering the above Information Blank, the investigator tried to build the rapport with the sample subjects and assured them that their responses shall be maintained under confidentiality norms.

Thereafter, the respondents were further administered: (1) *Lifestyle Scale* which measures the lifestyle of students in six different dimensions (i) Health Conscious Life Style, ii) Academic Oriented Life Style, iii) Career Oriented Life Style, iv). Socially Oriented Life Style, v) Trend Seeking Life Style, and vi) Family Oriented Life Style and (2) *Attitude towards Research Scale* to find the research attitude of the subjects under investigation in four different dimensions like (i) General Aspects of



Research and Research Process, (ii) Usefulness of Research in Professional Career, (iii) Relevance of Research in Personal- Social Life, (iv) Difficulties in Research and Research Anxiety. Besides, the academic achievement of the subjects was obtained and recorded from the respective departments. Finally, the test booklets were collected and the responses recorded therein by the subjects were scored according to the instructions given in the respective manuals of the tests. For details about the Scales (see Appendix Page No. II-IX).

### **Statistical Treatment**

Keeping in view the objectives of the study, the data obtained was put to suitable statistical analysis by using various statistical techniques like percentage statistics (for asserting the different levels of Lifestyle, Attitude towards Research and Academic Achievement of Internet-users and Internet Non-users). Mean, Standard deviation (SD) and test of significance (“t”-test) was used in order to determine whether there is any significant difference between the mean scores of Internet-users and Internet Non-users on the variables under investigation. Besides, that data collected were subjected to factor analysis by using the Principal Components method of Factor Analysis (PCFA). The data, thus statistically categorized, is presented in the subsequent chapter.



**D**ata analysis is considered to be important step and heart of the research in any research endeavour. The process of data evaluation with analytical and logical reasoning leads a researcher to examine each of its components. The foremost task before the investigator, after the collection of data, is its compilation and careful tabulation which finally leads us to meaningful inferences. Data analysis is a process of assigning meaning to the collected information to determine the conclusions, significance, and implications of the findings. Data collected by the researcher needs to be scientifically and systematically processed or analyzed so as to achieve the objectives of investigation. Besides, data analysis is referred to calculations and computations based on certain parameters viz.-viz. searching for pattern of relationships which exist in the variables and thereafter tested in the light of hypotheses. It is to be noted that collection of data merely presents a stock of facts unless it is scientifically analysed. Analysis is the process of breaking up the whole study into its constituent parts. It is a process of inspecting, cleaning, transforming, and modeling the data with the objective of discovering useful information. Therefore, the purpose of analysis of data is to reduce it to an intelligible and interpretable form so that the relations of research problems can be studied and tested and conclusions drawn. Data analysis refers to the process of generating value from the raw data (Johnson & Christensen 2004). The purpose of the data analysis phase is to transform the data collected into credible evidence about the development of the intervention and its performance.

In this regard Burns & Grove (1998) opine, “*Data analysis is a mechanism for reducing and organizing data to produce findings that require interpretation by the researcher*”.



According to De Vos (1998) “Data analysis entails that the analyst break down data into constituent parts to obtain answers’ to research questions and to obtain answers to research questions and to test hypothesis”.

This chapter is comprised with the analysis and interpretation of the collected data on variables: a) Life style, b) Academic Achievement and c) Attitude towards Research. An attempt has been made by the investigator to evaluate these variables on a sample of 600 students drawn from various faculties of the University of Kashmir. Since the main focus of the investigation is on Internet usage in relation to the above reported variables. Therefore, the investigator, as reported in chapter third, identified Internet-user and Internet Non-user students. Thereafter, administered research tools on the sample subjects to arrive at definite conclusions. The data analysis for the present research was done quantitatively with the help of descriptive statistics and inferential statistics, techniques like percentage statistics, and the test of significance. Besides, data collected were subjected to factor analysis utilizing Principal components factor extraction and orthogonal rotation by the Varimax criterion (with Kaiser Normalization). Principal component method of factoring was used while Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was applied to test whether the partial correlations among variables are small. Bartlett’s Test of Sphericity was carried out to confirm multicollinearity between the variables. Varimax criterion was applied so as to delineate the pattern of variation in the variables rather than among Internet-users and Non-users. Absolute values of coefficients that are less than 0.600 were suppressed. Thus, only factor loadings of 0.600 and above were assumed to be interpretable. This statistical analysis of data is presented here in the tabular, diagrammatically and graphical forms. The analysis of data in this chapter is carried out as per the following arrangement:

### **Section A: Descriptive Analysis**

- A1:** Lifestyle, Academic Achievement and Attitude towards Research  
*(Overall Groups)*
- A2:** Lifestyle, Academic Achievement and Attitude towards Research  
*(Internet-users and Non-users)*



### A3: Sub-Group Analysis

- i) Lifestyle, Academic Achievement and Attitude towards Research  
(*Gender wise*)
- ii) Lifestyle, Academic Achievement and Attitude towards Research  
(*Faculty wise*)

### Section B: Comparative Analysis

- B1:** *Comparison between Internet-users and Non-users on:*
  - a) Lifestyle, b) Academic Achievement and c) Attitude towards Research
- B2:** *Comparison between Internet-users and Non-users (Gender wise) on:*
  - a) Lifestyle, b) Academic Achievement and c) Attitude towards Research
- B3:** *Comparison between Internet-users and Non-users (Faculty Wise) on:*
  - a) Lifestyle, b) Academic Achievement and c) Attitude towards Research

### Section C: Factor Analysis

- C1:** Principle component Factor Analysis of *Internet-users* on various dimensions of Lifestyle and Attitude towards Research.
- C2:** Principle component Factor Analysis of *Internet Non-users* on various dimensions of Lifestyle and Attitude towards Research

### Table Details:

- Table No.4.00: Showing the Percent-wise Distribution of the overall Sample on Different Levels of Lifestyle (N=600)
- Table No.4.01: Showing the Percent-wise Distribution of the overall Sample on different Levels of Academic Achievement (N=600)
- Table No.4.02: Showing the Percent-wise Distribution of overall sample on different levels of Attitude towards Research (N=600)
- Table No.4.03: Showing the Percent-wise details of Internet-users and Non-users on different levels of Lifestyle (N=300 each)



- Table No.4.04: Showing the Percent-wise Comparison of Internet-users and Internet Non-users on different Levels of Academic Achievement (N=300 each)
- Table No.4.05: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (N=300 each)
- Table No.4.06: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Lifestyle (N=150 each)
- Table No.4.07: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Lifestyle (N=150 each)
- Table No.4.08: Showing the Percent-wise Comparison of Male and Female Internet-users on different Levels of Academic Achievement (N=150 each)
- Table No.4.09: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different Levels of Academic Achievement (N=150 each)
- Table No.4.10: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Attitude towards Research (N=150 each)
- Table No.4.11: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Attitude towards Research (N=150 each)
- Table No.4.12: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Science Stream; N=100 each)
- Table No.4.13: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Social Science Stream; N=100 each)
- Table No.4.14: Showing the Percent-wise Comparison Internet-users and Non-users on different levels of Lifestyle (Arts Stream; N=100 each)
- Table No.4.15: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Science Stream; N=100 each)





- Table No. 4.16: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Social Science Stream N=100 each)
- Table No.4.17: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Arts Stream; N=100 each)
- Table No.4.18: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Science Stream; N=100 each)
- Table No.4.19: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Social Science Stream; N=100 each)
- Table No.4.20: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Arts Stream; N=100 each)
- Table No.4.21: Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Lifestyle (N=300 each)
- Table No.4.22: Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Academic Achievement (N=300 each)
- Table No.4.23: Showing the Significance difference between the Mean Scores of Internet-users and Internet Non-users on Attitude towards Research (N=300 each)
- Table No.4.24: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Lifestyle (N=150 each)
- Table No.4.25: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Lifestyle (N=150 each)
- Table No.4.26: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Academic Achievement (N=150 each)



- Table No. 4.27: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Academic Achievement (N=150 each)
- Table No.4.28: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Attitude towards Research (N=150 each)
- Table No.4.29: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Attitude towards Research (N=150 each)
- Table No.4.30: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Science Stream; N=100 each)
- Table No.4.31: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Social Science Stream; N=100 each)
- Table No.4.32: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Arts Stream; N=100 each)
- Table No.4.33: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Academic Achievement (Stream wise Comparison; N=100 each)
- Table No.4.34: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Science Stream; N=100 each)
- Table No.4.35: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Social Science Stream; N=100 each)
- Table No.4.36: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Arts Stream; N=100 each)
- Table No.4.37: KMO measure of sampling adequacy and Bartlett's test of sphericity (Group Internet Non-users)



- Table No.4.38: Showing the Total Variance Explained of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)
- Table No.4.39 Showing the Un-rotated and Rotated Factor Matrix of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)
- Table No.4.40: Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet-users on various dimensions of lifestyle and Attitude towards Research (N=300)
- Table No.4.41: KMO measure of sampling adequacy and Bartlett's test of sphericity (Group Internet Non-users)
- Table No.4.42: Showing the Total Variance Explained of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)
- Table No.4.43: Showing the Un-rotated and Rotated Factor Matrix of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)
- Table No.4.44: Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)



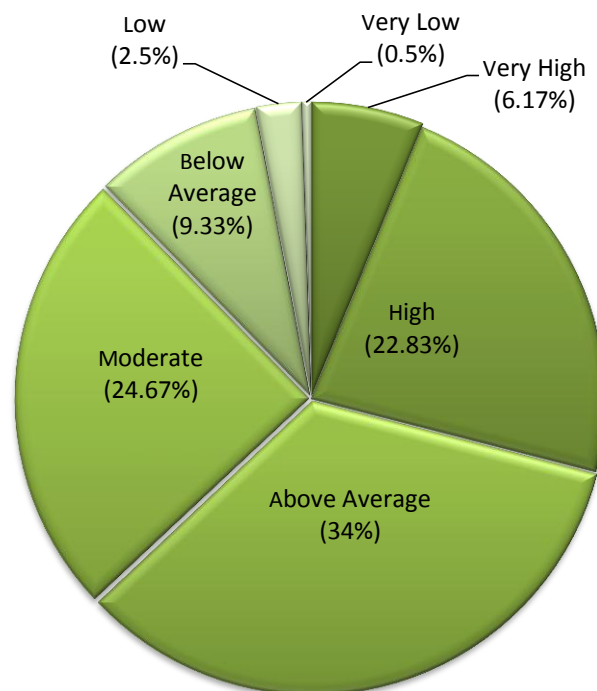
**SECTION – A: DESCRIPTIVE ANALYSIS**

**A1- Lifestyle, Academic Achievement and Attitude towards Research (Overall Groups)**

**Table No. 4.00: Showing the Percent-wise Distribution of the overall Sample on Different Levels of Lifestyle (N=600)**

Category	Lifestyle Status	N	%age
A	Very High Level of Life Style	37	6.17
B	High Level of Life Style	137	22.83
C	Above Average level of Life Style	204	34.00
D	Moderate level of Life Style	148	24.67
E	Below Average level of Life Style	56	9.33
F	Low Level of Life Style	15	2.50
G	Very Low Level of Life Style	3	0.50
<b>Total</b>		<b>600</b>	<b>100</b>

**Fig. No. 1: Showing the Overall Percent-wise of total Sample on Different Levels of Lifestyle (N=600)**

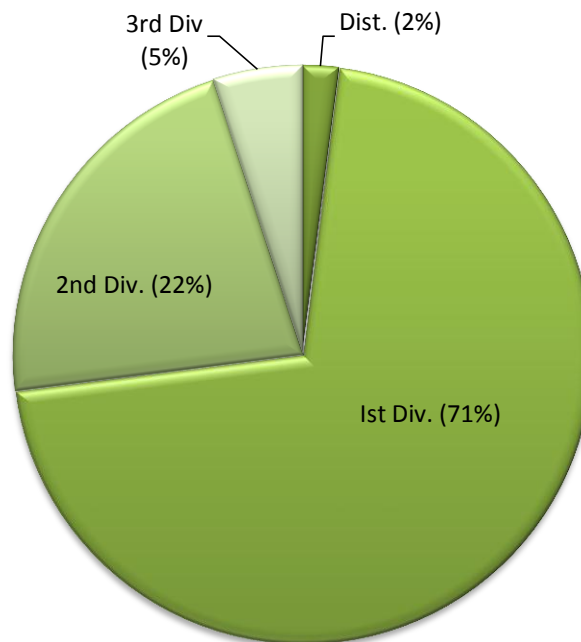




**Table No.4.01: Showing the Percent-wise Distribution of the overall Sample on different Levels of Academic Achievement (N=600)**

Level of Academic Achievement	N	%age
Distinction	12	2.00
1 <sup>st</sup> Division	426	71.00
2 <sup>nd</sup> Division	132	22.00
3 <sup>rd</sup> Division	30	5.00
<b>Total</b>	<b>600</b>	<b>100</b>

**Fig. No. 2: Showing the overall Percent-wise Status of total Sample on different Levels of Academic Performance (N=600)**

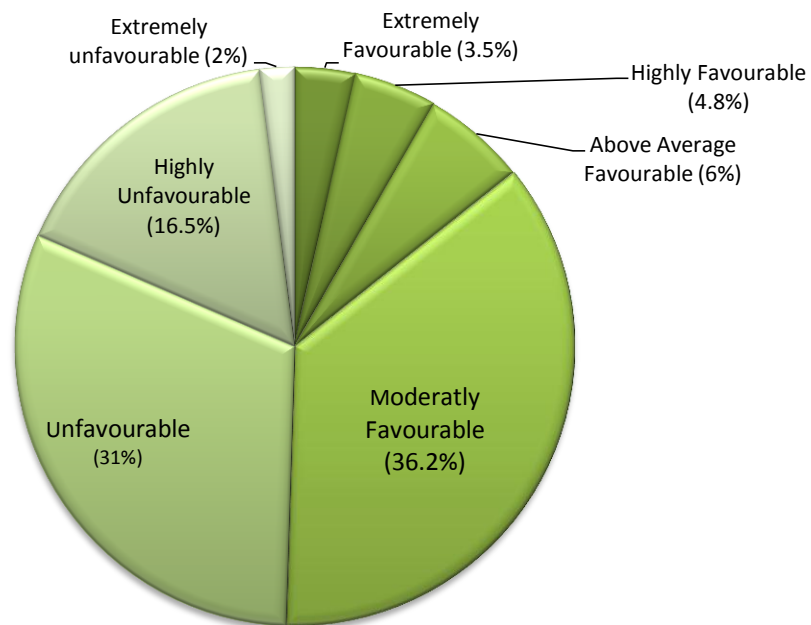




**Table No.4.02: Showing the Percent-wise Distribution of overall sample on different levels of Attitude towards Research (N=600)**

Category	Levels of Attitude Towards Research	N	%age
A	Extremely Favourable	21	3.5
B	Highly favourable	29	4.8
C	Above Average Favourable	36	6.0
D	Moderately Favourable	217	36.2
E	Unfavourable	186	31.0
F	Highly Unfavourable	99	16.5
G	Extremely Unfavourable	12	2.0
<b>Total</b>		<b>600</b>	<b>100</b>

**Fig. No. 3: Showing the overall Percent-wise Status of total Sample on different levels of Attitude towards Research of (N=600)**





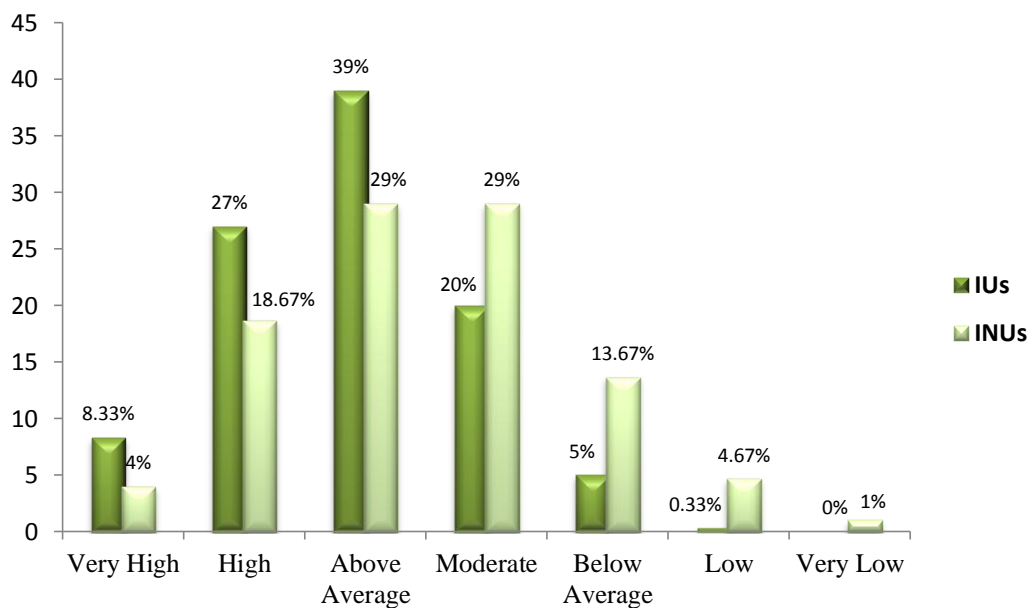
**A2: Lifestyle, Academic Achievement and Attitude towards Research (Internet-users and Non-users)**

**Table No.4.03: Showing the Percent-wise details of Internet-users and Non-users on different levels of Lifestyle (N=300 each)**

Category	Levels of Lifestyle Status	IUs		INUs	
		N	%age	N	%age
A	Very High Level of Life Style	25	8.33	12	4.00
B	High Level of Life Style	81	27.00	56	18.67
C	Above Average level of Life Style	117	39.00	87	29.00
D	Moderate level of Life Style	61	20.00	87	29.00
E	Below Average level of Life Style	15	5.00	41	13.67
F	Low Level of Life Style	1	0.33	14	4.67
G	Very Low Level of Life Style	0	0.00	3	1.00
<b>Total</b>		<b>300</b>	<b>100</b>	<b>300</b>	<b>100</b>

**Acronyms:** *IUs = Internet-users*  
*INUs =Internet Non-users*

**Fig. No. 4: Showing the Percent-wise comparison of Internet-users and Non-user on different levels of Lifestyle (N=300 each)**





**Table No.4.04: Showing the Percent-wise Comparison of Internet-users and Internet Non-users on different Levels of Academic Achievement (N=300 each)**

Levels of Academic Achievement	IUs		INUs	
	N	%age	N	%age
Distinction	09	3.00	3	1.00
1 <sup>st</sup> Division	255	85.00	171	57.00
2 <sup>nd</sup> Division	24	8.00	108	36.00
3 <sup>rd</sup> Division	12	4.00	18	6.00
<b>Total</b>	<b>300</b>	<b>100</b>	<b>300</b>	<b>100</b>

**Acronyms:** *IUs =Internet-users*  
*INUs =Internet Non-users*

**Fig. No. 5: Showing the Percent-wise Comparison of Internet-users and Internet Non-users on different Levels of Academic Performance (N=300 each)**

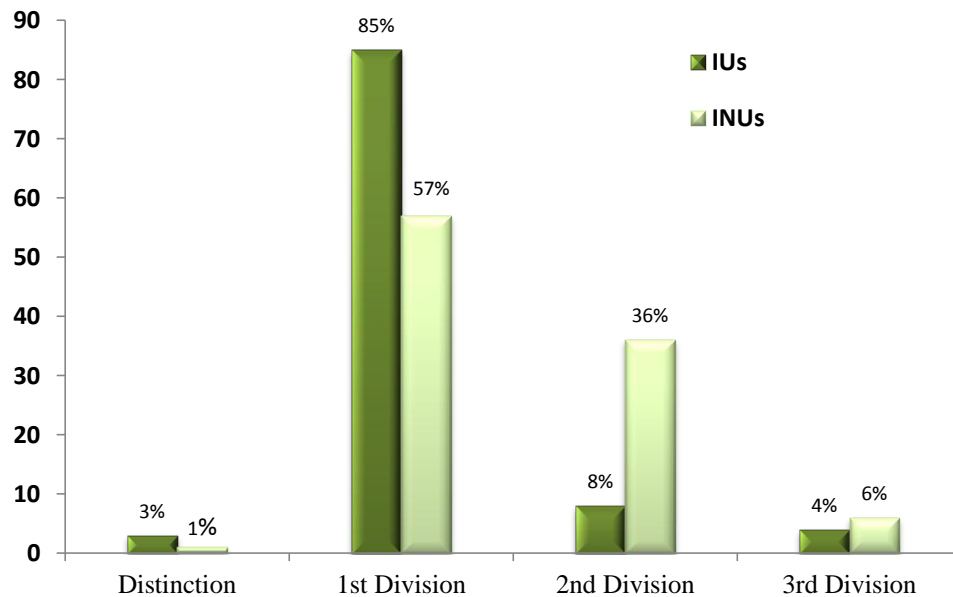




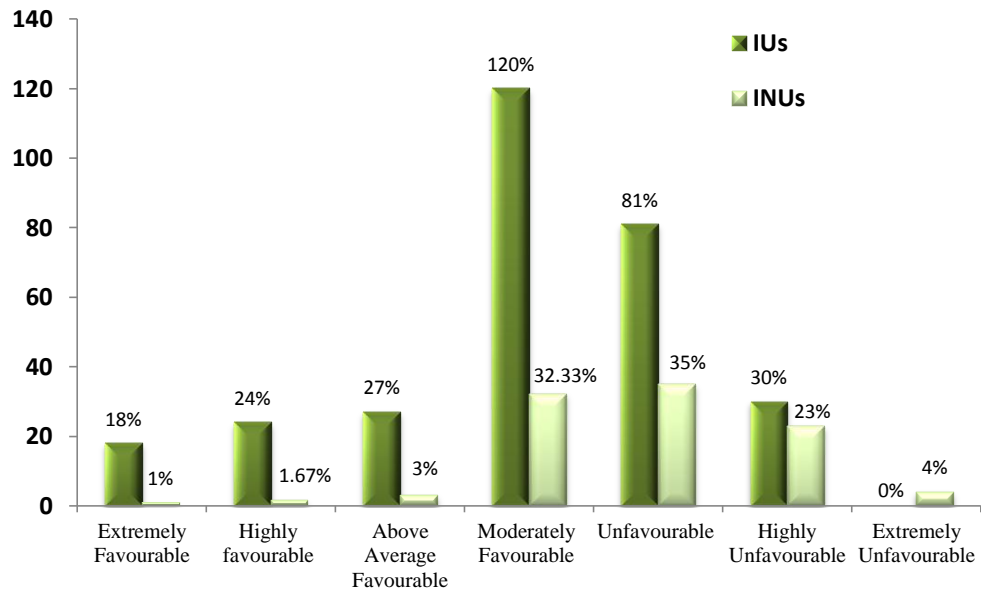


Table No.4.05: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (N=300 each)

Category	Levels of Attitude Towards Research	IUs		INUs	
		N	%age	N	%age
A	Extremely Favourable	18	6.00	03	1.00
B	Highly favourable	24	8.00	05	1.67
C	Above Average Favourable	27	9.00	09	3.00
D	Moderately Favourable	120	40.00	97	32.33
E	Unfavourable	81	27.00	105	35.00
F	Highly Unfavourable	30	10.00	69	23.00
G	Extremely Unfavourable	0	0.00	12	4.00
<b>Total</b>		<b>300</b>	<b>100</b>	<b>300</b>	<b>100</b>

Acronyms: IUs =Internet-users  
INUs =Internet Non-users

Fig. No. 6: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (N=300 each)





A3: Sub-Group Analysis

i) Lifestyle, Academic Achievement and Attitude towards Research (Gender wise)

Table No.4.06: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Lifestyle (N=150 each)

Category	Levels of Lifestyle Status	MIUs		FIUs	
		N	%age	N	%age
A	Very High Level of Life Style	15	10.00	22	14.66
B	High Level of Life Style	33	22.00	51	34.00
C	Above Average level of Life Style	45	30.00	60	40.00
D	Moderate level of Life Style	22	14.66	7	4.67
E	Below Average level of Life Style	19	12.66	06	4.00
F	Low Level of Life Style	15	10.00	03	2.00
G	Very Low Level of Life Style	01	0.67	01	0.67
<b>Total</b>		<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>

Acronyms: MIUs =Male Internet-users  
FIUs =Female Internet-users

Fig. No. 7: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Lifestyle (N=150 each)

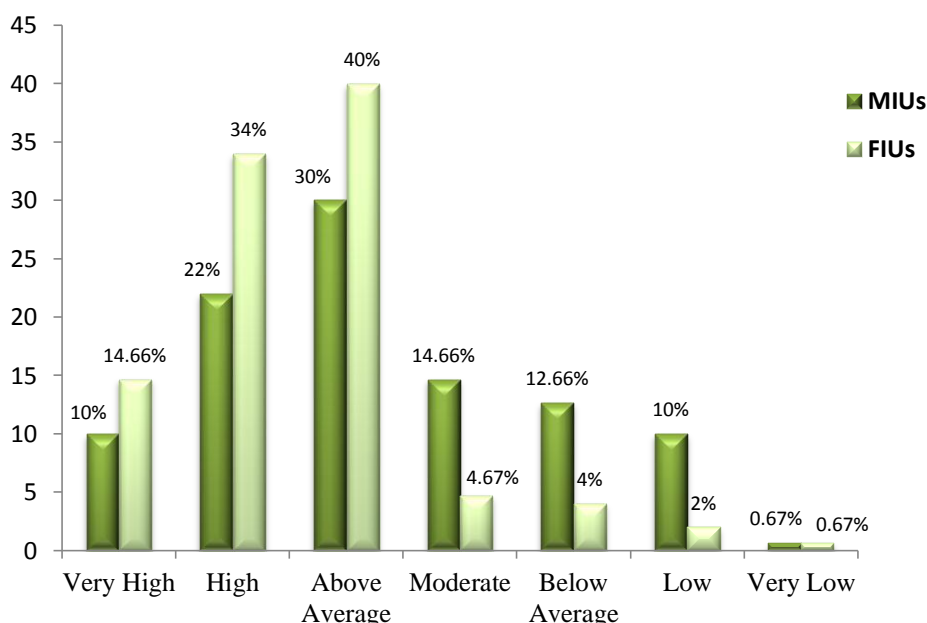


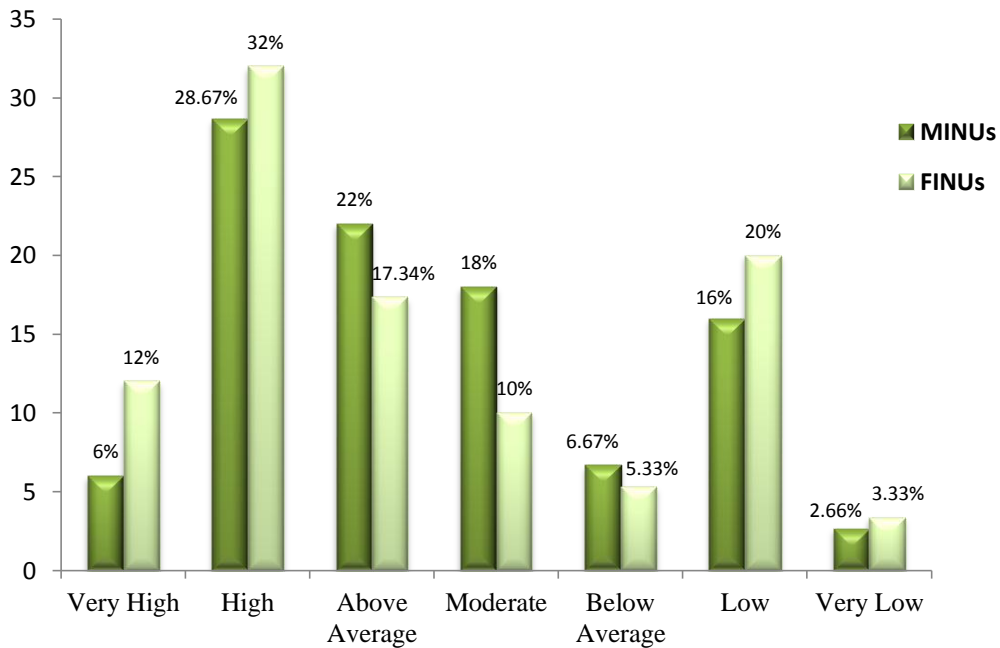


Table No.4.07: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Lifestyle (N=150 each)

Category	Levels of Lifestyle Status	MINUs		FINUs	
		N	%age	N	%age
A	Very High Level of Life Style	09	6.00	18	12.00
B	High Level of Life Style	43	28.67	48	32.00
C	Above Average level of Life Style	33	22.00	26	17.34
D	Moderate level of Life Style	27	18.00	15	10.00
E	Below Average level of Life Style	10	6.67	08	5.33
F	Low Level of Life Style	24	16.00	30	20.00
G	Very Low Level of Life Style	04	2.66	05	3.33
<b>Total</b>		<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>

Acronyms: MINUs = Male Internet Non-users  
FINUs =Female Internet Non-users

Fig. No. 8: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Lifestyle (N=150 each)



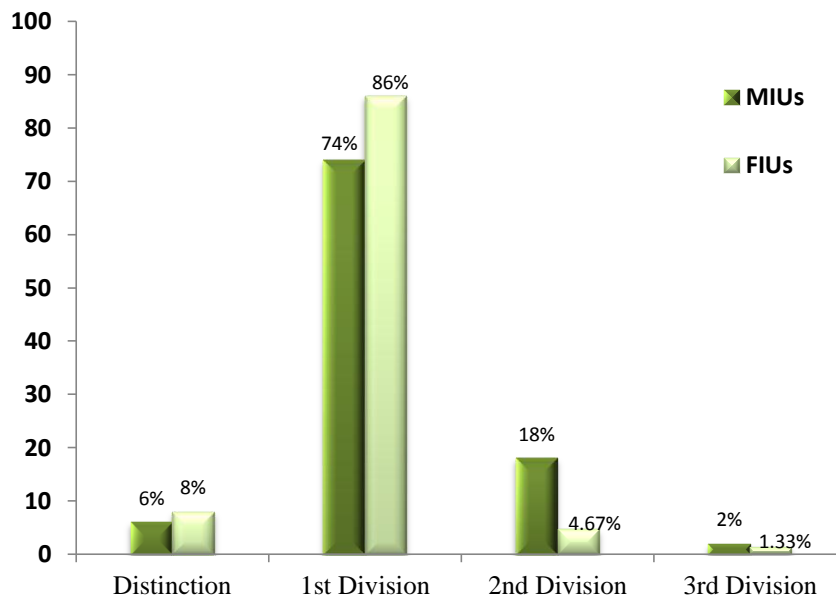


**Table No.4.08: Showing the Percent-wise Comparison of Male and Female Internet-users on different Levels of Academic Achievement (N=150 each)**

Levels of Academic Achievement	MIUs		FIUs	
	N	%age	N	%age
Distinction	09	6.00	12	8.00
1 <sup>st</sup> Division	111	74.00	129	86.00
2 <sup>nd</sup> Division	27	18.00	07	4.67
3 <sup>rd</sup> Division	03	2.00	02	1.33
<b>Total</b>	<b>150</b>	<b>100.00</b>	<b>150</b>	<b>100.00</b>

Acronyms: *MIUs =Male Internet-users*  
*FIUs =Female Internet-users*

**Fig. No. 9: Showing the Percent-wise Comparison of Male and Female Internet-users on different Levels of Academic Achievement (N=150 each)**





**Table No.4.09: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different Levels of Academic Achievement (N=150 each)**

Levels of Academic Achievement	MINUs		FINUs	
	N	%age	N	%age
Distinction	08	5.33	11	7.33
1st Division	72	48.00	96	64.00
2nd Division	64	42.67	39	26.00
3rd Division	06	4.00	04	2.67
<b>Total</b>	<b>150</b>	<b>100.00</b>	<b>150</b>	<b>100.00</b>

**Acronyms:** *MINUs = Male Internet Non-users*  
*FINUs =Female Internet Non-users*

**Fig. No.10: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different Levels of Academic Achievement (N=150 each)**

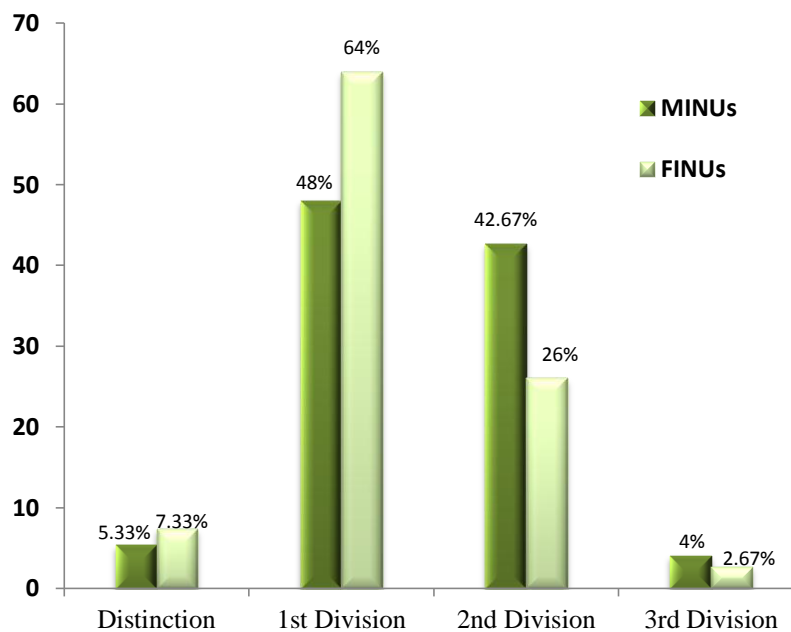




Table No.4.10: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Attitude towards Research (N=150 each)

Category	Levels of Attitude Towards Research	MIUs		FIUs	
		N	%age	N	%age
A	Extremely Favourable	06	4.00	08	5.33
B	Highly favourable	13	8.66	18	12.00
C	Above Average Favourable	36	24.00	38	25.33
D	Moderately Favourable	63	42.00	50	33.34
E	Unfavourable	21	14.00	27	18.00
F	Highly Unfavourable	08	5.34	05	3.33
G	Extremely Unfavourable	3	2.00	04	2.67
<b>Total</b>		<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>

Acronyms: MIUs =Male Internet-users  
FIUs =Female Internet-users

Fig. No. 11: Showing the Percent-wise Comparison of Male and Female Internet-users on different levels of Attitude towards Research (N=150 each)

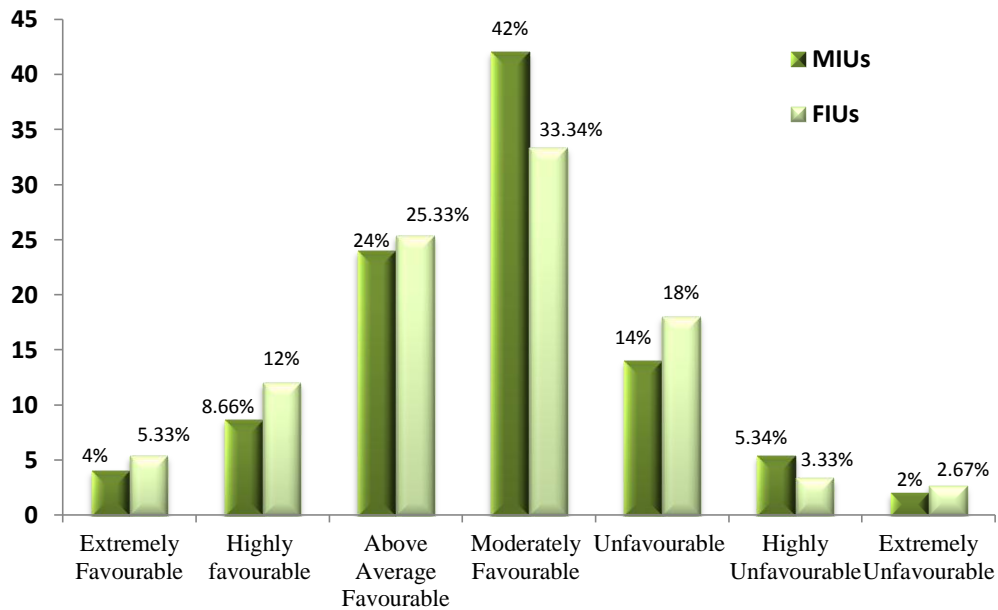


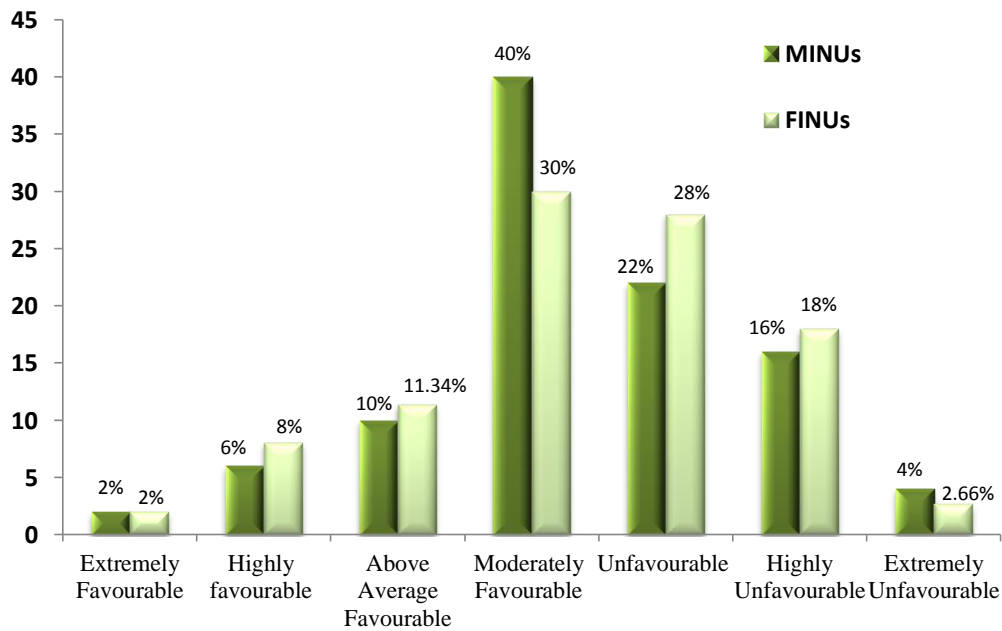


Table No.4.11: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Attitude towards Research (N=150 each)

Category	Levels of Attitude Towards Research	MINUs		FINUs	
		N	%age	N	%age
A	Extremely Favourable	03	2.00	03	2.00
B	Highly favourable	09	6.00	12	8.00
C	Above Average Favourable	15	10.00	17	11.34
D	Moderately Favourable	60	40.00	45	30.00
E	Unfavourable	33	22.00	42	28.00
F	Highly Unfavourable	24	16.00	27	18.00
G	Extremely Unfavourable	06	4.00	04	2.66
<b>Total</b>		<b>150</b>	<b>100</b>	<b>150</b>	<b>100</b>

Acronyms: MINUs = Male Internet Non-users  
FINUs =Female Internet Non-users

Fig. No. 12: Showing the Percent-wise Comparison of Male and Female Internet Non-users on different levels of Attitude towards Research (N=150 each)





A3 ii) Lifestyle, Academic Achievement and Attitude towards Research (Faculty wise)

Table No.4.12: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Science Stream; N=100 each).

Category	Levels of Lifestyle Status	SIUs		SINUs	
		N	%age	N	%age
A	Very High Level of Life Style	02	2.00	09	9.00
B	High Level of Life Style	12	12.00	28	28.00
C	Above Average level of Life Style	25	25.00	33	33.00
D	Moderate level of Life Style	27	27.00	11	11.00
E	Below Average level of Life Style	23	23.00	10	10.00
F	Low Level of Life Style	09	9.00	08	8.00
G	Very Low Level of Life Style	02	2.00	01	1.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: SIUs=Science stream Internet-users  
SINUs =Science stream Internet Non-users

Fig. No. 13: Showing the Percent-wise Comparison of Science Stream Internet-users and Non-users on different levels of Lifestyle (N=100 each)

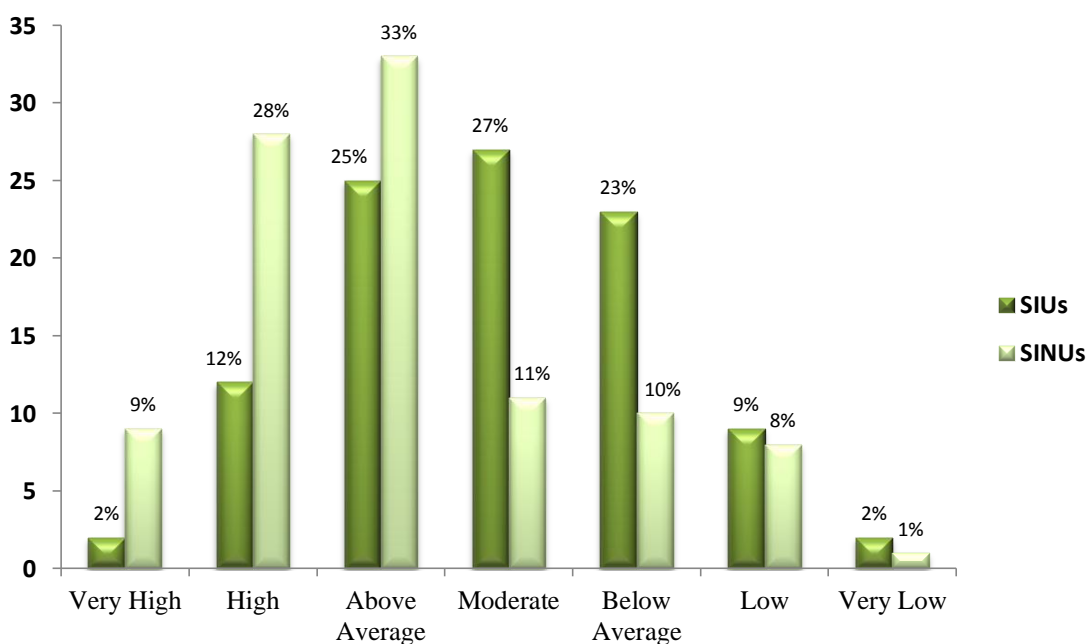






Table No.4.13: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Social Science Stream; N=100 each)

Category	Levels of Lifestyle Status	SSIUs		SSINUs	
		N	%age	N	%age
A	Very High Level of Life Style	14	14.00	04	4.00
B	High Level of Life Style	17	17.00	12	12.00
C	Above Average level of Life Style	32	32.00	23	23.00
D	Moderate level of Life Style	30	30.00	29	29.00
E	Below Average level of Life Style	04	4.00	18	18.00
F	Low Level of Life Style	03	3.00	10	10.00
G	Very Low Level of Life Style	0	0.00	04	4.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: SSIUs =Social science stream Internet-users  
SSINUs =Social science stream Internet Non-users

Fig. No. 14: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Lifestyle (Social Science Stream; N=100 each)

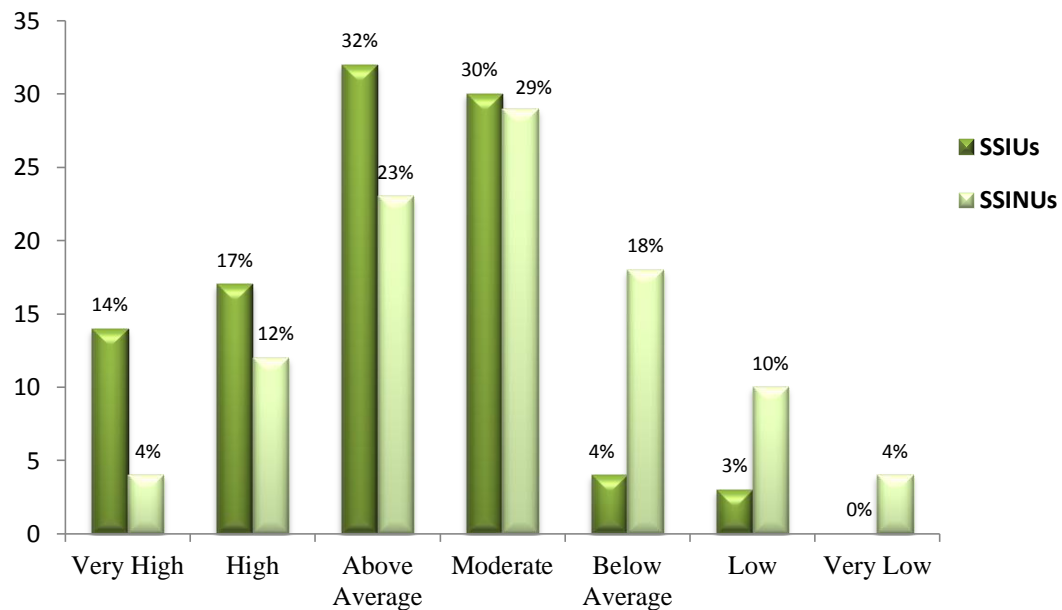


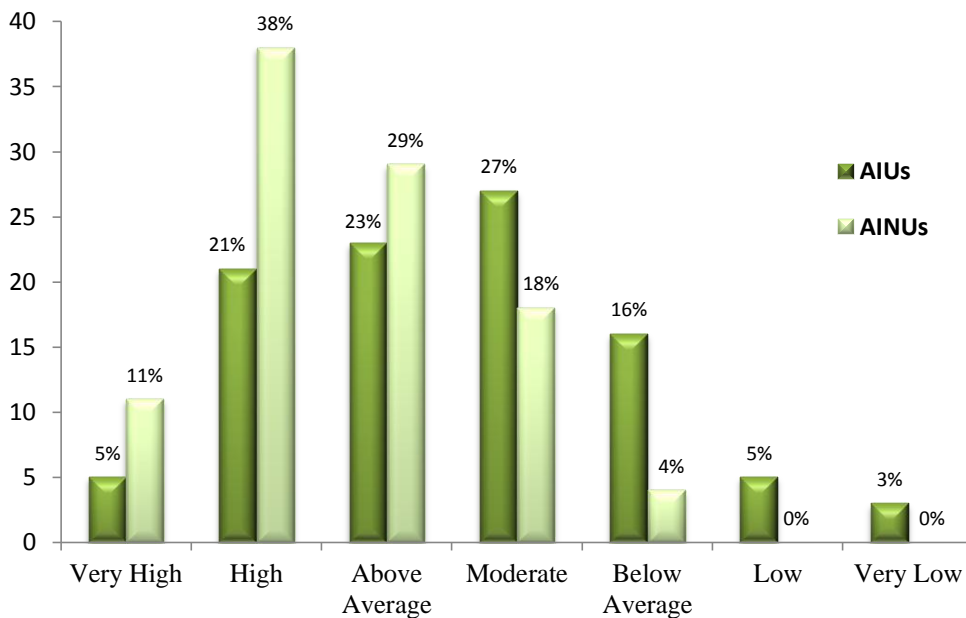


Table No.4.14: Showing the Percent-wise Comparison Internet-users and Non-users on different levels of Lifestyle (Arts Stream; N=100 each)

Category	Levels of Lifestyle Status	AIUs		AINUs	
		N	%age	N	%age
A	Very High Level of Life Style	05	5.00	11	11.00
B	High Level of Life Style	21	21.00	38	38.00
C	Above Average level of Life Style	23	23.00	29	29.00
D	Moderate level of Life Style	27	27.00	18	18.00
E	Below Average level of Life Style	16	16.00	04	4.00
F	Low Level of Life Style	05	5.00	0	0.00
G	Very Low Level of Life Style	03	3.00	0	0.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: AIUs =Arts stream Internet-users  
AINUs =Arts stream Internet Non-users

Fig. No. 15: Showing the Percent-wise Comparison Arts stream Internet-users and Non-users on different Levels of Lifestyle (N=100 each)



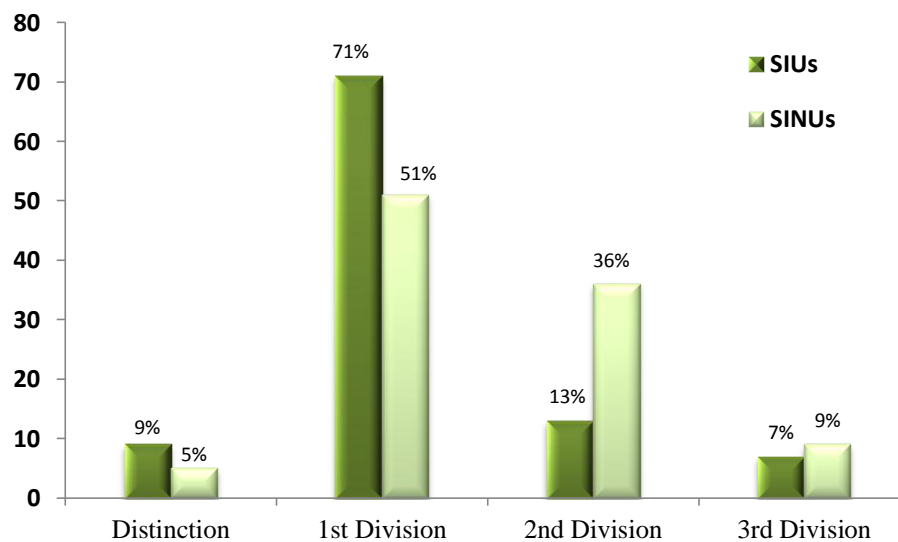


**Table No.4.15: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Science Stream; N=100 each)**

Levels of Academic Achievement	SIUs		SINUs	
	N	%age	N	%age
Distinction	09	9.00	05	5.00
1 <sup>st</sup> Division	71	71.00	50	51.00
2 <sup>nd</sup> Division	13	13.00	36	36.00
3 <sup>rd</sup> Division	07	7.00	09	09.00
<b>Total</b>	<b>100</b>	<b>100.00</b>	<b>100</b>	<b>100.00</b>

**Acronyms:** *SIUs =Science stream Internet-users*  
*SINUs =Science stream Internet Non-users*

**Fig. No. 16: Showing the Percent-wise Comparison of Science stream Internet-users and Non-users on different Levels of Academic Achievement (N=100 each)**



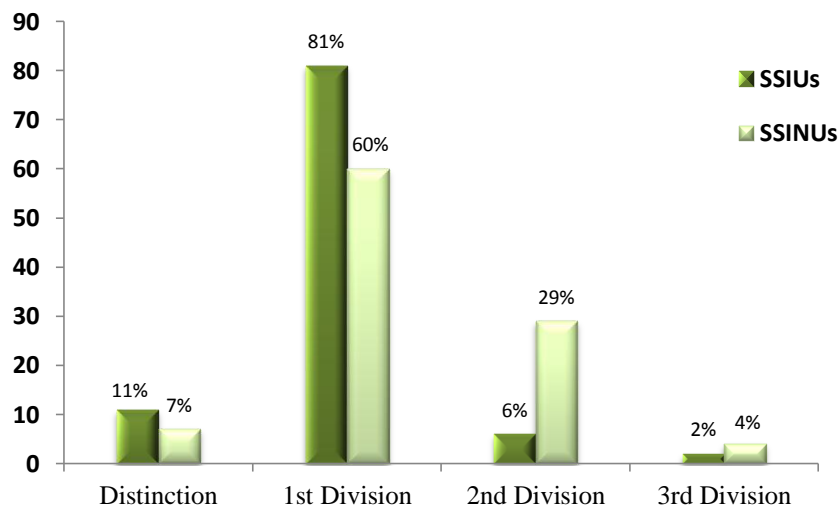


**Table No.4.16: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Social Science Stream N=100 each)**

Levels of Academic Achievement	SSIUs		SSINUs	
	N	%age	N	%age
Distinction	11	11.00	07	7.00
1 <sup>st</sup> Division	81	81.00	60	60.00
2 <sup>nd</sup> Division	06	6.00	29	29.00
3 <sup>rd</sup> Division	02	2.00	04	4.00
<b>Total</b>	<b>100</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**Acronyms:** SSIUs =Social science stream Internet-users  
SSINUs =Social science stream Internet Non-users

**Fig. No. 17: Showing the Percent-wise Comparison of Social science stream Internet-users and Non-users on different Levels of Academic Performance (N=100 each)**





**Table No.4.17: Showing the Percent-wise Comparison of Internet-users and Non-users on different Levels of Academic Achievement (Arts Stream; N=100 each)**

Levels of Academic Achievement	AIUs		AINUs	
	N	%age	N	%age
Distinction	04	4.00	08	08.00
1 <sup>st</sup> Division	43	43.00	55	55.00
2 <sup>nd</sup> Division	39	39.00	30	30.00
3 <sup>rd</sup> Division	14	14.00	07	7.00
<b>Total</b>	<b>100</b>	<b>100.00</b>	<b>100</b>	<b>100.00</b>

**Acronyms:** AIUs =Arts stream Internet-users  
AINUs =Arts stream Internet Non-users

**Fig. No. 18: Showing the Percent-wise Comparison of Arts stream Internet-users and Non-users on different Levels of Academic Performance (N=100 each)**

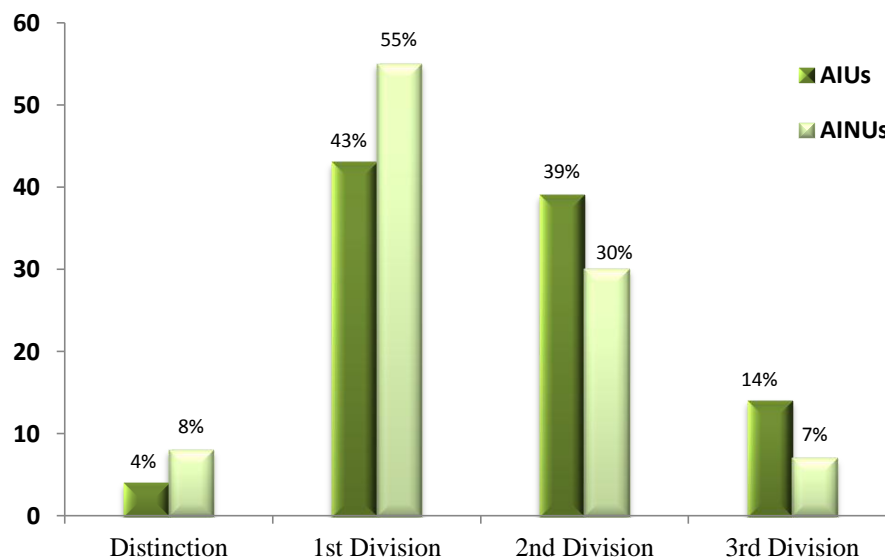




Table No.4.18: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Science Stream; N=100 each)

Category	Levels of Attitude Towards Research	SIUs		SINUs	
		N	%age	N	%age
A	Extremely Favourable	09	9.00	03	3.00
B	Highly Favourable	15	15.00	07	7.00
C	Above Average Favourable	25	25.00	11	11.00
D	Moderately Favourable	37	37.00	35	35.00
E	Unfavourable	10	10.00	32	32.00
F	Highly Unfavourable	03	3.00	10	10.00
G	Extremely Unfavourable	01	1.00	02	2.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: SIUs =Science stream Internet-users  
SINUs =Science stream Internet Non-users

Fig. No. 19: Showing the Percent-wise Comparison of Science stream Internet-users and Non-users on different levels of Attitude towards Research (N=100 each)

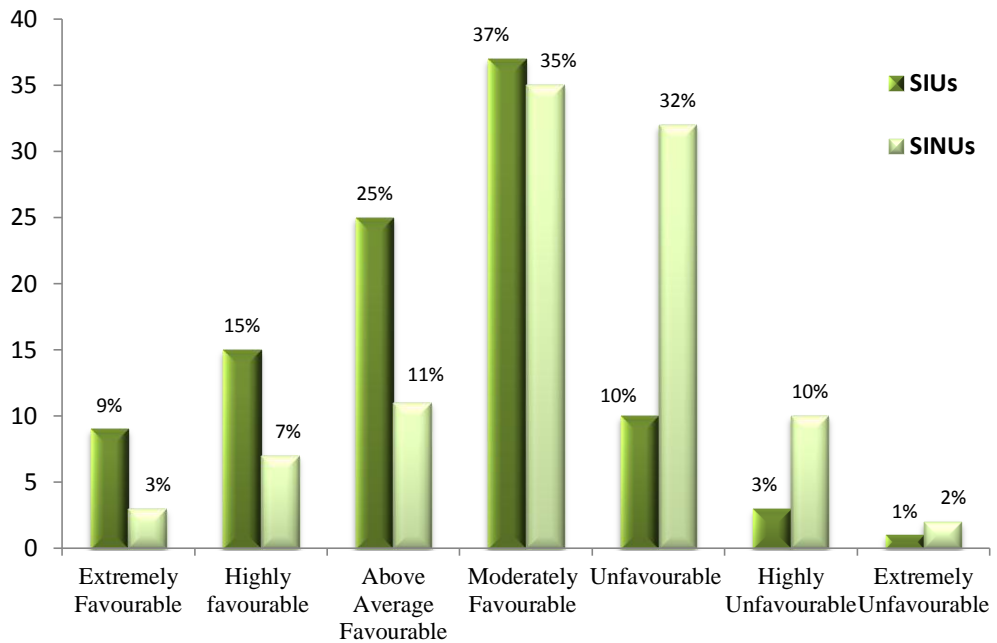




Table No.4.19: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Social Science Stream; N=100 each)

Category	Levels of Attitude Towards Research	SSIUs		SSINUs	
		N	%age	N	%age
A	Extremely Favourable	10	10.00	3	3.00
B	Highly Favourable	13	13.00	06	6.00
C	Above Average Favourable	27	27.00	20	20.00
D	Moderately Favourable	29	29.00	22	22.00
E	Unfavourable	15	15.00	37	37.00
F	Highly Unfavourable	4	4.00	08	8.00
G	Extremely Unfavourable	02	2.00	04	4.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: SSIUs =Social science stream Internet-users  
SSINUs =Social science stream Internet Non-users

Fig. No. 20: Showing the Percent-wise Comparison of Social science stream Internet-users and Non-users on different levels of Attitude towards Research (N=100 each)

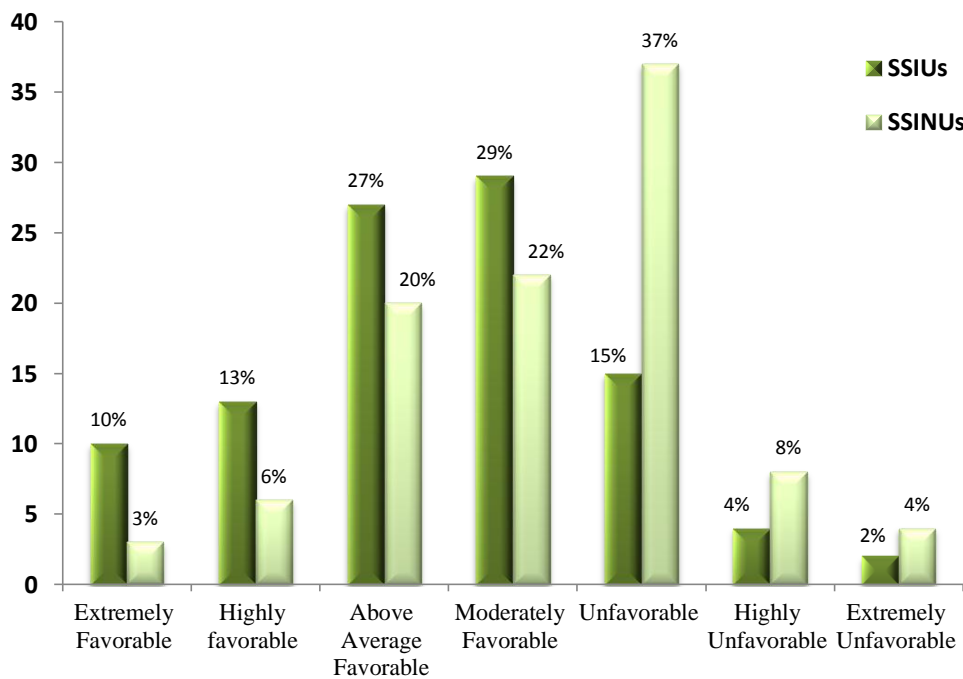


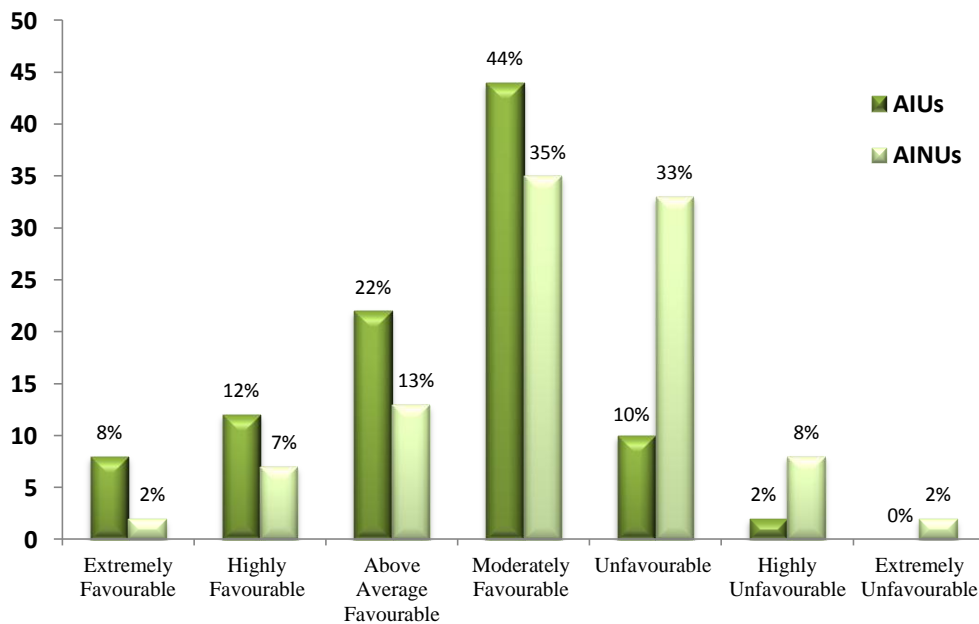


Table No.4.20: Showing the Percent-wise Comparison of Internet-users and Non-users on different levels of Attitude towards Research (Arts Stream; N=100 each)

Category	Levels of Attitude Towards Research	AIUs		AINUs	
		N	%age	N	%age
A	Extremely Favourable	08	8.00	02	2.00
B	Highly Favourable	12	12.00	07	7.00
C	Above Average Favourable	22	22.00	13	13.00
D	Moderately Favourable	44	44.00	35	35.00
E	Unfavourable	10	10.00	33	33.00
F	Highly Unfavourable	02	2.00	08	8.00
G	Extremely Unfavourable	0	0.00	02	2.00
<b>Total</b>		<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Acronyms: AIUs =Arts stream Internet-users  
AINUs =Arts stream Internet Non-users

Fig. No. 21: Showing the Percent-wise Comparison of Internet-users and Non-users (Arts Stream) on different levels of Attitude towards Research (N=100 each)







SECTION – B: COMPARATIVE ANALYSIS

B1: Comparison between Internet-users and Non-users on:
a) Lifestyle b) Academic Achievement and c) Attitude towards Research

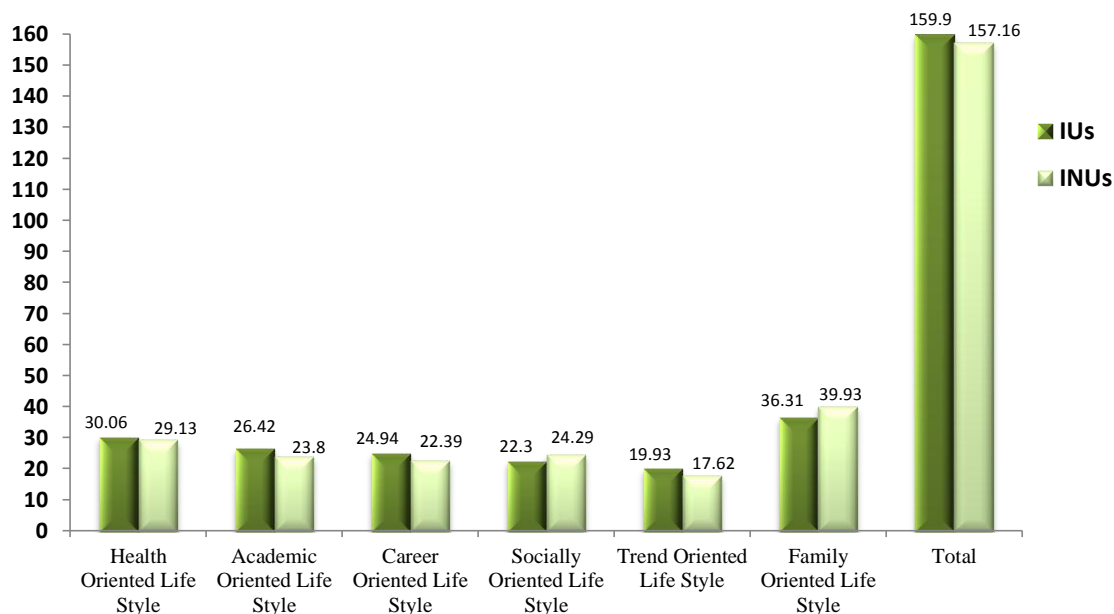
Table No.4.21: Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Lifestyle (N=300 each)

Table with 7 columns: Dimensions of Lifestyle, IUs Mean, IUs S.D, INUs Mean, INUs S.D, t-value. Rows include Health Oriented Lifestyle, Academic Oriented Lifestyle, Career Oriented Lifestyle, Socially Oriented Lifestyle, Trend Oriented Lifestyle, Family Oriented Lifestyle, and Composite Score.

Note: \*\*p<0.01

Acronyms: IUs =Internet-users
INUs =Internet Non-users

Fig. No. 22: Showing the Mean Comparison of Internet-users and Internet Non-users on various dimensions of Lifestyle (N=300 each)





**Table No.4.22: Showing the Significance of difference between the Mean Scores of Internet-users and Internet Non-users on Academic Achievement (N=300 each)**

Academic Achievement	IUs		INUs		t-value
	Mean	S.D	Mean	S.D	
		65.69	4.33	61.25	4.89

Note: \*\*p<0.01

**Acronyms:** *IUs* =Internet-users;  
*INUs* =Internet Non-users

**Fig. No. 23: Showing the Mean Comparison of Internet-users and Internet Non-users on Academic Achievement (N=300 each)**

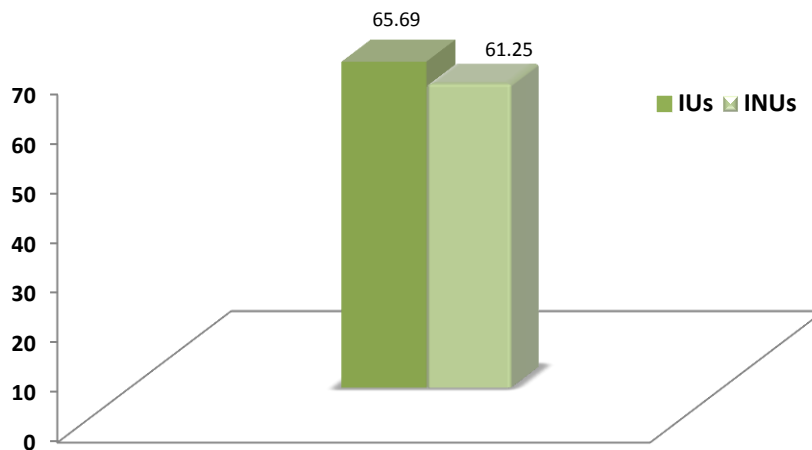




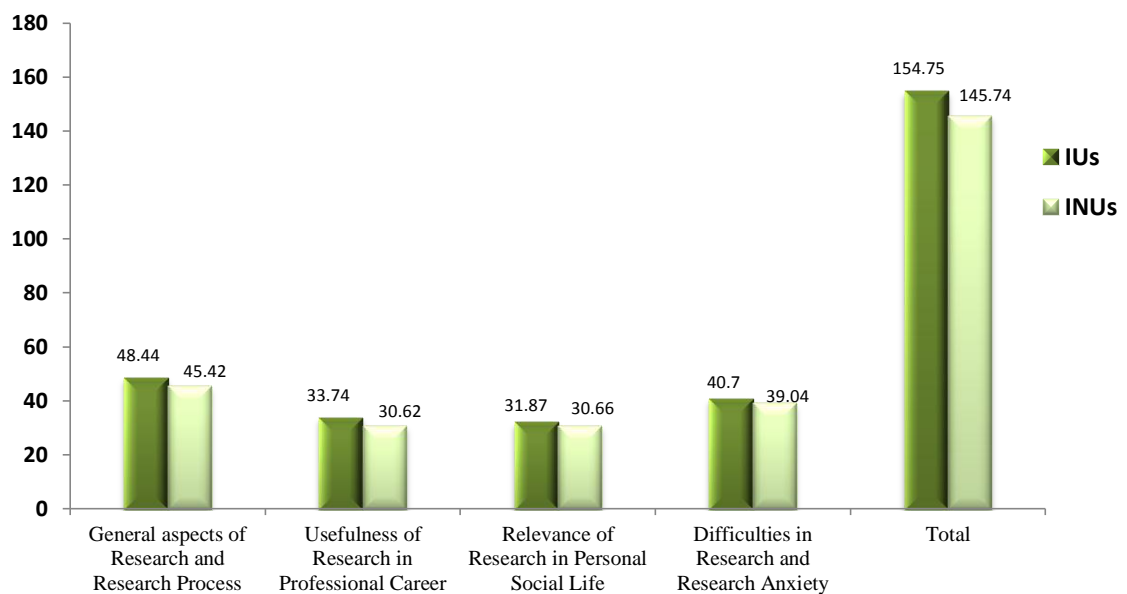
Table No.4.23: Showing the Significance difference between the Mean Scores of Internet-users and Internet Non-users on Attitude towards Research (N=300 each)

Dimensions of Attitude towards Research		IUs		INUs		t-value
		Mean	S.D	Mean	S.D	
I.	General aspects of Research and Research Process	48.44	2.739	45.42	3.307	12.27**
II.	Usefulness of Research in Professional Career	33.74	1.904	30.62	2.826	15.73**
III.	Relevance of Research in Personal Social Life	31.87	2.173	30.66	2.875	5.98**
IV.	Difficulties in Research and Research Anxiety	40.70	2.987	39.04	4.270	5.49**
<b>Composite Score</b>		<b>154.75</b>	<b>6.641</b>	<b>145.74</b>	<b>6.154</b>	<b>16.96**</b>

Note: \*\*p<0.01

Acronyms: IUs =Internet-users  
INUs =Internet Non-users

Fig. No. 24: Showing the Mean Comparison of Internet-users and Internet Non-users on Attitude towards Research (N=300 each)





**B2: Comparison between Internet-users and Internet Non-users (Gender Wise) on: a) Lifestyle, b) Academic Achievement and c) Attitude towards Research**

**Table No.4.24: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on lifestyle (N=150 each)**

Dimensions of Lifestyle		MIUs		FIUs		t-value
		Mean	S.D	Mean	S.D	
I.	Health Oriented Lifestyle	29.65	3.453	30.26	3.469	1.54*
II.	Academic Oriented Lifestyle	25.09	3.342	26.62	3.009	4.31**
III.	Career Oriented Lifestyle	26.25	4.082	23.75	4.964	4.91**
IV.	Socially Oriented Lifestyle	21.20	2.913	21.51	2.694	0.99*
V.	Trend Oriented Lifestyle	21.45	2.638	22.76	2.907	4.22**
VI.	Family Oriented Lifestyle	35.58	5.219	36.63	4.909	1.91*
<b>Composite Score</b>		<b>159.21</b>	<b>11.706</b>	<b>161.53</b>	<b>11.426</b>	<b>1.74*</b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: MIUs =Male Internet-users

FIUs =Female Internet-users

**Fig. No. 25: Showing the Mean Comparison of Male and Female Internet-users on lifestyle (N=150 each)**

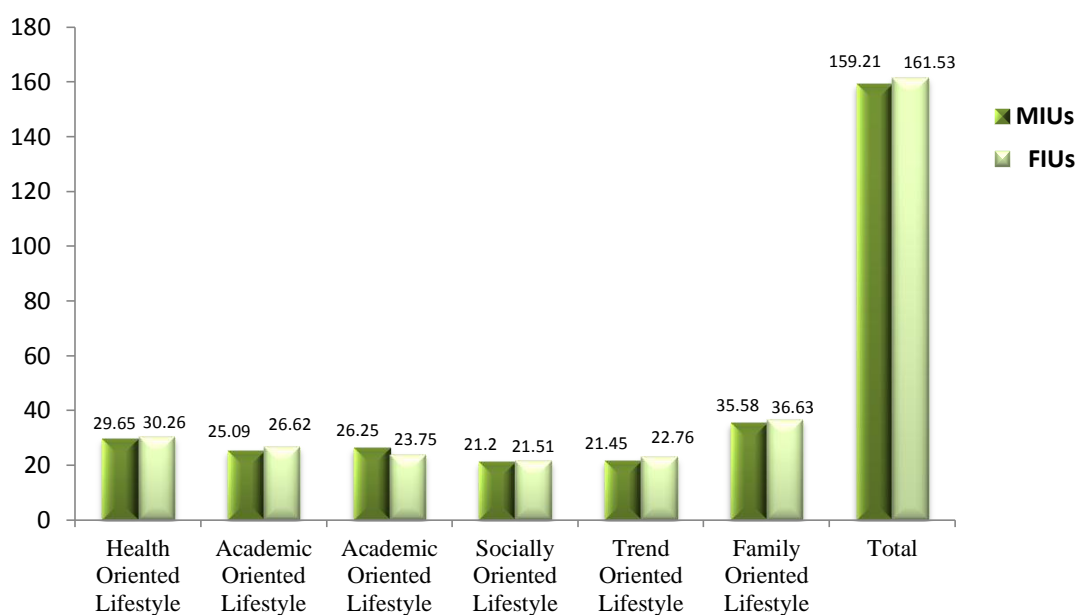




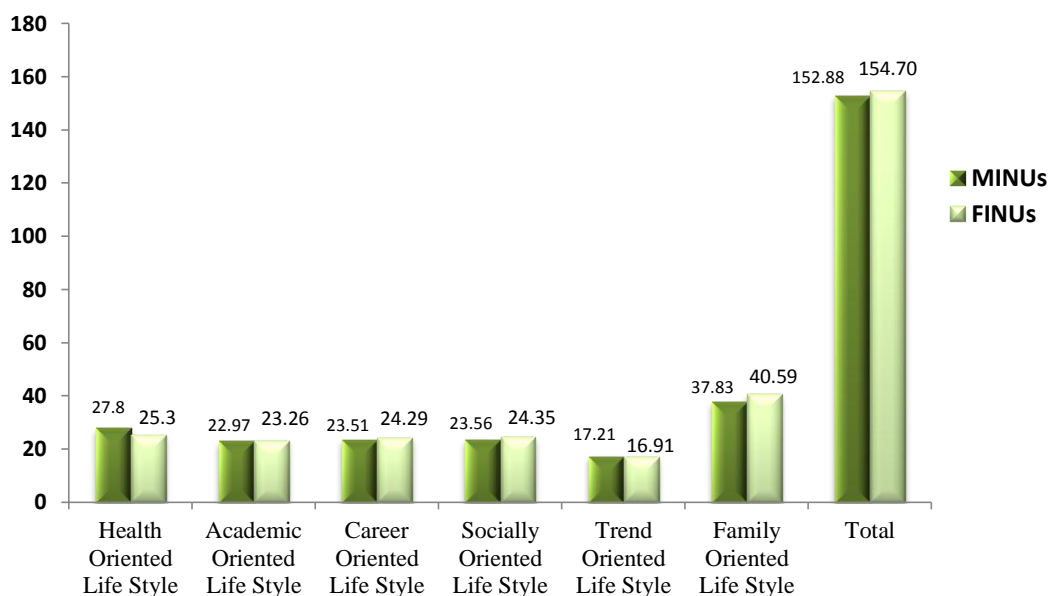
Table No.4.25: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Lifestyle (N=150 each)

Dimensions of Lifestyle		MINUs		FINUs		t-value
		Mean	S.D	Mean	S.D	
I.	Health Oriented Lifestyle	27.80	3.619	25.30	4.275	5.10 <sup>**</sup>
II.	Academic Oriented Lifestyle	22.97	4.039	23.26	2.993	0.72 <sup>*</sup>
III.	Career Oriented Lifestyle	23.51	5.145	24.29	4.237	1.45 <sup>*</sup>
IV.	Socially Oriented Lifestyle	23.56	2.035	24.35	2.688	2.97 <sup>**</sup>
V.	Trend Oriented Lifestyle	17.21	4.104	16.91	4.694	0.58 <sup>*</sup>
VI.	Family Oriented Lifestyle	37.83	4.944	40.59	3.072	5.87 <sup>**</sup>
<b>Composite Score</b>		<b>152.88</b>	<b>9.583</b>	<b>154.70</b>	<b>8.942</b>	<b>1.62<sup>*</sup></b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: MINUs = Male Internet Non-users  
FINUs =Female Internet Non-users

Fig. No. 26: Showing the Mean Comparison of Male and Female Internet-users on lifestyle (N=150each)





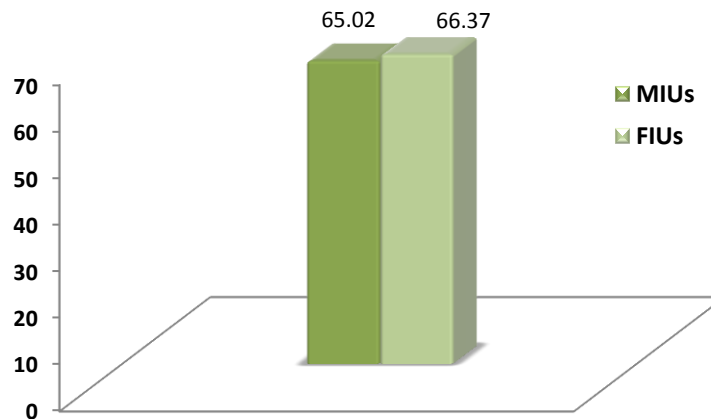
**Table No.4.26: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on academic Achievement (N=150 each)**

Academic Achievement	MIUs		FIUs		t-value
	Mean	S.D	Mean	S.D	
	65.02	4.43	66.37	4.15	2.73**

Note: \*\*p<0.01

Acronyms: *MIUs* =Male Internet-users  
*FIUs* =Female Internet-users

**Fig. No. 27: Showing the Mean Comparison of Male and Female Internet-users on academic Achievement (N=150 each)**





**Table No. 4.27: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Academic Achievement (N=150 each)**

Academic Achievement	MINUs		FINUs		t-value
	Mean	S.D	Mean	S.D	
	60.03	4.62	62.49	4.88	<b>4.48**</b>

Note: \*\*p<0.01

Acronyms: *MINUs* = Male Internet Non-users  
*FINUs* =Female Internet Non-users

**Fig. No. 28: Showing the Mean Comparison of Male and Female Internet Non-users on Academic achievement (N=150 each)**

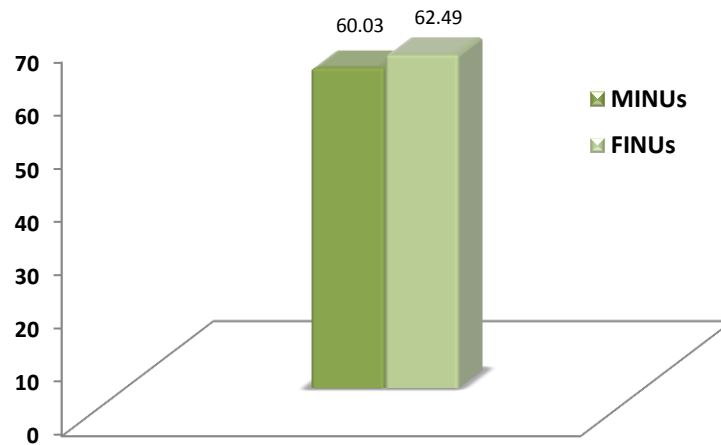




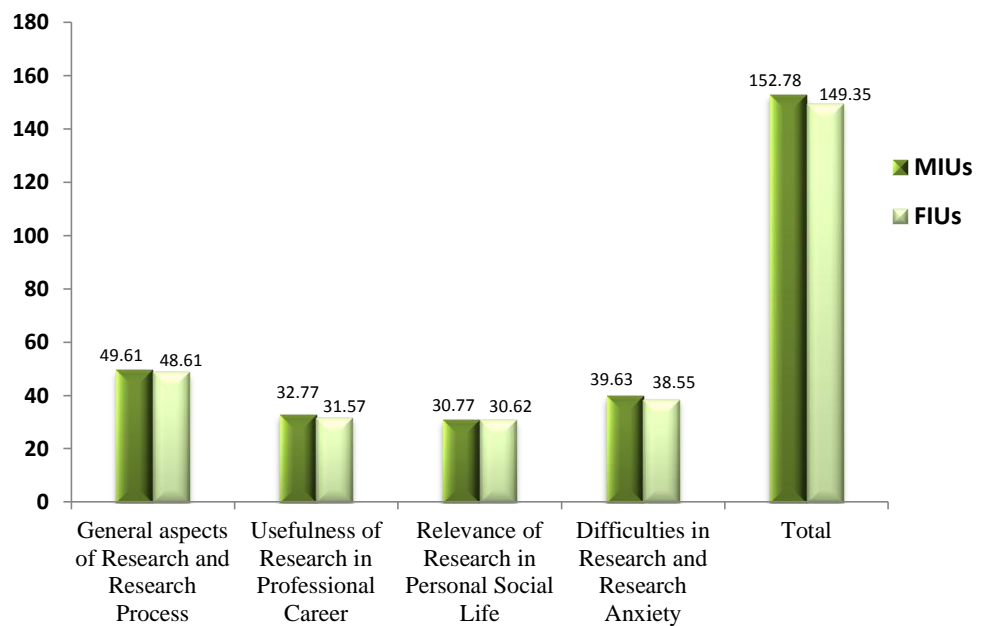
Table No.4.28: Showing the Significance of difference between the Mean Scores of Male and Female Internet-users on Attitude towards Research (N=150 each)

Dimensions of Attitude towards Research		MIUs		FIUs		t-value
		Mean	S.D	Mean	S.D	
I.	General aspects of Research and Research Process	49.61	4.853	48.61	4.060	1.96***
II.	Usefulness of Research In Professional Career	32.77	3.603	31.57	4.636	2.65**
III.	Relevance of Research in Personal Social Life	30.77	4.282	30.62	5.096	0.30*
IV.	Difficulties in Research and Research Anxiety	39.63	4.885	38.55	4.340	2.11***
<b>Composite Score</b>		<b>152.78</b>	<b>10.467</b>	<b>149.35</b>	<b>11.240</b>	<b>2.74**</b>

Note: \*\*p<0.01; \*\*\*p<0.05; \*Insignificant

Acronyms: MIUs =Male Internet-users  
FIUs =Female Internet-users

Fig. No. 29: Showing the Mean Comparison of Male and Female Internet-users on Attitude towards Research (N=150 each)







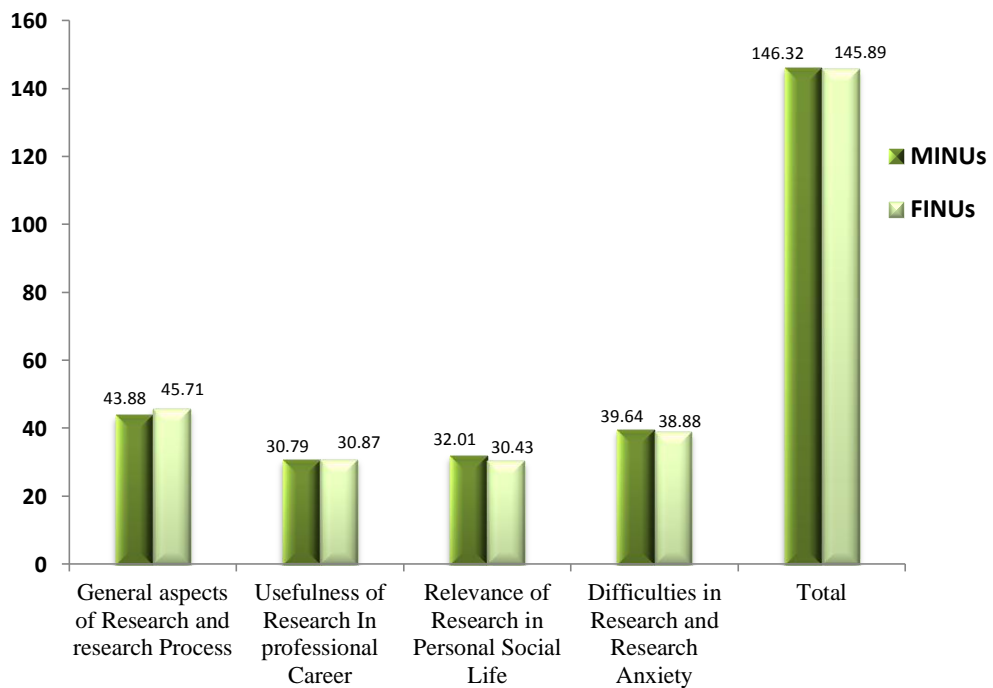
**Table No.4.29: Showing the Significance of difference between the Mean Scores of Male and Female Internet Non-users on Attitude towards Research (N=150 each).**

Dimensions of Attitude towards Research		MINUs		FINUs		t-value
		Mean	S.D	Mean	S.D	
<b>I.</b>	General aspects of Research and Research Process	43.88	4.327	45.71	3.895	3.87**
<b>II.</b>	Usefulness of Research In Professional Career	30.79	3.808	30.87	3.741	0.16*
<b>III.</b>	Relevance of Research in Personal Social Life	32.01	4.578	30.43	4.212	3.13**
<b>IV.</b>	Difficulties in Research and Research Anxiety	39.64	3.354	38.88	3.882	1.79*
<b>Composite Score</b>		<b>146.32</b>	<b>8.887</b>	<b>145.89</b>	<b>9.275</b>	<b>0.40*</b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: *MINUs = Male Internet Non-users*  
*FINUs =Female Internet Non-users*

**Fig. No. 30: Showing the Mean Comparison of Male and Female Internet Non-users on Attitude towards Research (N=150 each)**





**B3: Comparison between Internet-users and Non-users (Faculty Wise) on: a) Lifestyle, b) Academic Achievement and c) Attitude towards Research**

**Table No.4.30: Showing the Significance of difference between the Mean Scores of Interne-users and Non-users on Lifestyle (Science Stream; N=100 each)**

Dimensions of Lifestyle		SIUs		SINUs		t-value
		Mean	S.D	Mean	S.D	
I.	Health Oriented Lifestyle	28.85	3.465	28.51	3.828	0.70*
II.	Academic Oriented Lifestyle	25.34	2.771	22.96	3.750	5.21**
III.	Career Oriented Lifestyle	22.22	5.508	21.48	3.940	1.07*
IV.	Socially Oriented Lifestyle	21.15	2.641	23.31	1.785	7.40**
V.	Trend Oriented Lifestyle	16.89	4.682	21.59	3.854	7.71**
VI.	Family Oriented Lifestyle	35.61	5.574	38.82	4.291	4.74**
<b>Composite Score</b>		<b>150.06</b>	<b>12.049</b>	<b>156.67</b>	<b>9.031</b>	<b>4.62**</b>

Note: \*\*p<0.01; \*Insignificant

**Acronyms:** *SIUs =Science stream Internet-users*  
*SINUs =Science stream Internet Non-users*

**Fig. No. 31: Showing the Mean Comparison of Internet-users and Non-users on Lifestyle (Science Stream; N=100 each)**

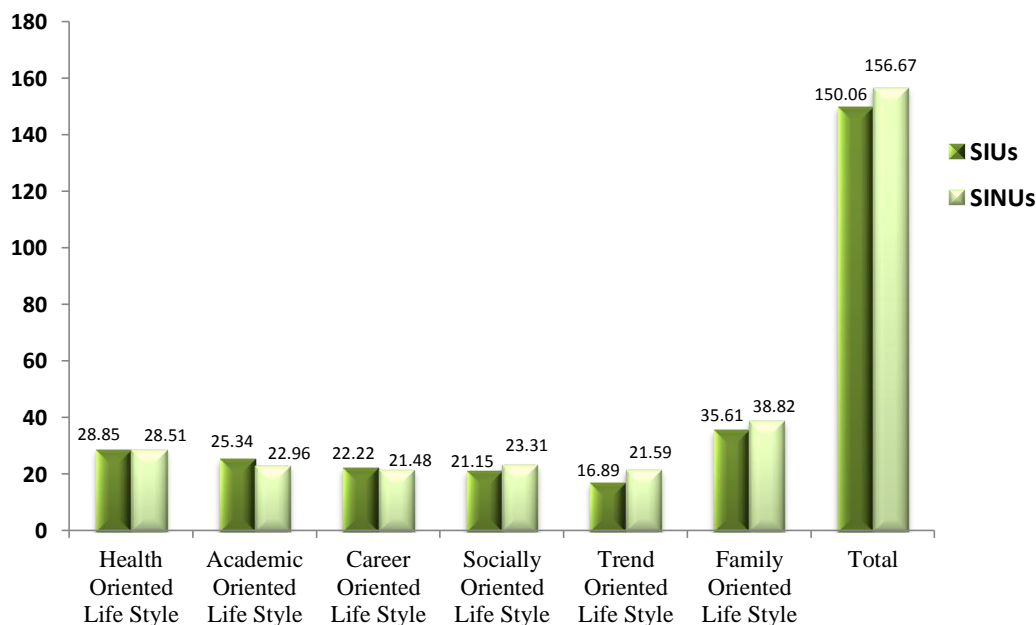




Table No.4.31: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on lifestyle (Social Science Stream; N=100 each)

Dimensions of Lifestyle		SSIUs		SSINUs		t-value
		Mean	S.D	Mean	S.D	
I.	Health Oriented Lifestyle	29.40	3.210	26.22	3.799	5.84**
II.	Academic Oriented Lifestyle	25.87	3.277	23.36	3.350	5.33**
III.	Career Oriented Lifestyle	24.85	5.102	23.36	4.700	2.20***
IV.	Socially Oriented Lifestyle	24.45	2.354	22.16	2.092	6.65**
V.	Trend Oriented Lifestyle	19.37	5.557	17.00	3.715	3.63**
VI.	Family Oriented Lifestyle	35.01	5.595	38.96	5.183	5.82**
<b>Composite Score</b>		<b>158.95</b>	<b>11.090</b>	<b>151.06</b>	<b>8.763</b>	<b>5.89**</b>

Note: \*\*p<0.01; \*\*\*p<0.05

Acronyms: SSIUs =Social Science stream Internet-users  
SSINUs =Social Science stream Internet Non-users

Fig. No. 32: Showing the Mean Comparison of Internet-users and Non-users on lifestyle (Social Science Stream; N=100 each)

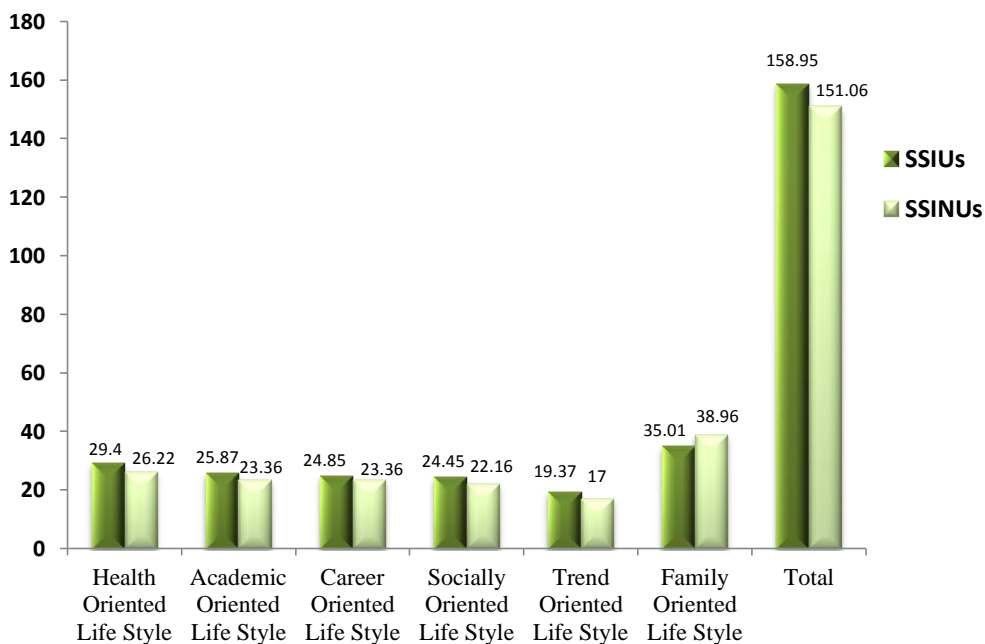




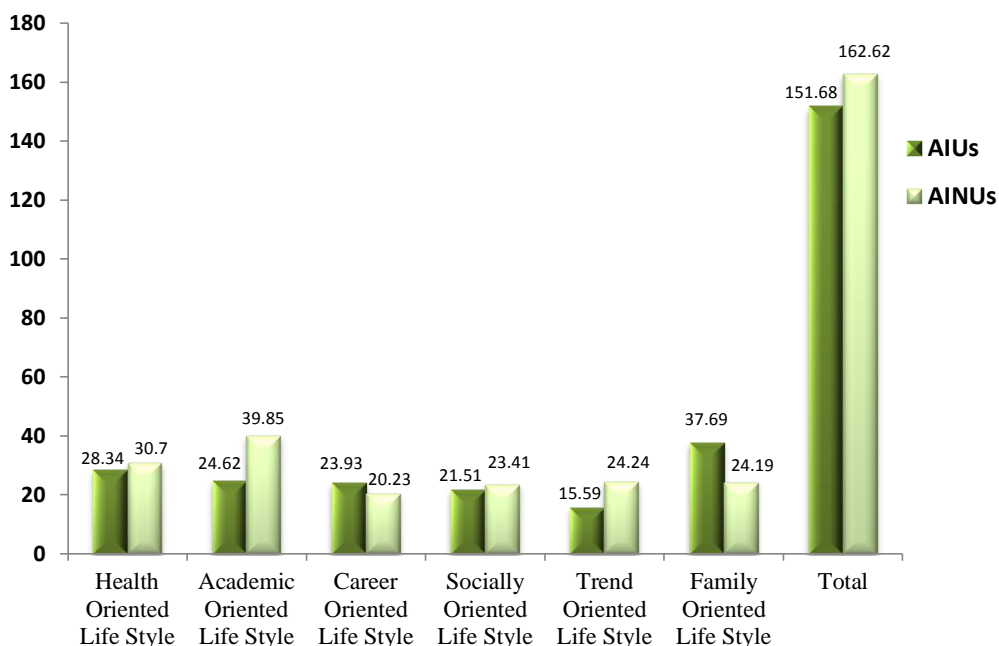
Table No.4.32: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Lifestyle (Arts Stream; N=100 each)

Dimensions of Lifestyle		AIUs		AINUs		t-value
		Mean	S.D	Mean	S.D	
I.	Health Oriented Lifestyle	28.34	3.710	30.70	3.512	4.85**
II.	Academic Oriented Lifestyle	24.62	4.185	24.19	3.164	0.86*
III.	Career Oriented Lifestyle	23.93	5.332	24.24	5.583	0.41*
IV.	Socially Oriented Lifestyle	21.51	3.070	23.41	2.113	5.10**
V.	Trend Oriented Lifestyle	15.59	3.890	20.23	4.909	7.52**
VI.	Family Oriented Lifestyle	37.69	3.425	39.85	3.298	4.57**
<b>Composite Score</b>		<b>151.68</b>	<b>11.932</b>	<b>162.62</b>	<b>10.085</b>	<b>8.53**</b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: AIUs =Arts stream Internet-users  
AINUs =Arts stream Internet Non-users

Fig. No. 33: Showing the Mean Comparison of Internet-users and Non-users on Lifestyle (Arts Stream; N=100 each)





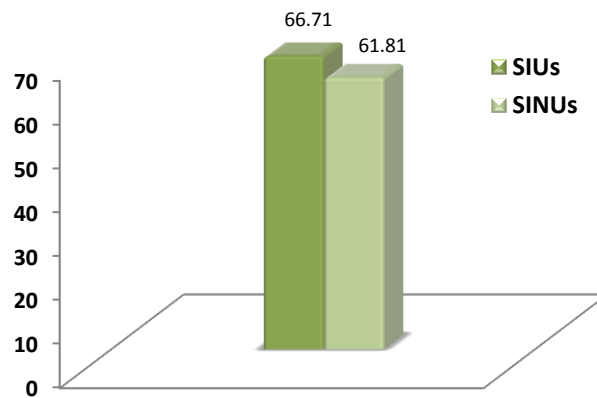
**Table No.4.33: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Academic Achievement (Stream wise Comparison)**

Academic Achievement	IUs (N=100)		INUs (N=100)		t-value
	Mean	S.D	Mean	S.D	
Science Stream	66.71	4.15	61.81	5.25	7.33**
Social Science Stream	66.19	4.69	52.44	5.00	20.10**
Arts Stream	59.52	3.88	64.18	3.70	9.07**

Note: \*\*p<0.01

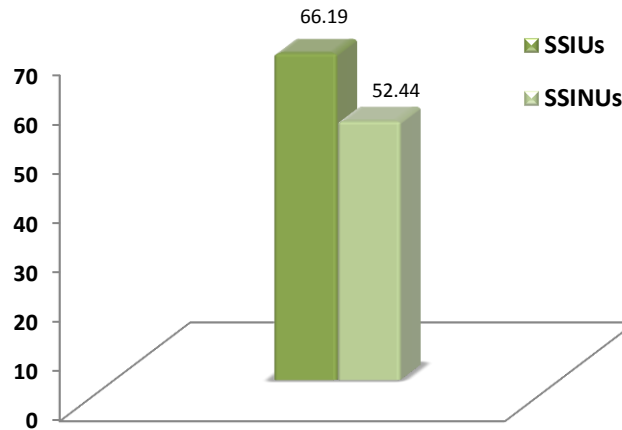
Acronyms: *IUs* = Internet-users;  
*INUs* = Internet Non-users

**Fig. No. 34: Showing the Mean Comparison of Internet-users and Non-users on Academic Achievement (Science Stream; N=100 each)**





**Fig. No. 35: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Academic Achievement (Social Science Stream; N=100 each)**



**Fig. No. 36: Showing the Mean Comparison of Internet-users and Non-users on Academic Achievement Arts stream; N=100 each)**

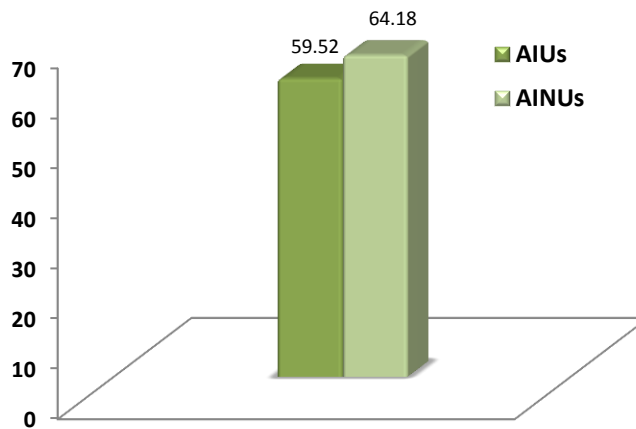




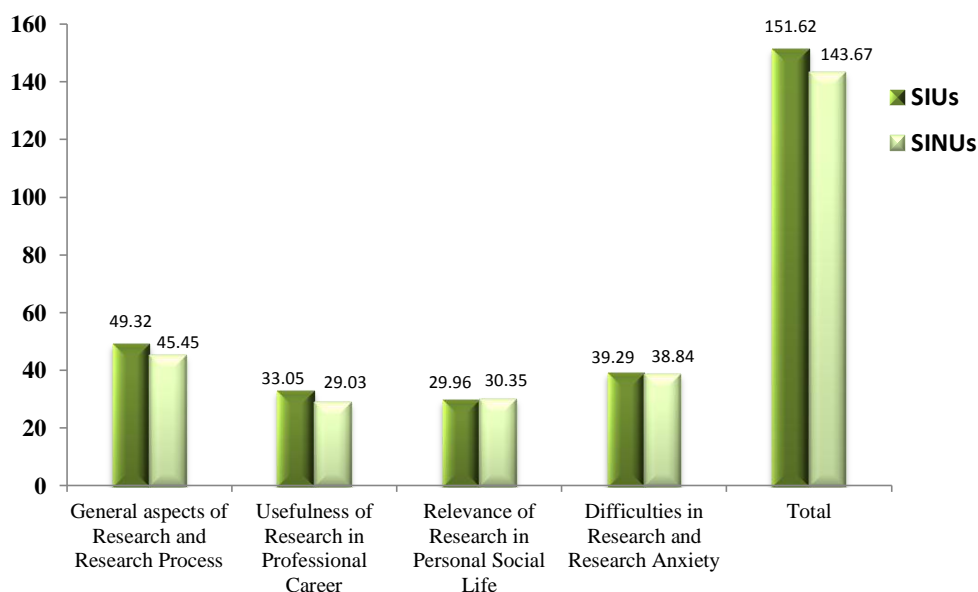
Table No.4.34: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Science Stream; N=100 each)

Dimensions of Attitude towards Research		SIUs		SINUs		t-value
		Mean	S.D	Mean	S.D	
I.	General aspects of Research and Research Process	49.32	4.161	45.45	4.659	6.13**
II.	Usefulness of Research In Professional Career	33.05	2.664	29.03	4.305	7.28**
III.	Relevance of Research in Personal Social Life	29.96	4.616	30.35	4.865	0.61*
IV.	Difficulties in Research and Research Anxiety	39.29	4.416	38.84	4.378	0.72*
<b>Composite Score</b>		<b>151.62</b>	<b>10.079</b>	<b>143.67</b>	<b>10.848</b>	<b>5.37**</b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: SIUs =Science stream Internet-users  
SINUs =Science stream Internet Non-users

Fig. No. 37: Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Science Stream; N=100 each)





**Table No.4.35: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Social Science Stream; N=100 each)**

Dimensions of Attitude towards Research		SSIUs		SSINUs		t-value
		Mean	S.D	Mean	S.D	
<b>I.</b>	General aspects of Research and Research Process	48.67	5.057	43.83	4.438	6.88**
<b>II.</b>	Usefulness of Research In Professional Career	32.91	4.040	27.90	4.054	7.80**
<b>III.</b>	Relevance of Research in Personal Social Life	32.01	4.877	31.12	4.774	1.33*
<b>IV.</b>	Difficulties in Research and Research Anxiety	40.66	4.535	37.16	4.109	5.63**
<b>Composite Score</b>		<b>154.25</b>	<b>9.867</b>	<b>140.01</b>	<b>9.968</b>	<b>10.15**</b>

Note: \*\*p<0.01; \*Insignificant

**Acronyms:** SSIUs =Social science stream Internet-users  
 SSINUs =Social science stream Internet Non-users

**Fig. No. 38: Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Social Science Stream; N=100 each)**

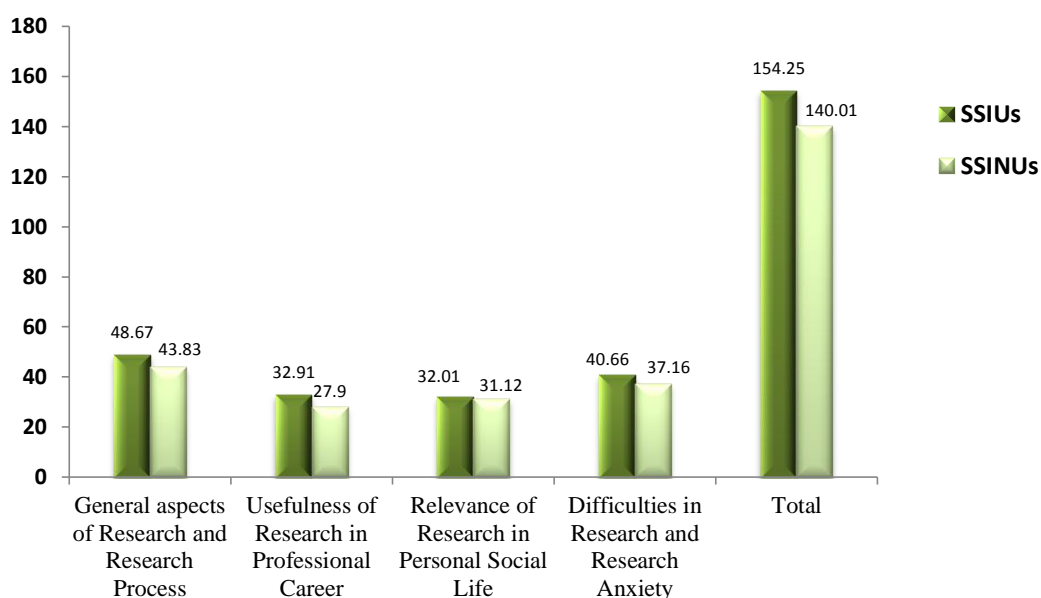






Table No.4.36: Showing the Significance of difference between the Mean Scores of Internet-users and Non-users on Attitude towards Research (Arts Stream; N=100 each)

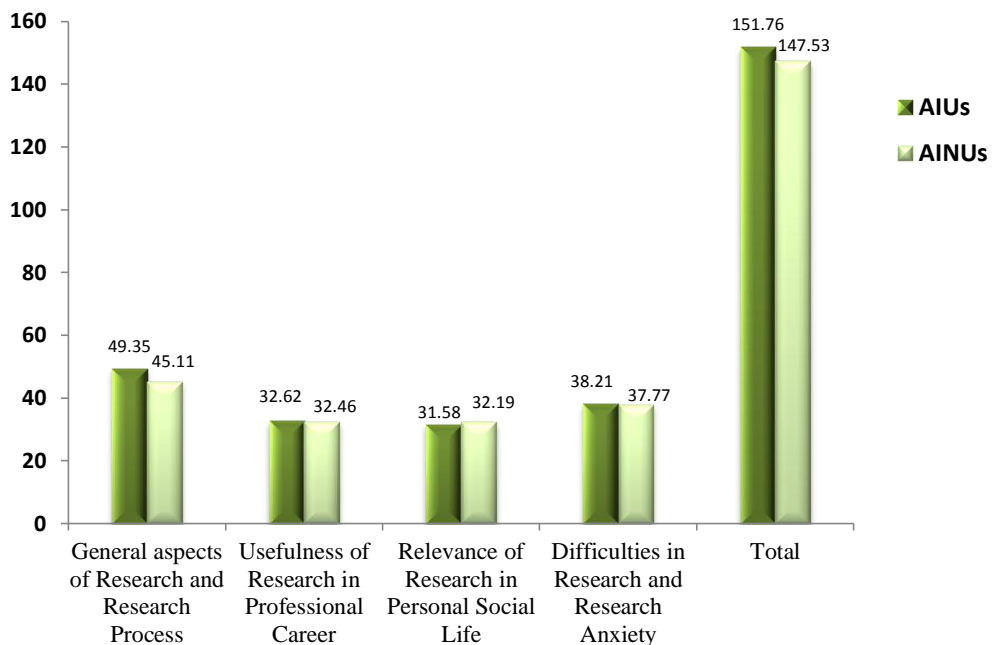
Dimensions of Attitude towards Research		AIUs		AINUs		t-value
		Mean	S.D	Mean	S.D	
I.	General aspects of Research and Research Process	49.35	4.222	45.11	3.269	8.22**
II.	Usefulness of Research In Professional Career	32.62	4.129	32.46	3.960	0.26*
III.	Relevance of Research in Personal Social Life	31.58	3.210	32.19	3.454	0.17*
IV.	Difficulties in Research and Research Anxiety	38.21	4.130	37.77	4.592	0.75*
<b>Composite Score</b>		<b>151.76</b>	<b>9.493</b>	<b>147.53</b>	<b>7.500</b>	<b>3.61**</b>

Note: \*\*p<0.01; \*Insignificant

Acronyms: AIUs =Arts stream Internet-users

AINUs =Arts stream Internet Non-users

Fig. No. 39: Showing the Mean Comparison of Internet-users and Non-users on Attitude towards Research (Arts Stream; N=100 each)





**SECTION – C: FACTOR ANALYSIS**

**C1: Principle component Factor Analysis of Internet-users on various dimensions of Lifestyle and Attitude towards Research**

**\*Table No.4.37: KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity (Group Internet-users)**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>.814</b>
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	1954.802
	df	45
	Sig.	.000

\*For further understanding of results see correlation matrix (Appendix).

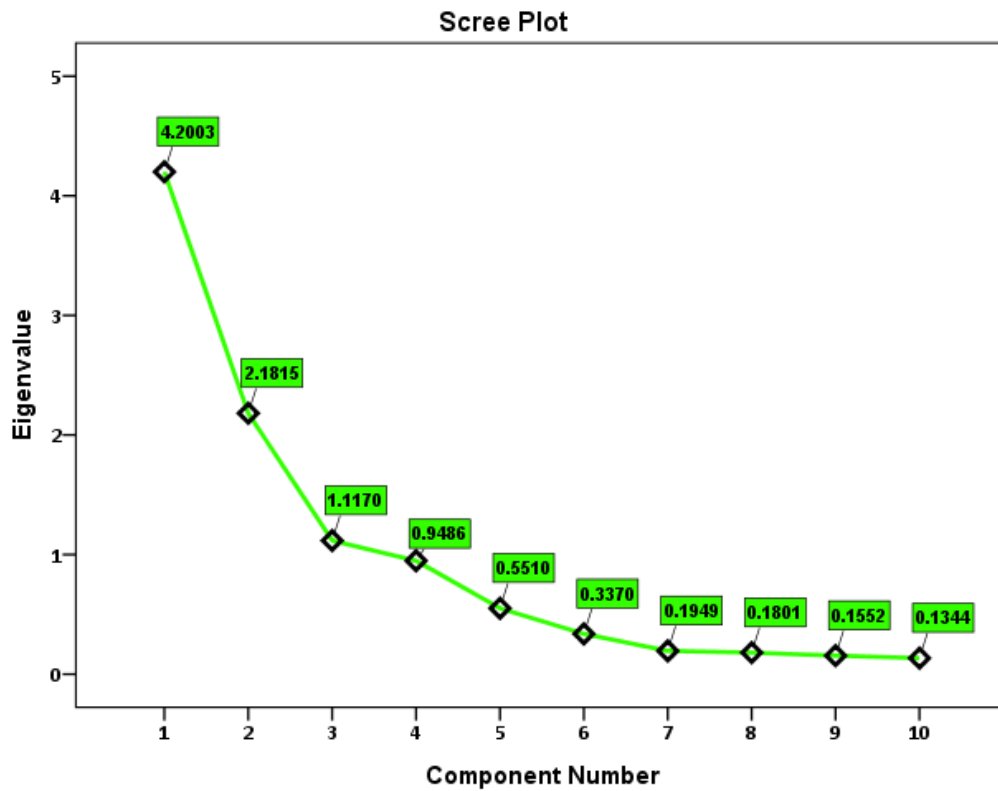
**Table No.4.38: Showing the Total Variance Explained of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)**

Variables	Communalities		Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Initial	Extraction	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
<b>HOLS</b>	1.000	.829	4.200	42.003	42.003	4.200	42.003	42.003	3.255	32.547	32.547
<b>AOLS</b>	1.000	.858	2.181	21.815	63.818	2.181	21.815	63.818	3.024	30.239	62.787
<b>COLS</b>	1.000	.842	1.117	11.170	74.988	1.117	11.170	74.988	1.220	12.201	74.988
<b>SOLS</b>	1.000	.825	.949	9.486	84.474						
<b>TOLS</b>	1.000	.853	.551	5.510	89.984						
<b>FOLS</b>	1.000	.472	.337	3.370	93.354						
<b>AGARRP</b>	1.000	.619	.195	1.949	95.304						
<b>AURPC</b>	1.000	.536	.180	1.801	97.104						
<b>ARRPSL</b>	1.000	.865	.155	1.552	98.656						
<b>ADRRRA</b>	1.000	.800	.134	1.344	100.000						

**Extraction Method: Principal Factor Analysis**



**Fig. No. 40: Showing the Scree Plot Graph which Represents the Eigenvalues against all the Factors of Internet-users (N=300)**



**Table No.4.39: Showing the Un-rotated and Rotated Factor Matrix of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)**

Variables	Un-rotated Factor Matrix <sup>a</sup>			Variables	Rotated Factor Matrix <sup>a</sup>		
	1	2	3		1	2	3
COLS	.791	.454	.102	TOLS	.906	-.174	.055
TOLS	.785	.487	.022	COLS	.888	-.183	.139
HOLS	.782	.454	.107	HOLS	.882	-.176	.143
ARRPSL	-.747	.549	.066	ADRRRA	.853	-.021	-.268
AOLS	-.739	.550	.094	AOLS	-.162	.905	-.117
SOLS	-.730	.539	.033	ARRPSL	-.168	.903	-.145
AURPC	-.491	.452	.301	SOLS	-.163	.877	-.173
ADRRRA	.596	.616	-.257	AURPC	-.045	.717	.139
AGARRP	.335	-.064	.709	AGARRP	.208	-.105	.752
FOLS	.037	-.221	.649	FOLS	-.118	-.031	.676

**Extraction Method: Principal Factor Analysis. 3 Factors extracted. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 4 iterations**



**Table No.4.40: Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet-users on various dimensions of Lifestyle and Attitude towards Research (N=300)**

Variables	Rotated Factor Matrix <sup>a</sup>		
	1	2	3
TOLS	.906		
COLS	.888		
HOLS	.882		
ADRRRA	.853		
AOLS		.905	
ARRPSL		.903	
SOLS		.877	
AURPC		.717	
AGARRP			.752
FOLS			.676

**Extraction Method: Principal Factor Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations**



Fig. No.41: Showing the Results of the Total Variance Explained by the extracted Factors and the Analysis of each of the 3 Factors Clusters of Variables Proffers a recipe for Naming the Factors of Internet-users (N=300)

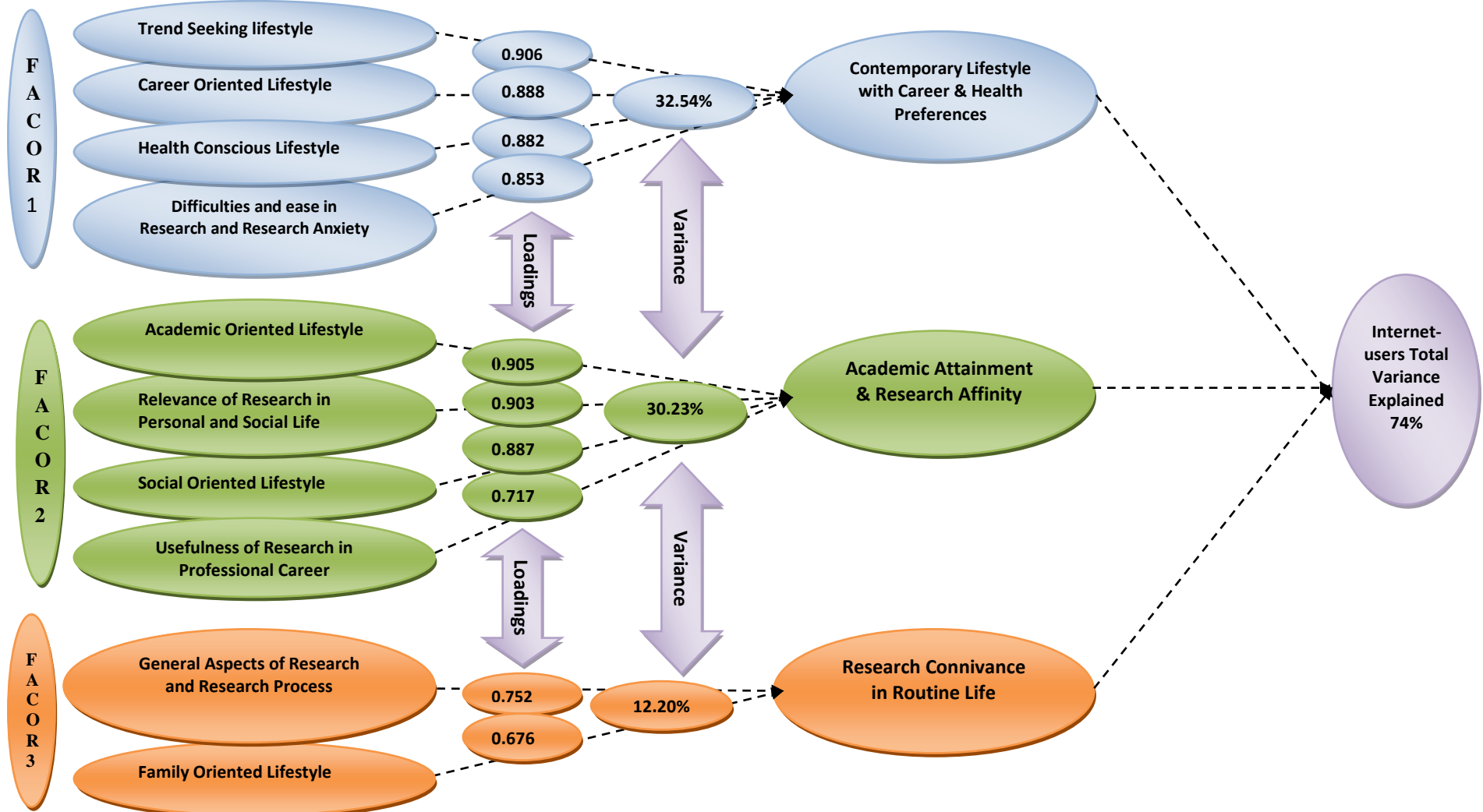
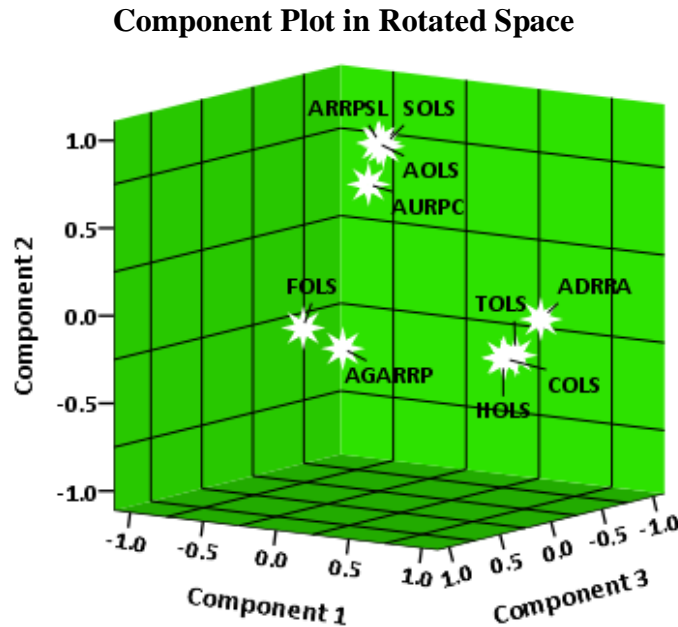




Fig. No. 42: Showing a Clear Pattern of the Loadings, with all Variables Identified with 3 Factors of Internet-users (N=300)



**Acronyms:**

(1) *HOLS*= Health Oriented Lifestyle. (2) *AOLS*=Academic Oriented Lifestyle. (3) *COLS*=Career Oriented Lifestyle. (4) *SOLS*=Social Oriented lifestyle. (5) *TOLS*=Trend Oriented lifestyle. (6) *FOLS*=Family Oriented lifestyle. (7) *AGARRP*=Attitude towards General Aspects of Research and Research Process. (8) *AURPC*=Attitude towards Usefulness of Research in Professional career. (9) *ARRPSL*=Attitude towards Relevance of Research in Personal and Social Life. (10) *ADRRA*=Attitude towards Difficulties in Research and Research Anxiety



**C2: Principle component Factor Analysis of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research**

**\*Table No.4.41: KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity (Group Internet Non-users)**

<b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy</b>		<b>.772</b>
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	1945.063
	df	45
	Sig.	.000

\*For further understanding of results see correlation matrix (Appendix)

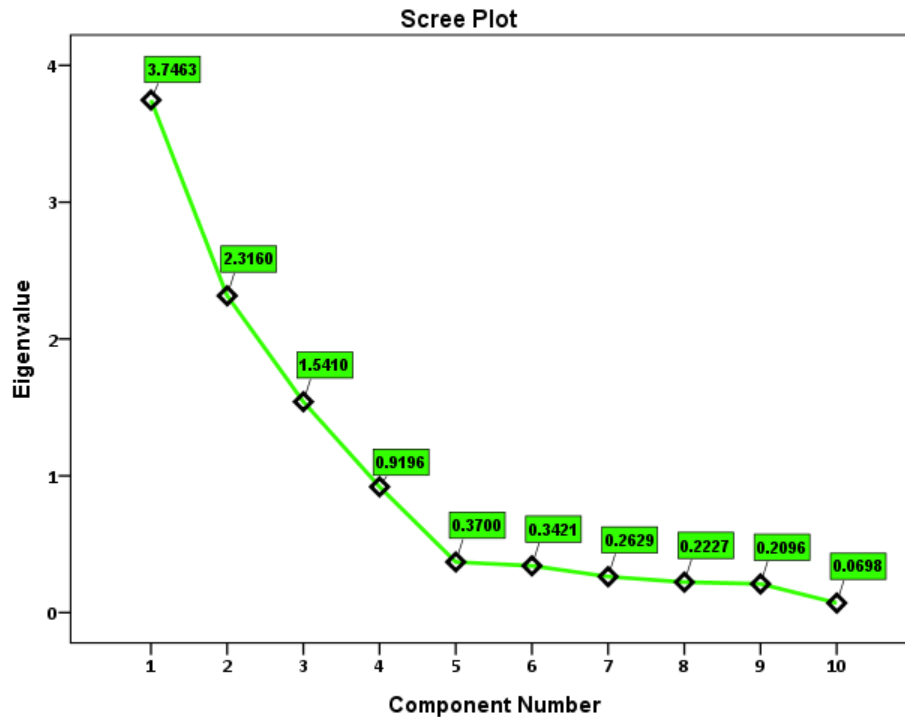
**Table No.4.42: Showing the Total Variance Explained of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)**

Variables	Communalities		Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Initial	Extraction	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
<b>HOLS</b>	1.000	.829	3.746	37.463	37.463	3.746	37.463	37.463	3.307	33.074	33.074
<b>AOLS</b>	1.000	.785	2.316	23.160	60.622	2.316	23.160	60.622	2.308	23.084	56.158
<b>COLS</b>	1.000	.774	1.541	15.410	76.033	1.541	15.410	76.033	1.987	19.875	76.033
<b>SOLS</b>	1.000	.769	.920	9.196	85.229						
<b>TOLS</b>	1.000	.787	.370	3.700	88.928						
<b>FOLS</b>	1.000	.918	.342	3.421	92.350						
<b>AGARRP</b>	1.000	.798	.263	2.629	94.978						
<b>AURPC</b>	1.000	.899	.223	2.227	97.206						
<b>ARRPSL</b>	1.000	.845	.210	2.096	99.302						
<b>ADRRRA</b>	1.000	.200	.070	.698	100.000						

**Extraction Method: Principal Factor Analysis**



**Fig. No. 43: Showing the Scree Plot Graph which Represents the Eigenvalues against all the Factors of Internet Non-users (N=300)**



**Table No.4.43: Showing the Un-rotated and Rotated Factor Matrix of Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N=300)**

Variables	Un-rotated Factor Matrix <sup>a</sup>			Variables	Rotated Factor Matrix <sup>a</sup>		
	1	2	3		1	2	3
FOLS	.925	-.137	.209	FOLS	.922	-.095	.245
AURPC	.923	-.139	.168	AURPC	.901	-.092	.280
SOLS	.785	-.013	.390	SOLS	.877	-.009	.002
TOLS	.651	.030	.602	AOLS	.701	.510	-.182
AOLS	.586	.530	.401	HOLS	-.139	.815	.381
AGARRP	-.263	.850	.072	AGARRP	-.207	.809	-.316
HOLS	.105	.744	-.514	COLS	.394	.765	.183
COLS	.491	.724	-.095	ARRPSL	.248	-.304	.831
ARRPSL	.565	-.434	.581	TOLS	-.315	-.105	.823
ADRRRA	.120	.085	-.422	ADRRRA	-.081	.153	.412

**Extraction Method: Principal Factor Analysis. 3 Factors extracted. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.**





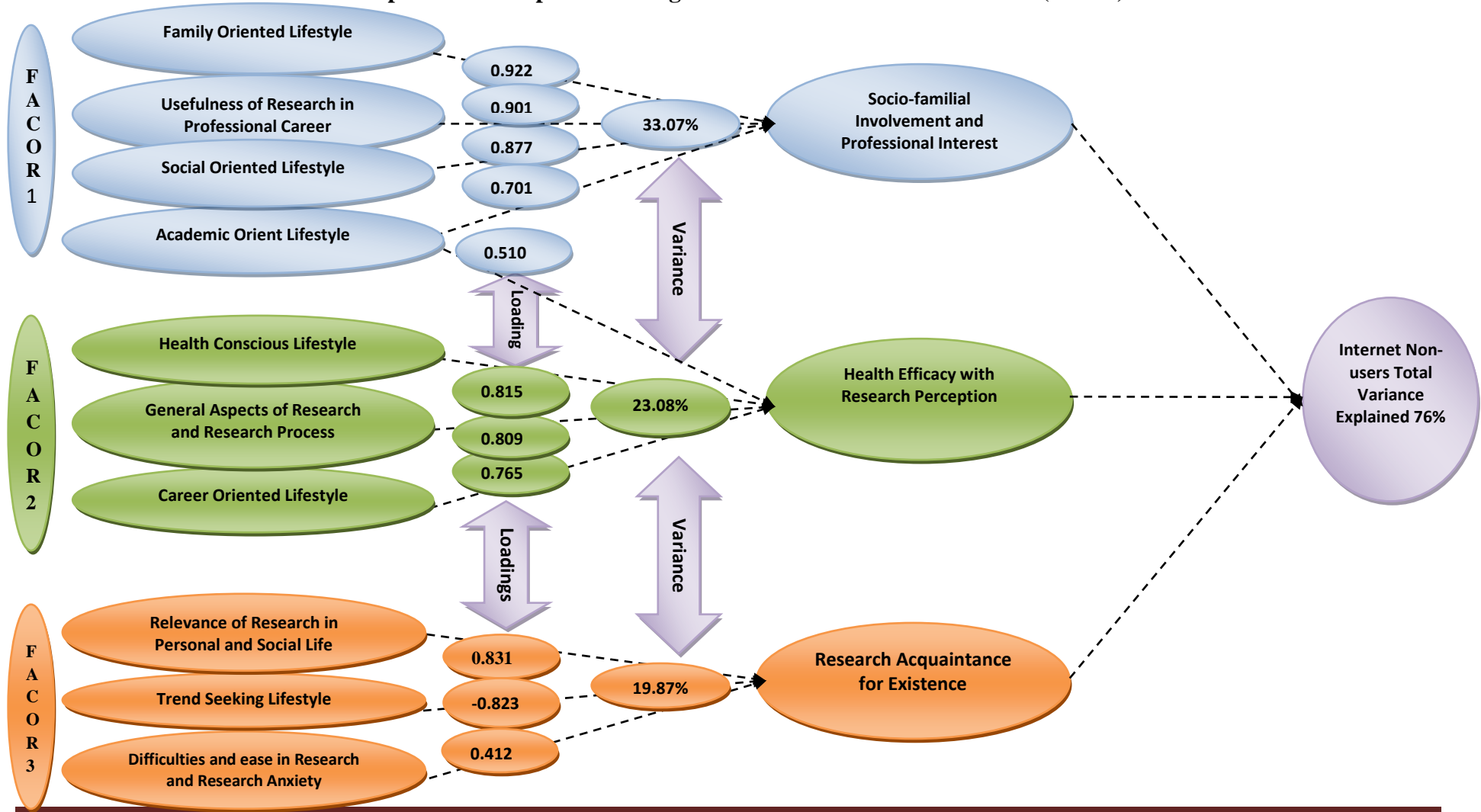
**Table No.4.44: Showing the Rotated Factor Matrix with Blocked out Values (Extraction Method) of Internet Non-users on various dimensions of lifestyle and Attitude towards Research (N=300)**

Variables	Rotated Factor Matrix <sup>a</sup>		
	1	2	3
FOLS	.922		
AURPC	.901		
SOLS	.877		
AOLS	.701	.510	
HOLS		.815	
AGARRP		.809	
COLS		.765	
ARRPSL			.831
TOLS			.823
ADRRA			.412

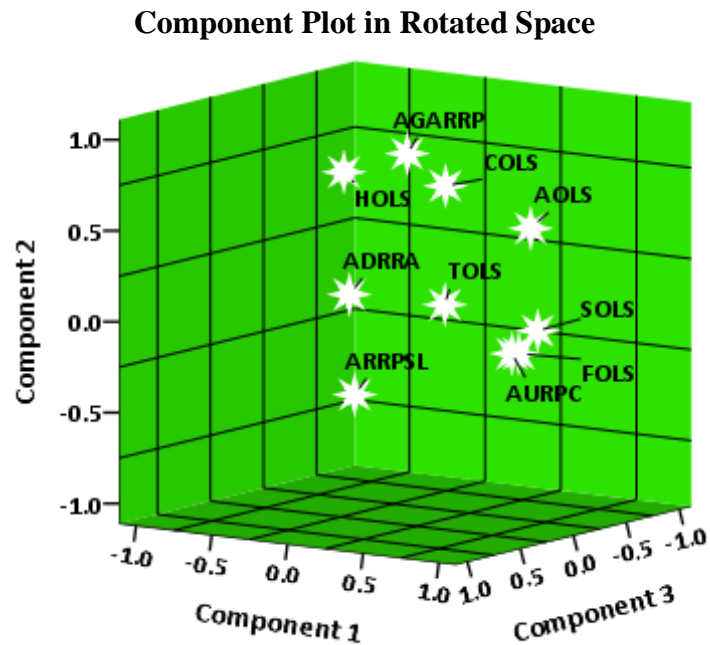
**Extraction Method: Principal Factor Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations**



**Fig. No. 44: Showing the results of the Total Variance Explained by the extracted Factors and the analysis of each of the 3 Factors clusters of variables proffers a recipe for naming the Factors of Internet Non-users (N=300)**



**Fig. No. 45: Showing a clear pattern of the loadings, with all Variables identified with 3 Factors of Internet Non-users (N=300)**



**Acronyms:**

(1) *HOLS*= Health Oriented Lifestyle. (2) *AOLS*=Academic Oriented Lifestyle. (3) *COLS*=Career Oriented Lifestyle. (4) *SOLS*=Social Oriented lifestyle. (5) *TOLS*=Trend Oriented lifestyle. (6) *FOLS*=Family Oriented lifestyle. (7) *AGARRP*=Attitude towards General Aspects of Research and Research Process. (8) *AURPC*=Attitude towards Usefulness of Research in Professional career. (9) *ARRPSL*=Attitude towards Relevance of Research in Personal and Social Life. (10) *ADRRA*=Attitude towards Difficulties in Research and Research Anxiety



Evaluation does not end just with the data collection and analysis to find out mean value or degree of satisfaction. Some value judgments should be made according to the evaluation criteria. At the same time, in order to make the useful recommendations, the factors that affect the results should, however, be carefully analyzed. Evaluation follows the process from “data collection” through “data analysis” to “interpretation and discussion of results”. So, the foremost task before the investigator, after the collection of data, is its compilation and careful tabulation followed by logical analysis and interpretation. This process leads the investigator to draw the meaningful inferences. Interpretation and discussion is a process by which meaning is attached to data. It is a process of making sense of numerical data that has been collected, analyzed and presented. It refers to the task of drawing inferences from the collected facts after an analytical or experimental study (Kothari, 2010). It is only through interpretation that the researcher can expose relations and processes that underlie his findings. Therefore, the purpose of data interpretation is to reduce it into an intelligible and interpretable form so that the relations of research problems can be studied tested and finally conclusions are drawn. On the other hand, when the researcher interprets the research results, he studies them for their meaning and implications (De Vos, 1998). It is further noted that the interpretation phase is to transform the data collected into the credible evidence about the development of the intervention and its performance. It is transformation of the collected information into credible evidence. Two steps are noted in the interpretation process: i) making value judgments about a project and ii) drawing of conclusions based on those judgments. In fact, it is a search for a broader meaning of the research findings which represent the application of deductive logic to the research process. The task of interpretation and discussion has two major aspects



i) the effort to establish continuity in research through linking the results of a given study with those of another and ii) the establishment of some explanatory concepts (Kothari 2010).

Interpretation and discussion of the research based observation is the central objective of any investigation. An investigator can better be appreciated in his stepwise stages of interpretation that can make others to understand the real significance of his research findings. Thus, interpretation and discussion is the device which explains, 'what has been observed by the researcher in the course of the study'. It also provides a theoretical base which may serve a sharp line for further researches. The present investigation provides an overall perception of the variables under investigation and has systematically been oriented in accordance with the research objectives and hypotheses (**Refer Page: 2**). For this purpose, the data collected was subjected to statistical treatment. Percentage and inferential statistical procedure was carried out to test the hypotheses and finally, the Principle Component Factor Analysis (PCFA) was used in line with the framework of the research study. Therefore, the present chapter is devoted to interpretation and discussion of the results which has been done objective wise. Keeping this criterion in view, the results obtained are interpreted and discussed in different captions which are delineated as:

## **SECTION A: DESCRIPTIVE ANALYSIS**

### **A1: Lifestyle, Academic Achievement and Attitude towards Research (Overall Groups)**

The data presented in **Table No. 4.00** shows the percent-wise distribution of the sample subjects (N=600) on different levels of lifestyle. A perusal of this table reveals that 6.17% of total sample were found in the category of *very high level* of lifestyle. 22.83% subjects were found to adapt *high level* of lifestyle. 34% subjects were found to adapt *above average level* of lifestyle. The table further reveals that 24.67% were reported to adapt *moderate level* of lifestyle. However, 9.33% subjects were found to adapt *below average level* of lifestyle and a meager percentage, (2.50%) and (0.50%) is observed in the category of *low level* and *very low level* of lifestyle respectively. The overall results reveal that highest percentage of sample subjects are placed in the *above average* category of lifestyle status followed by *moderate* and *high level* life style. The results are further represented in the pie-chart (**Fig.1**). A perusal of **Table No. 4.01** signifies the overall percent-wise distribution of the total sample under



investigation on different levels of Academic Achievement. It is observed that out of total sample, 2% are reported to be as *distinction holders*. The highest percentage in the category of first *division holders* is seen to be 71%. The analysis further reveals 22% students with *second division* and remaining 5% with third *division*. Therefore, overall percentage status reveals that a majority of the subjects exhibited good academic achievement. The results are further substantiated in the **Figure.2**. While discussing the percent wise status of the total sample on different levels of attitude towards research (**Refer Table No. 4.02**) indicates the overall percentage status of total sample on different levels of attitude towards research. The table reveals that 3.5% subjects are reported with *extremely favourable* attitude towards research. The results further reveal that 4.8% have *highly favourable* attitude towards research. 6% subjects seem to be with *averagely favourable*, 36.2% as *moderately favourable*, and 31% as *unfavourable* on attitude towards research. The results further revealed 16.5% with *highly unfavourable* and 2% with *extremely unfavourable level* of attitude towards research. The overall results revealed that a significant percentage of the subjects under investigation in the category of *moderately favourable* level on attitude towards research. The (**Fig.3, Page: 124**) gives the further understanding of the results.

## **A2: Lifestyle, Academic Achievement and Attitude towards Research**

### **(Internet-users and Non-users)**

**Table 4.03** gives details about the percent-wise distribution of Internet-users and Non-users on different levels of lifestyle. It has been revealed that in case of Internet-users the highest percentage (39%) seems to fall in the category of *above average level* of life style. 27% in the category of *high level* and 20% are reported to have inclination towards *moderate level* of life style. However, a small percentage of Internet-users i.e. 8.33% and 5% are reported in *very high* and *below average level* on life style respectively. Only 0.33 subjects of Internet-users have been reported to adapt a *low level* of life style. Whereas, in case of Internet Non-users, the percent-wise adaptability on lifestyle emerged as: 29% from each level as *above average* and *moderate level*, 18.67 % as *high level*, 13.67% as *below average*, 4.67% as *low level* and 4% as *very high*. None of the Internet-users has been found in the category of *very low level* of lifestyle. However, only 1% from Internet Non-users category is



reported to have leaning on very *low level* of life style. The comparative percent-wise distribution of the two groups under discussion revealed that a significant percentage of Internet-users are in the category of *above average level* of lifestyle. Therefore, it can be said that Internet usage is an important factor that influences the lifestyle of the university students. For further understanding see the figural representation (**Fig.4**)

With regard to percent wise comparison of Internet-users and Internet Non-users on academic achievement (**Refer Table 4.04**). The data revealed that in case of Internet-users, 85% are reported with *first division*, 8% with *second division*, 4% with *third division* and 3% with *distinction*. Whereas, 57 % subjects from Internet Non-user group are reported with *first division*, 36% with *second division*, 6% with *third division* and a negligible percentage (one Percent) with *distinction*. From these results it can be observed that Internet-users in comparison to Internet Non-users have an increasing trend in their academic achievement. Internet-users and Internet Non-users were further classified on different levels of attitude towards research (**Refer Table 4.05**) and it is revealed that 6% subjects Internet-users were observed to have *extremely favourable* attitude towards research as compared to Internet Non-users whose percentage is seen to be relatively as low as 1%. The results further revealed that 8% subjects with Internet usage were found to have *highly favourable* attitude towards research, whereas 1.67% Internet Non-users fall in this category. The results further showed 9% subjects from Internet-user group with *above average level* attitude towards research, which seems to be higher (3%) than Internet Non-users. The result also revealed 40% Internet-users with *moderately favourable* attitude towards research, which is comparatively, higher than Internet Non-users (32.33%). However, 27% subjects with Internet usability have been found with *unfavourable* attitude towards research whereas, comparatively a higher percentage (35%) of Internet Non-users are observed to fall in this category. It is worth to mention that only 10% Internet-users as compared to 23% Internet Non-users have been found to possess *highly unfavourable* attitude towards research. None of the Internet-users could be placed in the category of *extremely unfavourable level* on attitude towards research, except the Internet Non-users with 4% subjects. Percent-wise distribution of the two groups under discussion revealed that majority of Internet users fall in *moderate level* of attitude towards research as against to their counter parts.



Therefore, it can be said that Internet usage is an important factor that influences the attitude towards research of the subjects under reporting. The results are further presented in bar diagram (Fig. 6).

### A3: Sub-Group Analysis

#### i) (a) Lifestyle (b) Academic Achievement and (c) Attitude towards Research (Gender wise)

##### (a) Lifestyle: (Gender wise)

While analyzing the percent-wise comparison of male and female Internet-users on different levels of lifestyle (Refer Table 4.06). It could be noted that 10% Internet-users from male group were found to adapt *very high level* of lifestyle, whereas, in case of Internet-users from female group, relatively a higher percentage (14.66 %) is reported in this category. The data further reveals that 22% male Internet-users were found to adapt *high level* of lifestyle as compared to female Internet-users, whose percentage in this category is reported to be relatively higher (34%). The data further reveals that in case of male Internet-users, 30% were found to adapt the *above average level* of lifestyle, which is also relatively lower (40%) than female Internet-users. However, *moderate level* of lifestyle favours male Internet-users with 14.66% as compared to female Internet-users who are reported to be 4.67%. The data further confirms that 12.66% Internet-users from male group are seen to adapt *below average level* of lifestyle which seems to be higher as compared to female Internet-users (4%). It has been observed that 10% Internet-users (male group) have leaning towards the *low level* of lifestyle as compared to female Internet-users, whose percentage came out to be 2%. Both the genders are observed with similar percentage (0.67%) in the adaptation of *very low level* of lifestyle. Percent-wise comparison of the two groups reveals that a significant percentage of female Internet-users fall in *above average level* of lifestyle as against male Internet-users. Therefore, it can be said that gender difference is an important factor that influences the lifestyle of university students. The results are further shown in the Fig.7).

In order to find the percent wise classification (Refer Table 4.07) of the male and female Internet Non-users on different levels of lifestyle. It could be noted that 6% male Internet Non-users are reported to adapt a *very high level* of lifestyle, whereas, 12% Internet Non-users from female group fall in this category. 28.67% male Internet Non-users are reported to adapt *high level* of lifestyle as compared to female





Internet Non-users who are reported to be 32%. Description of the results further shows that 22% male Internet Non-users are found to adapt *above average level* of lifestyle as compared to female Internet Non-users whose percentage is seen comparatively lower i.e. 17.34%. However, *moderate level* of lifestyle favours male Internet Non-users corresponding to 18% as compared to 10 % of female Internet Non-users. The data further confirms that 6.67% (male) and 5.33% (female) Internet Non-users are reported to adapt *below average level* of lifestyle. It is worth to mention here that in case of male Internet-users 16% are reported to adapt *low level* of lifestyle, whereas 20% from female group fall in this category. A *very low level* of lifestyle has been reported in case of both the genders with 2.66% (male) and 3.33% (female). Percent wise comparison of these two groups under discussion revealed that both the groups experience to some extent similar lifestyle status. Therefore, it can be concluded that gender does among Internet Non-users differentiate them in their lifestyle. The (Fig. 8, Page: 129) gives further understanding of the results.

#### (b) Academic Achievement (Gender wise)

The results presented in Table 4.08 give information about the academic achievement of Internet-users (See Page: 130) on gender basis, it has been noted that male group of Internet-users are seen as *distinction holders and this percentage came out to be 6%*. 74% are found to be with *first division*; 18% with *second division* and the rest 2% with *third division*. Whereas, the academic achievement of female group of Internet-users emerged as: 8% with *distinction*; 86% with *first division*; 4.67% with *second division* and 1.33% with *third division*. From these results it can be inferred that gender superiority seems to exist between the groups of the Internet-users as far as academic achievement is concerned. However, the results reveal that female Internet-users excel in comparison to male Internet-users in their Academic achievement. Further, the percent wise distribution of male and female Internet Non-users on academic achievement has been carried out (Refer Table 4.09) and the results reveal that in case of male Internet Non-users, 5.33% are reported to be with *distinction*, 48% with *first division*; 42.67 % with *second division* and remaining 4% with *third division*. Whereas, the academic achievement in case of female Internet- Non-users emerged as: 7.33% as *distinction holders*; 64% with *first division*; 26% with *second division* and 2.67% with *third division*. The overall results conclude that female group



of Internet Non-users exhibited better academic achievement as compared to their counterparts. The **Fig.10** substantiates these findings for further understanding.

**(c) Attitude towards Research (Gender wise)**

While analyzing the percent wise distribution of male and female Internet-users on different levels of attitude towards research (**Refer Table 4.10**), the results reveal that 4% subjects from the group of male Internet-users were found *extremely favourable* on attitude towards research and 5.33% female Internet-users are reported to fall in this category. The data further reveals that 8.66% male Internet-users reported a *highly favourable* attitude towards research, which is comparatively lower than the female Internet-users (12%). The two groups were also found with similar distribution on *above average* and *favourable* level of attitude towards research with percent wise distribution of 24% and 25.33% respectively. Description of the results further depicts that 42% from male Internet-users' group and 33.34% from female Internet-users' group were found to have a *moderately favourable* attitude towards research. However, it has been observed that 14% male Internet-users are *unfavourable* on attitude towards research as compared to female Internet-users whose percentage on this level came out proportionally higher i.e. 18%. It is worth to be mentioned here that 5.34% male Internet-users are found *highly unfavourable* on attitude towards research as compared to female Internet-users, whose percentage is reported to be 3.33%. On *extremely unfavourable* level of attitude towards research, both the groups (Male=2% and Female=2.67%) were found approximately similar. Percent wise comparison revealed that majority of Internet-users (male group) exhibited a moderate level of attitude towards research as against the female Internet-users. Therefore, it can be said that gender influences the Internet-users in their attitude towards research. Further, percent wise comparison of male and female Internet Non-users on attitude towards research was carried out (**Refer Table No.4.11**) and it has been revealed that on *extremely favourable* level of attitude towards research, the percentage of both the genders is observed to be similar. The data further reveals that 6% subjects from the male non Internet-user group and 8% females from the same group were found *highly favourable* on attitude towards research. It has also been observed that both groups (Male= 10%; Female= 11.34%) are slightly similar in their percent wise distribution on the *above average* level favourable attitude towards research. Description of the



results further depicts that 40% male Internet Non-users and 30% female Non-users were found with *moderately favourable* on attitude towards research. Whereas, 22% male Internet Non-users are reported *unfavourable* on attitude towards research as compared to female Internet Non-users whose percentage is observed to be higher 28%. The two groups are also found with near similarity (Male=16%; Female=18%) in percent wise distribution on *highly unfavourable* level in the attitude towards research. It is worth to mention that only 4% male Internet Non-users, as compared to 2.66% female Internet Non-users, were found to have *extremely unfavourable* on attitude towards research. Percent wise comparison of the two groups revealed that majority of Internet Non users (male group) exhibited a *moderate level* of attitude towards research. Therefore, it can be inferred that gender difference among Internet Non-users in attitude towards research differentiate the subjects under investigation. The **Figs. 11 and 12 (Page: 133 and 134)** gives further understanding of the results.

### **A3: Sub-Group Analysis**

#### **ii) (a) Lifestyle (b) Academic Achievement and (c) Attitude towards Research (Faculty wise)**

##### **(a) Lifestyle (Faculty wise)**

The sub group analysis on the variable lifestyle between Internet-users and Internet Non-users was carried out faculty basis. The results of which are given in **Table No. 4.12 (Chapter 4<sup>th</sup>)**. The discussion of the results revealed the percent wise distribution of Internet-users and Internet Non-users (Science stream) on different levels of *lifestyle*. A perusal of this table reveals that 2% in case of Internet-users were found to adapt *very high level* of lifestyle whereas, 9% Internet Non-user group were found comfortably placed in this category. The data further reveals that in case of Internet user group, 12% have the *high level adaptability on* lifestyle as compared to Internet Non-users whose percentage is comparatively higher (28%). The observation of the results observed 25% Internet-users (Science stream) with *above average level* adaptability on lifestyle as against the 33% Non-users in similar category. The analysis further exhibits that in case of Internet user group, 27% adapt *moderate level* of lifestyle as compared to Internet Non-users with 11% distribution. However, in case of Science stream Internet-users, 23% were found with *below average level adaptability* on lifestyle, as against the Internet Non-users who are reported to be 10%. The two groups (user and non-user) were found almost equally similar on *low*



level of lifestyle with 9% and 8% distribution respectively. It is worth to mention here that on *very low level distribution* of lifestyle, both groups have been seen to adapt almost similar lifestyle with a percentage ration of 2: 1 respectively. Percent wise comparison of the two groups under discussion revealed a significant trend in case of Science stream Internet Non-users as against to Internet-user group. While discussing the percent wise comparison of Internet-users and Non-users belonging to Social science stream on different levels of *lifestyle*, **Table No.4.13** reveals that highest percentage (32%) of Internet-users from this stream have are placed in the *above average level* of Lifestyle as compared to 23% Internet Non-users from the same stream. The results further reveal that in case of Internet-users of social science stream, 30% are reported with a *moderate level* of adaptability on lifestyle in comparison to Internet Non-users whose percentage came out to be 29%. The percent-wise details in case of Internet-users from social science stream group in rest of the categories are: 17% as *high level*; 14% *very high level*; 4% *below average* and 3% *low level style*. None of the subjects could be placed in the category of *very low level* life style. However, in case of Internet Non-users group from the stream under discussion, the percent-wise details are: 18% as *below average*, 12% as *high level*, 10% as *low level*, and 4% as *very high level* on life style. Percentage comparison of the two groups reveals that a significant distribution of Internet-users from Social science stream reflects their presence on the *above average level* of life style. Further, percent wise comparison between Internet-users and Non-users (Arts Stream) on different levels of lifestyle has also been carried out. The results of which are reported in **Table 4.14 (Chapter 4<sup>th</sup> Page: 136)**. Analysis of the results reveals that in case of Arts stream Internet-users, 5% are reported with *very high level adaptability* on lifestyle as compared to the Internet Non-users, whose percentage is observed to be 11%. The analysis further shows that 21% from Internet-users and 38% Internet Non-users fall in the category of *high level* on lifestyle. Besides, in case of Internet-users, 23% were found to adapt *above average level* of lifestyle as compared to Internet Non-users whose percentage is found to be 29%. However, 27% and 18% subjects from Internet-user and Non-user group were reported to fall in the *moderate level* of lifestyle respectively. The data further reveals 16% Internet-users with *below average level adaptability* of lifestyle as compared to Internet Non-users, whose percentage is



observed to be 4%. It is observed that 5% subjects belonging to Arts stream (Internet-users) are reported to fall in the *low level* of lifestyle and none of the Internet Non-users could be placed in same category. It is also reported that 3% from Arts stream Internet-user group were found in *very low level* placement on lifestyle and none of the Arts stream Internet Non-users could find their entry in this category. Percentage comparison of the two groups reveals that a significant percentage of Internet Non-users from Arts stream reflect their existence on the *high level* option of lifestyle. Therefore, it can be inferred that Internet usage is an important factor that influences the lifestyle of Arts stream university students. These finding has also been reflected in **Figs. 13, 14 and 15**.

**(b) Academic Achievement (Faculty wise)**

While discussing the academic achievement of Internet-users and Non-users belonging to Science stream (**Refer Table 4.15**), it has been observed that 9% subjects from Internet-user group (Science Stream) were *distinction holders*; 71% with *first division*; 13% with *second division* and the remaining 7% with *third division*. The same table shows the percent-wise distribution on performance standard of Internet Non-users from the same stream as: 5% *distinction holders*; 51% *first divisioners*; 36% *second division* and 9% *third division*. From these results it can be inferred that Internet-users from Science stream excel in comparison to the Internet Non-users of the same stream in their academic achievement. Further, the percent wise comparison on academic achievement of Internet-users and Non-users (Social science stream) reported in **Table 4.16 (Page: 138)** reveals 11% Internet-users in the category of *distinction holders*; 81% with *first division*; 6% with *second division* and remaining 2% with *third division*. Whereas, the percent wise distribution of Internet Non-users from the same stream emerged as: 7% *distinction holders*. The results further revealed 60% subjects with *first division*; 29% with *second division* and 4% with *third division*. From these results, it has been revealed that Internet-users from Social science stream excel in comparison to Internet Non-users in their academic achievement. While analyzing the percent wise distribution of Internet-users and Internet-Non-users (Arts stream) on academic achievement (**Refer Table 4.17**), it is revealed that in case of Internet-users, 4% are seen as *distinction holders*; 43% as *first divisioners*; 39% with *second division* and 14% with *third division*. Whereas, the



percent-wise results in case of Internet Non-users emerged as: 8% with *distinction*; 55% with *first division*; 30% with *second division* and 7% with *third division*. Percent wise comparison revealed that majority of Internet Non-users (Arts Stream) exhibited better academic achievement in comparison to Internet-users of same stream. The graphical reporting also shows this differentiation in **Figs. 16, 17 and 18**.

**(c) Attitude towards Research (Faculty wise)**

A perusal of Table 4.18 gives the percent wise classification of Internet-users and Internet Non-users (Science stream group) on different levels of attitude towards research, the results of which are given in **Table 4.18**. The figures reveal that 9% Internet-users from science stream were found to have *extremely favourable* attitude towards research, as compared to the Internet Non-users whose percentage is reported to be 3%. The data further reveals that 15% subjects from Science stream Internet-users and 7% Internet Non-users were found to have *highly favourable* attitude towards research. 25% subjects from Science stream Internet-users were found *above average on* attitude towards research as compared to Science stream Internet Non-users, whose percentage is seen to be 11%. The results further depict that 37% Internet-users and 35% Non-users from the same stream are seen to have *moderately favourable* attitude towards research. However, *unfavourable* level of attitude towards research, Science stream Internet-users have been reported to be 10% as compared to Internet Non-users (32%). It is further observed that 3% subjects from Internet user category were *highly favourable on* attitude towards research in comparison to Internet Non-user group which corresponded to 10%. In *extremely unfavourable* level on attitude towards research, the two groups were found to be somewhat similar with 1% and 2% respectively. Percent wise comparison of the two groups under discussion revealed a significant percentage of Internet-users from the Science stream experience *moderately favourable* attitude towards research in comparison to Internet-user group. Therefore, it can be inferred that Internet usage is an important factor that influences the attitude towards research among Science stream Internet-users. While discussing the percent wise comparison of Internet-users and Non-users belonging to Social science stream on different levels of attitude towards research (**Refer Table No. 4.19**). It could be noticed that 10% subjects from Social science stream Internet-users group were found *extremely favourable on* attitude towards research, as



compared to Internet Non-users whose percentage distribution accounted to 3%. In the same table, 13% Internet-users and 6% Internet Non-users were found as *highly favourable*. 27% subjects belonging to Internet-users group and 20% from Non-users group were found with *above average level* on attitude towards research. Description of the results on attitude towards research further exhibited 29% (Internet-users) as *moderately favourable* as compared to Internet Non-users who were reported to be 22%. However, the percent wise distribution as *unfavourable* between users and non users on attitude towards research came out to be 15% and 37% respectively. It is worth to mention that only 4% Internet-users (Social science stream) had *highly unfavourable* attitude towards research as compared to Internet Non-users of the same stream (8%). On *extremely unfavourable level*, the two groups were found to have somewhat similar attitude towards research i.e. (2%) and (4%) respectively. Percentage comparison of the two groups reveals that a significant percentage of Social science stream Internet-users fall in *unfavourable level* of attitude towards research as against Social science stream Internet Non-users. Therefore, it can be inferred that Internet usage is an important factor that influences the attitude towards research among Internet-users and Internet Non-users. Further, percent wise comparison between Internet-users and Non-users (Arts Stream) on different levels of attitude towards research has also been calculated. The results of which are reported in **Table No. 4.20 (Chapter 4<sup>th</sup>)**. The results reveal that 8% Internet-users were found to have *extremely favourable* attitude towards research than Non-user group, who are reported to be 2%. The results further reveal 12% subjects with *highly favourable* attitude towards research in comparison to Internet -Non-users group (7%). 22% Internet-users and 13% Internet Non-users were found to have *above average favourable* attitude towards research. Description of the results further exhibit 44% subjects *moderately favourable on* attitude towards research in comparison to Non-users who are reported 35%. However, in *unfavourable* level of attitude towards research, the Internet-user group corresponded to 10% as compared to Internet Non-users who were observed to be higher i.e.33%. It is worth to mention that only 2% Internet-users and 8% Internet Non-users were found with *highly unfavourable* attitude towards research. None of the Internet-users could be placed in the *extremely unfavourable* level, whereas only 2% of Internet non-users claim their presence on the



same level. Results concluded that a significant percentage of Arts stream Internet-users experience *moderately favourable* attitude towards research as against Arts stream Internet Non-users. Therefore, it can be inferred that Internet usage is an important factor that influences the attitude towards research of Arts stream Internet-users. For further understanding of the results see figural representation (**Chapter 4<sup>th</sup>, Figs. 19, 20 and 21**).

## **SECTION B: COMPARATIVE ANALYSIS**

### **B1: Comparison between Internet-users and Non-users on: (a) Lifestyle (b) Academic Achievement and (c) Attitude towards Research**

#### **(a) Lifestyle:**

The comparative analysis of Internet-users and Internet Non-users on different components of lifestyle is reported in **Table No.4.21**. A fleeting look on this table reveals a significant mean difference between the two groups on all the six dimensions of lifestyle. An examination of the table further reveals that both the groups (Internet-users and Internet Non-users) differ significantly on the dimension of Health Oriented Lifestyle. The mean score in case of Internet-users is reported to be higher (M=30.06) as compared to Non-users (M=29.13). The obtained 't'-value came out to be significant at 0.01 level of confidence (t= 4.24). From these results, it is revealed that the Internet-users seem to adapt a better Health Oriented Lifestyle. The two groups are also seen to differ significantly on Academic Oriented Lifestyle. The mean score of Internet-users came out to be 26.42 and in case of Internet Non-users the mean score is reported to be 23.80. The obtained 't'-value (t=13.21) is reported to be significant at 0.01 level of confidence. It indicates that Internet-users have an adaptation to better Academic Oriented Lifestyle. The two groups were further compared on Career Oriented Lifestyle, and the mean score in case of Internet-users seem to be higher (M=24.94) than the mean score of Non-users (M=22.39). The obtained 't'-value is significant at 0.01 level of confidence (t=8.88). The mean difference favours the Internet user group which indicates their inclination towards better Career Oriented Lifestyle. With regard to Socially Oriented Lifestyle, Internet Non-users have been found with higher mean score (M=24.29) than Internet-users (M=22.30). The obtained 't'-value came out 14.82 which is statistically significant at 0.01 level. It can be inferred that Internet Non-users adapt better Socially Oriented





Lifestyle. The table further reveals a significant mean difference between the two groups on Trend Oriented Lifestyle. Internet-user group is observed with a higher mean score ( $M=19.93$ ) as compared to Internet Non-users ( $M=17.62$ ) on this dimension. The mean difference is significant at 0.01 level of confidence ( $t=9.93$ ). However, this mean difference favours the Internet-user group in comparison to the Non-user group. Both the groups of subjects were further compared on the Family Oriented Lifestyle. The results revealed Internet Non-users with higher mean score ( $M=39.93$ ) than the Internet-users ( $M=36.31$ ) on this dimension. The obtained 't'-value came out to be significant at 0.01 level of confidence ( $t=13.37$ ). It can be said that Internet Non-users have leaning towards better Family Oriented Lifestyle. Coming to the composite score of Lifestyle scale of the two group under investigation, the mean score of Internet-users is reported higher ( $M= 159.59$ ) than Internet Non-users who are observed to be lower on this dimension ( $M= 157.16$ ). The obtained 't'-value came out to be 4.62 which is significant at 0.01 level of confidence. This mean difference on composite score of lifestyle favours the Internet-user group. Therefore, it can be inferred that the Internet-users do have the claim in their better lifestyle. Besides, Internet-users were reported with better adaptability in Health, Academic, Career and Trend oriented Lifestyles. The findings revealed that Internet-users as: conscious in maintaining physical fitness, loaded with a fund of knowledge about health oriented issues, active in performing physical exercise to maintain their health, punctual in medical checkups by consulting health experts, engaged in dietary and hygienic related issues. Spending maximum time on studies like reading reference books along with text books, using frequent technological gadgets to get information, consulting library and watching academic programmes and good motivation for higher education have also been expressed by the Internet-user group. This group was also observed familiar about different career options as compared to non user ones. They were seen inquisitive in gaining knowledge pertaining to their career. Chatting on Internet, frequent involvement in going through the fashion magazines and preference for new fashioned outlooks was also found in case of Internet users. They were reported to be engaged in their daily mundane lives which include dress material, purchasing and enjoyment. They (Internet-users) were also observed to be



more conscious about career choices and were seen active in searching the right type of information which culminates in the solution of their academic problems.

***In the light of these results reported above, the hypothesis number one (Refer Chapter-1), which reads as, “There will be a significant difference between the mean scores of Internet-users and Internet Non-users on Lifestyle” stands accepted.*** As it has been found that both the groups of subjects are different with regard to different dimensions of lifestyle. The results are supported by a host of researchers in the field (Orose Leelakulthanit, 2013; Mitchell, *et al.* 2009; Lewis, *et al.* 2009; Asan & Koca, 2006; Chinwe, 2006; Escoffery *et.al*, 2005; Lloyd *et al.* 2007; Veenhof, 2006; Mesch, 2006; Morgan & Cotton, 2003; Kraut *et.al*, 2002; Ball, Kim & Matei, 2001; Katz *et al.*, 2001; Lenhart, Rainie, & Lewis, 2001; Ofosu, 2001; UCLA Internet, 2001; Nie & Erbring, 2000). Orose Leelakulthanit, (2013) found Internet-users more satisfied with their lives than the Internet Non-users. Internet Non-users, on the other hand, were seen to lack the ability to live the way they ought to value it, except for the aspect of family and social life. The study also found Internet usage as a source for gaining knowledge and information besides, ensuring healthy lifestyles. Mitchell *et al.* (2009) revealed information technology as a means of innovative practice. However, in order to promote healthy lifestyle, Internet has been acknowledged as a valuable means of health promotion. The results also found that Internet-users gain knowledge on nutrition, health and fitness topics. Lewis *et al.* (2009) reported interactive health communication more effective for the upward increase of knowledge with regard to adoption of healthier lifestyle. Health information acquisition behaviour has also been confirmed by Internet usage. The findings also revealed Internet usage and medical information positively correlated. To be health conscious, holding stronger health beliefs, and engaging in health related activities have also been confirmed in case of Internet users. The findings also confirm Internet usage as: information gathering tool; and an active viable mechanism for health segment. Asan & Koca (2006) revealed that Internet usage proved a way of life for the majority of higher education students all around the world. For most university students the Internet proved a functional tool which greatly changes the interactive process with others. Chinwe (2006) also established that majority of the students use the Internet for academic purposes. Using e-journals, e-libraries, e-books,



and online databases as academic resources for their related courses has also been confirmed. A positive association between students' Internet use and their learning strength has been proved significantly. *Escoffery et.al* (2005) found students' Internet usage positively related to health information. Acquiring of health information online and use of various search engines with multiple web sites has also been confirmed to be associated with Internet usage. On the other hand, Internet Non-users were found more inclined towards the Family and Socially Oriented lifestyles. It reflects that Internet Non-users remain in touch with the domestic affairs and share each and every moment of daily activity with their family members. Respect for their family setup and preference for family affairs has been the demand of Internet-users. Celebrating festivals, preference for tours with their family, participation in social activities and social gathering has also gone in their favour. In other words, Internet use minimises the participation of any one in major life activities like social relationships, attending friendship parties, and attending the family affairs. The main reason may be that the time spent on one activity can decrease the association of being on another activity. It has also been found that Internet use at home is negatively related with duration required to be spent with routine family affairs. Furthermore, the cause of sparing some time in familial matters was seen higher for Internet Non-user. Internet use (by students) on the quality of strong relationships with parents and friends has also been found negatively in agreement. Poor Internet usability has also been observed to be associated with better family and society relationships. Therefore, Internet not only becomes a replacement for social activities, but for the argument it becomes a replacement for the establishment of strong social relationships too. On the whole, it can be said that Internet use may lead to adverse effects and social damages among users. The results run parallel with the findings of *Lloyd et al.*, (2007) who established negative effects of Internet usage to social isolation, depression, loneliness, viz.a.viz. time management. Besides, increase in virtual interaction decreases the direction in face-to-face interaction among people and this in turn may lead to social isolation and depression. Internet communication as an impoverished form of social exchange as compared to traditional face-to-face interactions has a negative association on neighbourhood and community ties. Online activities have also been reported to decrease the social interaction, which otherwise are essential for



normal development. *Veenhof* (2006) found that those who spent time on the Internet during the day seem low in the establishment of neighbourhood relations as compared Internet non-users. *Mesch* (2006) revealed that time spent with regard to online participation was negatively related to the time spent in face-to-face interaction. The investigator further reported that online communication was less useful than face-to-face communication, and that Internet use was negatively related to the existing intimate relationships. Internet usage was found negatively related to family closeness, and positively related to family conflicts. *Morgan & Cotton* (2003) revealed that frequent online interaction decreases social support, family communication, and community participation. *Kraut et.al* (2002) found that the Internet use contributes a phenomenal decrease in the size of people's social circle because time used for the Internet seems to give rise to less social involvement. *Ball, Kim & Matei* (2001) reported that Internet-users spent a considerable amount of time on the Internet activities to ensure social interaction in other forms. Whereas, Internet Non-users spend good time on family activities. *Katz et al.* (2001) indicated that more the time Internet-users spent on-line; the more likely they are offline on religious and community organizations, as compared to nonusers. Internet-users were reported poor on: social tolerance, communication and quality social relationships. *Lenhart, Rainie, & Lewis* (2001) reported that Internet use does not help the students to improve their relationships with their parents and that the Internet demands time to be spent with their family members. *Ofosu* (2001) asserted that Internet-based social interactions were worse and less meaningful than the real life interactions. The researcher claimed that there is a strong association between Internet-dependence and dissociation. The respondents' lack of social support from friends and family in the real life was found to be contributory factor of their dependence on the Internet. Internet-dependents exhibited more shyness and were more conscious of their self-esteem than non-Internet dependents. Internet dependents expressed significantly more social and family loneliness as compared to non-Internet dependents. *UCLA Internet* (2001) reported that Internet use undermines well-being because online connections seem to be weaker than real-life connections. It has also been found that students with a higher score on Internet use had a higher degree of loneliness when compared to students who had a low degree or no use of Internet. *Nie & Erbring* (2000) reported that



Internet use “necessarily” takes time away from family and friends. It causes users to be addicted for hours on each day and is away from their family and friends, neighbourhood and community. The results further confirmed Internet use associated with negative personal and social developmental outcomes. These results contradict previous research which reports that: Internet-users express more positive pro-social attitudes (*Cole & Robinson, 2002; Liang & Wei, 2002*), frequent Internet use is associated with less pro-social attitudes (*Mesch, 2001*) than non-users. However, others suggest that Internet provides positive effects on socialization as it stimulates the closeness of existing interpersonal relationships by reducing restrictions of time and location (*Lenhart, Madden, & Hitlin 2005; Lenhart, Rainie & Lewis 2001*).

**B1: Comparison between Internet-users and Non-users on:**

**(b) Academic Achievement:**

**Table No. 4.22** depicts the significance of mean difference between the Internet-users and Internet Non-users on Academic Achievement. A comparative look of this table reveals that there is a significant mean difference between the two groups under investigation on academic achievement. The obtained ‘t’ value came out to be 11.80, which is significant at 0.01 level of confidence. Mean difference favours the Internet-user group ( $M=65.69$ ) as compared to Internet Non-users ( $M=61.25$ ). So, on the basis of these results, it can be inferred that Internet-users have higher academic achievement than their comparable ones. It could be seen that Internet provides quick access to users in study material, scholarly list serves, and databases which are located at different geographically remote institutions. It works as a valuable information source for university students. The results also revealed that Internet allows university students to broaden their academic experience, access important information and communicate to others within academic community. Internet-users further expressed that the Internet is more informative, useful, less expensive and time saving. It can be used in such forms as: books, library resources, or even field trips. University students find Internet usage as more informative than other information resources. It has made a tremendous impact on the academic activities of the students. They may be using the Internet activities (facilities) especially for seeking homework with the help of some search engines. Internet usage is an additional support to learning activities over



traditional print materials. Results revealed that Internet enables students to enhance their academic excellence.

***In the light of the results reported above, the hypothesis number two (Refer Chapter- 1), which reads as, “There will be a significant difference between the mean scores of Internet-users and Internet Non-users on Academic Achievement.” stands accepted.*** As it has been established that these groups are different from each other in their academic achievement. The findings are in agreement with the findings of a host of researchers in the field (Ali Zarqa, 2014; Ogedebe, 2012; Kashif & Nadeem, 2010; Boles, 2010; Shahin & Ercan, 2010; Osunade et al., 2009; Turner & Farmer, 2008; Oyedun, 2007; Schroder, 2007; Tella, 2007; Jackson *et al.*, 2006; Suhail & Bargees, 2006; Oliver, 2006; Zhao & Fitzgerald, 2006; Cheung & Huang, 2005; Isman & Dabaj, 2004; Hicks, 2002; Ojedokun, 2001).

Ali Zarqa (2014) found Internet-users and Internet Non-users with different perceptions. Internet usage as a healthy source to academic activities has not been agreed by the Internet Non-users. The popularity of Internet usage and offline and online educational gains were reported in agreement to each other. Ogedebe (2012) found that students in institutions of higher learning take advantage of the information available on Internet for their coursework. It was found to be a significant contributor to higher academic performance. Kashif & Nadeem (2010) indicated that students find the Internet more informative and unpaved to other information resources. They consider it easier than the written material. Majority of students feel comfortable and satisfied with the information they find on Internet. With the use of Internet learning process has become constructive because learners receive information actively rather than passive. Cooperative learning environment has also been seen as one of the offshoots of Internet usage. Boles (2010) found Internet as a powerful educational tool which affects students' performance. The investigator also found that students who use it one daily basis in the classroom or anywhere have excellent result than those who are otherwise. Internet-users are reported to be more motivated and successful than Internet Non-users. Shahin & Ercan (2010) noted that the students use the Internet for academic purposes. They use e-journals, e-libraries, e-books, and online databases as academic resources for their related courses. Osunade *et al.* (2009) found a significant difference between Internet-users and Internet Non-users on academic



performance and Internet access. *Turner and Farmer* (2008) revealed a higher learning outcome of students with Internet-based multimedia classrooms. 36 percent increase in grades, and 56 percent reduction in failures was also reported in the study. *Oyedun* (2007) observed that most of the university students found Internet services as a contributory factor of academic performance. Similar findings are reported by some other researchers (*Suhail & Bargees*, 2007). *Schroder* (2007) reported university students utilizing the services of Internet to communicate their teachers through emails; ask for clarification of their academic problems and get feedback. *Tella* (2007) found that most of the respondents use Internet for the purpose of obtaining course related information. Besides, the Internet usage has been found as a significant contributor to academic performance. *Jackson et al.* (2006) found that Internet and academic achievement in positive association. It was also found that students, with higher frequency on Internet, scored high on standardized test of reading achievement and had higher grades. Web based education was reported positive to satisfactory academic achievement. The effect of web based education, on attitude toward learning, suggested that web use has a positive effect mainly on motivation for learning and interest in the lessons. Other researchers are also in line with these findings (*Oliver*, 2006; *Zhao & Fitzgerald*, 2006; *Cheung & Huang*, 2005; *Isman & Dabaj*, 2004. *Hicks*, 2002; *Ojedokun*, 2001). However, other investigators have found negative effects of Internet use on academic outcomes (*Choi*, 2007; *Sirgy, Lee & Bae*, 2006). Some studies found computer and Internet as important tools for students' communication and entertainment (*Zhang & Jia* 2002). *Galuszka* (2007) revealed that the technologies, such as the Internet and computers, are not in widespread use for academic purposes. Some studies focused that students tend to use the Internet less for academic gains. *Asfaw & Bo* (2003) found that students use the Internet more for social activities like communicating with friends than for academic-related tasks.

**B1: Comparison between Internet-users and Non-users on:**

**(c) Attitude towards Research:**

The data presented in **Table No. 4.23** gives information about attitude towards research between Internet-users and Internet Non-users. The results revealed Internet-users with a higher mean score on General Aspects of Research and Research Process (M= 48.44) as compared to Non-users who are reported to have obtained a low mean



score on the same dimension ( $M= 45.42$ ). The obtained 't'-value was observed to be significant at 0.01 level of confidence ( $t=12.27$ ). The mean difference goes in favour Internet-users. From these results, it is revealed that the Internet-users have a favourable attitude towards the General Aspects of Research and Research Process. On another dimension i.e. Usefulness of Research in Professional Career, Internet-users were found with a higher mean value ( $M=33.74$ ) as compared to Internet Non-users ( $M= 30.62$ ). Both the groups were found to be different from each other at 0.01 level ( $t=15.73$ ). It can be inferred that Internet-users have a favourable leaning towards the Usefulness of Research in Professional Career. Internet-users were again compared on Relevance of Research in Personal Social Life. The mean score in case of Internet-users was reported to be 31.87 and in case of Internet Non-users it came to be 30.66. The obtained 't'-value came out to be is 5.98, which is reported significant at 0.01 level of confidence. It can be said that Internet-users have superiority over Internet Non-users on Attitude towards Relevance of Research in Personal Social Life. A quick observation of the results presented in table under discussion further shows a significant mean difference between Internet-users and Internet Non-users on Difficulties in Research and Research Anxiety. Although the mean score of Internet-users ( $M=40.70$ ) is seen slightly higher than Internet Non-users ( $M=39.04$ ) on this dimension, but the obtained 't' value established a significant mean difference at 0.01 level of confidence ( $t=5.49$ ). On this basis, it can be revealed that Internet-users do not experience Difficulties in Research and Research Anxiety. The analysis, on the basis of overall results (by considering Composite Score) of both the groups under discussion, has shown a higher mean score in case of Internet-users ( $M=154.75$ ) as compared to Internet Non-users ( $M=145.74$ ). The overall results favoured superiority of Internet-users on Attitude towards Research to Internet Non-users. Internet-users were found with a favourable tendency in the attitude towards research. So, it can inferred that Internet-users may be favourable towards: the General aspects of research and research process, Useful in research based career, Relevance of research in personal social life and sorting out difficulties in research and research anxiety. However, Internet Non-users did not show any favourable attitude towards any of the dimensions on attitude towards research. It may be inferred that that Internet-users' possess a favourable attitude towards the concept of research, research





process and current scenario of research activities. They believe that research work does not impose any extra workload on them. They have awareness about the importance of the position of the supervisor with whom the research work is carried out. Development of cordial relationship with their research supervisor during research period and publishing of research findings has been found in positive association among Internet user group. Essentiality to publish research findings, in order to enhance the authenticity and acceptability of research works within academic community has also been seen among Internet users. There is a strong belief among Internet-users that research requires an expert, accurate and systematic observation. Internet-users showed positive feelings towards the significance and usefulness of research and research findings in the field of their study besides, career and profession. Research as an essential requirement for the improvement of process and practice of education at any grade level has also been favourably expressed by Internet-user group. Research as an effective means in becoming a successful educator has also been expressed by Internet-users. They feel that research provides insight to solve the related issues of their career and profession. They are observed to be constructive about the relevance of research and research-related activities in their personal and social life. Further, they are seen favourable in their attitude towards the application of research methods. They feel that knowledge acquired through research is more useful in their lives as compared to knowledge gained through reading some literature. They are seen to utilize research approaches in their lives and consider that research as highly relevant and beneficial for their personal and social lives. They feel at ease by engaging themselves in different sorts of theoretical and practical research-related activities and are comfortable in performing research and scholarly activities. They understand the methodology of conducting research works, are aware about the steps to be followed in pursuing a small research project. On the other hand, Internet Non-users' attitudes towards research could not attribute them with positive feeling about research. Research as a herculean task was the opinion of Internet Non-users. Concepts of research and its importance in their personal and professional life were also reported by these subjects. So, it can be concluded that Internet has an impact on research interest of the university students. It heralded the development and implementation of new and innovative research strategies among higher education



students. Findings also focus that Internet usage is a functional tool, which changes the perception of users to interact with others as an when they embark in carrying studies. They use Internet to accomplish a wide range of academic tasks and prepare course assignments, make study notes and process the data for their research projects. The results have also shown that given the opportunity to use Internet helps the user to seek and obtain scholarly material. This opportunity may lead them to communicate each other: email details, mailing lists and finally formation of new groups and chat rooms besides, exchanging emails with the faculty members, peers, and experts at any distance. They are seen up to-date in their fields on the Internet, with a variety of web sites. Access to library catalogs, bibliographic databases, and other academic resources in text form, graphics, and imagery on the World Wide Web has been observed among Internet-users. The Internet-users have expressed their feeling that Internet usage may prove helpful to them in the compilation of data in time.

***In the light of the results reported above, the hypothesis number three (Refer Chapter- 1), which reads as, “There is significant difference between the mean scores of Internet-users and Internet Non-users on Attitude towards Research” stands accepted.*** As it has been observed that significant mean differences existed between the Internet users and non users. These results agree with the findings of other studies (Fasae & Aladenyi’s, 2012; Sakina Bashir, 2011; Agarwal & Dave, 2009; Kamba, 2008; Tella, 2007; Adegboji & Toyo, 2006; Asan & Koca, 2006; Genoni, *et al.*, 2006; Massaquoi, 2006; Penny, 2006; Yusuf, 2006; Cheung & Huang, 2005; Jagboro, 2003; Kode & Kode, 2003; Ramayah *et al.*, 2003; Steve Jones & Madden, 2002; Kuh & Hu, 2001; NCES & CAUL, 2001; Nardi, 1996).

*Fasae & Aladenyi* (2012) observed that students use Internet for research more than for communication and entertainment. Students use Internet because of the perceived effectiveness of the facility in information access on assignments and research projects. *Sakina Bashir* (2011) revealed that university students use Internet technology for course related reading and research needs. *Agarwal & Dave* (2009) found that students depended on the Internet as preferred a source of research information. The findings further revealed that Internet usage is important and beneficial to research through the downloading of study materials. *Kamba* (2008)



revealed that the only way to pursue knowledge is through research and the Internet seems to have a profound impact on research process and dissemination of information. *Tella* (2007) reported that Internet is an important source of information for learning and research especially for the students in higher learning institutions. It allows students to broaden their academic experience, access important information and communicate with others within the academic community. *Adegboji & Toyo* (2006) revealed that Internet contributed significantly to the ease of research difficulties through downloading materials. *Asan & Koca* (2006) reported that Internet is appealing to higher education for a number of reasons: reduces the time lag between the production and utilization of knowledge; promotes international co-operation and exchange of opinions; sharing of information; and promoting multidisciplinary research. *Genoni, et al.* (2006) indicated that research scholars were positive regarding the usefulness of the Internet for research purposes and for expanding their scholarly community. *Massaquoi* (2006) also confirmed that 84 percent of journal articles and 97 percent of completed research works are now available on the Internet. He adds that making use of the Internet helps in conducting research, publishing articles and exchanging ideas. *Penny* (2006) reported that Internet is more informative, relatively fast and accessible 24 hours a day. It has a wide base that allows access to an enormous range of research information either as full publications, reports, summaries or abstracts. *Yusuf* (2006) stated that the Internet provides a wide range of opportunities for easy access of relevant and current literature, wide range of instruments, and online opportunity for validation of instrument, simulation of an on-going research, and so on. He further reported that collaboration of research (trans-institutional, trans-national and trans-continental) is possible. *Cheung & Huang* (2005) found that Internet usage among university level students' correlated positively with general learning and have positive attitude towards learning through the Internet. *Jagboro* (2003) asserted that the Internet was the fourth most important resources for material among the postgraduate students with respondents using the Internet to access research materials and for email. *Kode & Kode* (2003) revealed that the craving for the Internet stems from its central role in ICT with access to free online journals, magazines, and other information resources anytime and from anywhere for academic and research purposes. *Ramayah et al.*



(2003) found that most students use Internet because of the perceived effectiveness of the facility in information access on assignments and research projects. *Steve Jones & Madden* (2002) indicated that the Internet played an important role in universities student's education. It has had an impact on their university experience and acts as a functional tool which helps them to communicate with faculty and access library materials. University students use Internet technology for course related reading and their research needs. *Kuh & Hu* (2001) revealed that surfing the Internet for course material had positive net effects on intellectual development and vocational preparation, in addition to personal development of college and university students. *NCES & CAUL* (2001) reported that higher education students used Internet for course related research. They relied mostly on Internet sources for the big project they downloaded study aides from the Internet. *Nardi* (1996) revealed that Internet usage is expanding the boundaries of the research field, as this technology enables students to conduct qualitative research beyond the limits of real-time, single location, physical settings, into the realm of cyberspace.

**B2: Comparison between Internet-users and Internet Non-users (Gender wise) on: (a) Lifestyle (b) Academic Achievement and (c) Attitude towards Research**

**(a) Lifestyle:**

A close look of **Table No. 4.24** shows the significance of difference between the mean scores of male and female Internet-users on various dimensions of Lifestyle. The two groups have been found significantly different on three out of six dimensions of lifestyle. Analysis of data reveals that male and female Internet-users differ significantly on Academic Oriented Lifestyle. The mean score in case of female Internet-users is reported to be higher ( $M=26.62$ ) than the group of male Internet-users ( $M=25.09$ ). The obtained 't'-value is significant at 0.01 level of confidence ( $t=4.31$ ). It can be inferred that female group of Internet-users have shown good adaptation towards Academic Oriented Lifestyle. With regard to Career Oriented Lifestyle, the mean score of Internet-users has been seen to be higher ( $M= 26.25$ ) than the female group of Internet-users ( $M=23.75$ ). The calculated 't'-value is significant at 0.01 level of confidence ( $t=4.91$ ). It may be inferred that Internet-users adapt a better Career Oriented Lifestyle. The Two groups are also reported to differ



significantly on Trend Oriented Lifestyle. The mean difference is statistically significant at 0.01 level of confidence by favouring female group of Internet-users with a higher mean value (M=22.76) than male Internet-users (M=21.45). The obtained 't'-value is came out to be 4.22 which favours in the establishment of favourable a Trend Oriented Lifestyle among the female subjects with Internet usability tendency. However, the results further report that in rest of the three dimensions of lifestyle i.e. Health Oriented Lifestyle, Socially Oriented Lifestyle and Family Oriented Lifestyle; the difference between the mean scores of the two groups failed to arrive at any level of significance. This can be said that male and female group of Internet-users have more or less similar Lifestyle with respect to the Health, Socially and Family Oriented Lifestyle. Coming to results of male and female Internet-users on the composite score of Lifestyle scale, the mean difference could not be established. It can be inferred that both the groups have tendency towards to an equal extent in their lifestyle.

While comparing the lifestyle of male and female Internet Non-users (**Refer Table No.4.25**) the results revealed a significant mean difference between male and female Internet Non-users on various dimensions of Lifestyle. The two groups have been found significantly different on three out of six dimensions of lifestyle. The Table further reveals that the male group of Internet Non-users have a higher mean score (M=27.80) on Health oriented Lifestyle than female Internet Non-users who are seen to have obtained a lower mean score on this dimension (M=25.30). The obtained 't' value has been found significant at 0.01 level of confidence (t=5.10). From these results, it is revealed that male Internet Non-users have better adaptation towards Health Oriented Lifestyle. On the other hand, two groups have been reported to differ significantly on the dimension of Socially Oriented Lifestyle. The mean score of male group of Internet Non-users has been seen lower (M=23.56) than the group of female Internet Non-users (M=24.35). However, this difference seems to favour female Internet Non-users at 0.01 level of confidence (t= 2.97). So, it can be inferred that the female Internet Non-users have a leaning to better Socially Oriented Lifestyle. On the 6<sup>th</sup> dimension of Lifestyle (Family Oriented Lifestyle) female Internet Non-users have been observed with a higher mean score (M=40.59) than male Internet Non-users (M=37.83). The calculated 't'-value is reported to be significant at 0.01 level (t=5.87).



It can be said that female Internet Non-users have an excellent adaptation towards Family Oriented Lifestyle. However, in rest of the three dimensions-Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle the difference between the mean scores turned out to be insignificant. This can be said that the male and female Internet Non-users have more or less similar lifestyle on these three dimensions of Lifestyle. With regard to the composite score of Male and Female Internet Non-users, the mean difference could not be established. It could be observed that both the groups have tendency towards to an equal extent in their lifestyle. It can be inferred that the two groups differ significantly from each other on three out of six dimensions of lifestyle, i.e. Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle. However, the two groups failed to arrive at any level of significance on overall lifestyle (composite score). Female Internet-users were found with better adaptability on Academic and Trend oriented lifestyle, whereas, male Internet-users have shown good adaptation towards better career oriented lifestyle. In rest of the three dimensions of lifestyle, the difference between the mean scores of the two groups could not be established. This can be said that male and female Internet-users have more or less similar lifestyle with respect to the Health Oriented Lifestyle; Family Oriented Lifestyle and Socially Oriented Lifestyle. While comparing the lifestyle of male and female Internet Non-users, it has been found that the two groups seem to be different from each other on three out of six dimensions of lifestyle, i.e. Health oriented lifestyle, Socially oriented lifestyle and Family oriented lifestyle. On the composite score, the mean differences between the two groups failed to arrive at any level of significance. Male Internet Non-users have been found inclined to better Health oriented lifestyle as compared Non-users. They were found inclined to Socially oriented and Family oriented lifestyle. In rest of the three dimensions i.e. Academic oriented lifestyle, Career oriented lifestyle and Trend oriented lifestyle, the difference between the mean scores of the two groups could not be established. So, it can be revealed that gender variation do not exist to differentiate the Internet-users and Internet Non-users on lifestyle at any level.

***In the light of these results reported above, the hypothesis number four (Refer Chapter- 1), which reads as, "There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Lifestyle on the***



*basis of gender.” rejected.* The results are in consonance with findings of various researchers (Chen and Tsai, 2007; Durndell & Haag, 2002; Shaw & Gant, 2002; Jackson *et al.*, 2001; Houtz & Gupta, 2001; Tsai, Lin & Tsai, 2001; Lindsay & Larry, 2002; Odell, Korgen *et al.*, 2000).

Chen and Tsai (2007) found that online learning helps both male and female students in becoming imaginative and collaborative learners. It has been confirmed that any online learning experienced by any Internet user requires the interest and welfare of the students regardless of their gender. Durndell & Haag (2002) could not find consistent evidence between male and female Internet users. Shaw & Gant (2002) found no gender differences among on liners in dyadic chat sessions. Jackson *et al.* (2001) could not provide consistent evidence for the presence or otherwise of a gender gap in Internet use across different groups on gender basis. Houtz & Gupta (2001) found significant gender differences on the basis of ability to master technology skills. Both the genders, however, viewed computers as a useful tool and equally believed that computers with positive effects on them. Tsai, Lin and Tsai (2001) reported similar results in their study which showed no significant gender differences in the perceived usefulness of the Internet. Lindsay & Larry (2002) reported significant mean differences between men and women in using and communicating through Internet. Odell, Korgen *et al.* (2000) asserted no gender discrepancy in Internet usage among students. These researchers discovered Internet use as positively correlated with steep decline in communication between participant family members. They also found that participants using Internet were likely to experience a reduction in their local and distant social networks.

## **B2: Comparison between Internet-users and Non-users (Gender wise) on:**

### **(b) Academic Achievement:**

The result presented in **Table No. 4.26** depicts the significance of mean difference between the male and female Internet-users on academic Achievement. A comparative look at the table reveals that there is significant difference between the mean score of the two groups on academic achievement. The obtained ‘t’ value came out to be 2.73, which is significant at 0.01 level of confidence. However, this mean difference favours female Internet-users (M=66.37) as compared to male Internet-users (M=61.25). So, it can be said that the female Internet-users possess higher academic achievement than males. On the other hand the comparison between male



and female (Internet Non-user group) **Refer Table No. 4.27** depicts the significant difference between the mean scores of the two groups on academic achievement. The obtained 't' value came out to be 4.48, which is significant at 0.01 level of confidence. Mean difference favours female Internet Non-user group (M=62.49) as compared to male Internet Non-users (M=60.03). So, it can be inferred that female Internet Non-users possess a higher academic achievement. The comparative analysis of Internet-users was carried out to find gender variation on academic achievement. The results revealed significant difference between the mean scores of Internet-users on academic achievement. Female Internet-users were found to possess higher academic achievement as compared to male ones. While comparing the Internet Non-users from both the genders; it has been found that female Internet Non-users attained a higher Academic achievement.

*In the light of these results reported above, the hypothesis number five (Refer Chapter -1), which reads as, "There will be a significant gender variation of Internet-users and Internet Non-users on their Academic Achievement" stands accepted.* These results are in consistent with other researchers (Jones *et al.*, 2009; Chen & Peng, 2008; Liu & Huang, 2008; Ofcom, 2008; Harold & von Eye, 2008; Jackson *et al.*, 2006; Murphy & Beggs, 2003; Glenn, 2001; Weiser, 2000; Niemivirta, 1997).

Jones *et al.*, (2009) reported that female university students use Internet for communication and academic purposes more than male counterparts. However, male Internet users are reported to use the Internet for leisure and entertainment more than female counterparts. Chen & Peng (2008) reported that female students use Internet to search information and use it for educational purposes. On the other hand, male students were observed to use the Internet for play games. Liu & Huang (2008) found gender differences in web searching materials, with focus on the online reading environment. The findings revealed a significant difference between Internet users and non users on gender basis. Female readers have been found with strong preference for paper as a reading medium than male readers. They were reported to use Internet for searching information of educational nature. Ofcom (2008) reported that girls are significantly different than boys in Internet usage for school work. That girls use ICT for educational purposes to a greater extent than boys. Harold & von





Eye (2008) indicated that girls are more frequently and intensely observed to use the Internet for online classes and cyber learning than boys. The findings found that females seem more likely than males in the use of the Internet for academic purposes. Jackson *et al.* (2006) focused on Internet use and suggested a positive causal relationship between Internet use and academic performance. Murphy and Beggs (2003) reported that girls were more positive than boys regarding the educational utility of the Internet. Glenn, (2001) concluded that web based education has a positive effect on the improvement of academic achievement. The effect of web based education on attitude toward learning suggested that web use had positive effects mainly on motivation for learning and interested in the lessons. In web based instruction, it is a fact that student' interests and needs vary greatly when compared with the traditional learning approaches. Weiser (2000) revealed that men were more likely than women in the use of Internet which may be related to entertainment and leisure. Females on contrary used it primarily for interpersonal communication and educational assistance. Niemivirta (1997) found that there is a difference in academic interest between genders with males more extrinsically motivated than females.

**B2: Comparison between Internet-users and Non-users (Gender wise) on:  
(c) Attitude towards Research**

The data reported in **Table No.4.28** gives information about the mean comparison of Internet-users between male and female group of subjects on different dimensions of Attitude toward Research. Higher mean has been observed in case of male Internet-users (M=49.61) on General aspects of Research and Research Process as compared to female Internet-users (M=48.61). The obtained value is reported to be 1.96 which exceeds the table value at 0.05 level of confidence. From these results, is observed that male Internet-users seem to enhance the attitude towards the General aspects of Research and Research Process in a favourable agreement. With regard to the Usefulness of Research in professional Career, the mean score in case of male Internet-users came out to be 32.77; whereas the mean score of female group of Internet-users is reported to be 31.57. The obtained 't' value has been found significant at 0.01 level of confidence (t=2.65). From these results, it is revealed that the male Internet-users have a favourable attitude towards the Usefulness of Research in Professional Career. The two groups were compared on the Difficulties in Research and Research Anxiety. The mean difference favoured the male group of Internet-users



( $M=39.63$ ) than the female Internet-users ( $M=38.55$ ). The obtained 't'-value came out to be 2.11 which is significant at 0.05 level of confidence. So, it can be said that male Internet-users do not complain about the Difficulties in Research viz. a viz. Research Anxiety. Although a slight mean differentiation was observed between male and female Internet-users on Relevance of Research in Personal Social Life, yet this differentiation turned out to be insignificant ( $t = 0.30$ ). With regard to the composite score on Attitude towards Research between the two groups under reporting, the male group of Internet-users was comparatively better ( $M=152.78$ ) than the female group ( $149.35$ ). Since the calculated 't'-value ( $t=2.74$ ) exceeds the table value by a small margin, but was found to be significant at 0.05 level. It can, however, be safely concluded that composite score on attitude towards research led in the establishment of favourable attitude among male group. On the other hand, a careful glance of the results reflected in **Table No.4.29** gives information about male and female Internet Non-users on attitude towards research. The two groups were found significantly different on General Aspects of Research and Research Process. The mean score in case of female Internet Non-users has been found to be higher ( $M=45.71$ ) than the male Internet Non-users ( $M=43.88$ ). The obtained 't' value on this dimension has reported a significant statistical mean difference ( $t=3.87$ ). The findings revealed female Internet Non-users with a favourable attitude towards the General aspects of Research and Research Process. The mean comparison on third dimension i.e. Relevance of Research in Personal Social Life between Internet Non-user groups of both the gender revealed a significant difference. The mean score of male Internet Non-users is reported higher ( $M=32.01$ ) in comparison to female Internet Non-users ( $M=30.43$ ). The obtained 't' value is significant at 0.01 level of confidence ( $t=3.13$ ). So, it can be inferred that male Internet Non-users have favourable attitude towards the Relevance of Research in Personal Social Life. However, in rest of the two dimensions – i) Attitude towards the Usefulness of Research in Professional Career and ii) Difficulties in Research and Research Anxiety, the difference between the mean scores of both the groups could not be established. This can be said that male and female Internet Non-users have more or less similarity on Attitude towards the Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety. With regard to the Composite Score on attitude towards Research,



the two groups have been reported equally inclined to each other. Although the mean score in case of male Internet Non-users seems to be slightly higher ( $M=146.32$ ) than female Internet Non-users ( $M= 145.89$ ) yet this difference could not place any of the groups in order of superiority. It has been found that Male and female (Internet-user group) differ significantly on attitude towards research. Male Internet-users were found to have a favourable tendency towards the General aspects of research and research process, Usefulness of research in professional career and Difficulties in research and research anxiety. However, female Internet-users did not show any favourable attitude towards any of the dimensions on attitude towards research. It may be said that male Internet-users' shows favourable attitude towards the concept of research, research process, and current scenario of research works. They believe that research work does not impose any extra workload on them. They are well-known about the essentiality to publish the research findings in order to enhance the authenticity and acceptability of research works within academic community and have a strong feeling that research requires an expert, accurate and systematic observation and have positive feelings with regard to significance and usefulness of research in their professional life and career. They have positive feelings with regard to significance and usefulness of research and research findings is useful for their field of study and for their career and profession. They consider research skill would be helpful for their future and believe that research projects should be an integral part of every post graduate course. They have constructive outlook and feel that research is essential to improve the process and practice of education at any level. They think conducting research is an effective means to become a successful educator. They believe that research provides them insight to solve the related issues of their career and profession. They feel stress-free when they engage themselves in different sorts of theoretical and practical research-related activities. They feel comfortable to get engaged in research and scholarly activities and love to work on research projects and have much interest in research and research related activities. They understand the methodology of conducting the research works and are aware about the steps to follow in pursuing a research project. They easily understand research reports and engage themselves in discussions about research. In one of the dimensions, the difference between the mean scores of the two groups could not be established. This



can be said that both the groups have more or less similar Attitude toward the Relevance of research in personal social life. Both the groups were found to have constructive ideas about relevance of research and research-related activities in their personal and social life and have shown a favourable attitude towards the application of research methods/processes. They feel that knowledge acquired through research seems to be more useful as compared to knowledge gained through reading some literature. They try to employ research approaches in their lives and consider that research is highly relevant and beneficial for their personal and social lives. They also believe that society gets benefited from research and makes them systematic and hardworking in their daily life. While comparing the male and female Internet Non-users on different dimensions of Attitude towards Research, **(Page:151)** the two groups were found significantly different from each other on two out of four dimensions of attitude towards research and in rest of the two dimensions; the mean difference between the two groups could not be established. The mean score of Internet-users (male group) is reported to be higher on Relevance of research in personal-social life and on the other hand, Internet Non-users (female group) were seen favourable towards the General aspects of research and research process. Constructive ideas about the relevance of research and research-related activities in personal and social life, knowledge acquired through research has gone in favour of male Internet users. They employed research approaches in their lives and feel research related activities as highly relevant and beneficial for their personal and social life. Whereas, female Internet Non-users were reported favourable towards the concept of research, research process, and current scenario of research works. The importance of the position of supervisor in research works, development of cordial relationship with the research supervisor during research process has been expressed by female Internet Non-users. They believed that research requires an expert, accurate and systematic observation. Publishing of research findings, to enhance the authenticity and acceptability of research works within academic community has also been reported to be in agreement with Internet Non-users (female group). With regard to other two dimensions i.e. Usefulness of research In professional career and Difficulties in research and research anxiety, the difference between the mean scores between the two groups could not be established. This can be said that male and



female Internet Non-users have more or less similar attitude towards the usefulness of research and research findings in their field of study, besides their career and profession. Both the groups consider research skill as helpful for their future and believe that research projects should be an integral part of every post graduate course. Both the groups had a feeling that research is essential to improve the process and practice of education at any grade level. Greater inclination to work on research projects and other research related activities has also been expressed by both the genders of this group under discussion. From the above discussion, it can be said that the Internet-users are significantly different on attitude towards research as compared to the Internet Non-users. The findings support previous claims of researchers with the observation that females are less frequent in Internet usage as compared to males, and that former have less positive attitudes, and greater anxiety towards technology. Both the genders, however, viewed computers and Internet as a useful means and equally believe that Internet and computers have positive effects on individuals and society. Female students have shown significantly lower confidence than males when it came to see their ability in using computers. Females were observed helpless, nervous and uncomfortable around the computers. Females tend to go online for a narrower range of topics, while males tend to engage in a broader range of activities. Females may not be looking for certain types of material on the Web; because they do not think they would be successful. Mean differences have been reported in attitudes toward Internet searching and Internet usage patterns between male and female although both genders have little difference in general attitudes toward the Internet. Males tend to be more familiar with the computers and Internet as compared to females. Male Internet-users perceived research relevance towards life significantly better than female students. Therefore, male and female may differ significantly in their attitudes towards technological abilities. ***In the light of these results reported above, the hypothesis number six (Refer Chapter -1), which reads, “There will be a significant gender variation of Internet-users and Internet Non-users on their Attitude towards Research.” stands partially accepted.*** The results are supported by a host of researchers in the field (Saleem & Waheed, 2014; Saleem & Nasrrin, 2014; Butt & Shams, 2013; Anyira, 2013; Tao Hu *et al.*, 2012; Lindsay, Breen & Jenkins, 2010; Correa, 2010; Jones *et al.*, 2009; Meraz, 2008; Peng, Tsai & Wu, 2006;



Fallows, 2005; Richard Joiner *et al.*, 2005; Gross, 2004; Madell & Muncer, 2004; Cooper & Weaver, 2003; Ono & Zovodny, 2003; Williams & Coles, 2003; Ford & Mosa, 2001; Gardner & Schmitt, 2001; Heimrath & Goulding, 2001; Morahan Martin, 2001; Rahmani *et al.*, 2001; Delucchi, 2000; Gattiker & Bohmann, 2000; Nachmias & Shemla, 2000; Sherman *et al.*, 2000; Weiser, 2000; GVU Centre, 1998; Ford & Miller, 1996).

*Saleem & Waheed* (2014) confirmed different research preferences associated between male and female students. Similarly, male and female students reported different approaches in the accomplishment of their academic research. *Saleem & Nasrrin* (2014) also found gender as a significant contributory in research aptitude of university students. *Butt & Shams*, (2013) supported that males show positive attitudes towards research than the females. A possible reason for this finding may stem from the fact that males assume research as useful activity for their professional career. *Anyira* (2013) found a significant gender difference between male and female on use of Google. The difference is reported to favour male group. *Tao Hu et al.* (2012) found gender differences in Internet usage perceptions among university students. Specifically, the differences reflected the male university students with a higher level of perception on Internet self-efficacy, experience, and information overload than females. Significant gender effects were also found to exist among males with greater computer self efficacy, lower computer anxiety, more positive attitudes towards the Internet and longer use of the Internet than females. *Lindsay, Breen & Jenkins* (2010) revealed that females are usually supposed to look after domestic responsibilities, so they consider research subject as a degree requirement. The findings have further revealed that another reason of positive attitudes of males towards the research may be their higher inclination towards mathematics, statistics and economics than the females. *Correa* (2010) reported that males are more frequent and intense users of Internet than females and the former is observed to use more technology based classes which provide more opportunities for acquiring confidence and skills associated with digital technologies. *Jones et al.* (2009) reported that male students pursue a wider variety of activities including games, sports, technology, politics, personal finance and adult content than their female counterparts. *Meraz* (2008) asserted women with low technological aptitude with high level of anxiety.



*Peng, Tsai & Wu* (2006) found that students' Internet attitude is influenced by gender, self efficacy, and perceived Internet utility. While most students indicated a positive attitude toward the Internet and adequate Internet usage skills. Males tend to have a more positive attitude than females. *Fallows* (2005) revealed that the males use the Internet more than women for a wide range of activities. *Richard Joiner et al.* (2005) found that males were proportionally more likely to have their own web page than females. They use Internet more than females and are more likely to use other specialized websites to download material as compared to their female counterparts. *Gross* (2004) reported overall use of Internet with higher frequency in favour of females. *Madell & Muncer* (2004), however, found contradictory conclusions. More males tend to use the World Wide Web; are also more likely to have their own e-mail addresses and web pages and are seen to spend longer hours than females in surfing the Internet. *Cooper & Weaver* (2003) revealed that boys are attracted to and confident with computers, while girls develop negative attitudes, low interest, and anxiety. *Ono & Zovodny* (2003) reported that male students are more likely to use the Internet for research than their female counterparts. Males are observed to use Internet more frequently than the opposite gender. Male students adopt IT for academic research more enthusiastically. Similar findings have been given other researchers in the field (*Williams & Coles* (2003), *Ford & Mosa* (2001), *Gardner & Schmitt* (2001), and *Heimrath & Goulding* (2001). *Morahan Martin* (2001) confirmed that females are less experienced with ICT's and are more likely to have negative attitudes towards computers than males. Female students are seen to get Internet access less often, spend less time online and don't surf for different purposes than males. Further, male students in comparison to female ones preferred to study courses which require computer service, its programming and game playing. *Rahmani et al.* (2001) found male students engaged in effective search engines as against the females. Besides, effective searching database for research purpose on Internet has also been seen in favour of male students than females. *Delucchi* (2000) found that more females use Internet for e-mail and communication than male college students. The findings further reveal that higher frequency of males use Internet for research purposes, news items, playing games, and listening to music. *Gattiker & Bohmann* (2000) stated women with less positive attitude towards the Internet; besides, they were observed to



spend less time, and were more concerned about privacy issues than men. *Nachmias & Shemla* (2000) found gender differences in Internet usage with a higher participation of males in comparison to females. Males were also observed to spend more time on Internet with preferred locations, resource downloading, website creation and discussion participation. *Sherman et al.* (2000) further reported that males, irrespective of e-mail, used this technology more often and had more positive attitudes than females. *Weiser* (2000) established a significant gender difference in Internet usage. Males were reported more familiar to computers and Internet as compared to females. *GVU Centre* (1998) indicated that women had more difficulty and were less confident in finding information on the Internet than men. *Ford and Miller* (1996) suggested that women were more likely to be significant with greater levels of disorientation and disenchantment in relation to the Internet as compared to their counterparts.

**B3: Comparison between Internet-users and Non-users (Faculty Wise) on:**

**(a) Lifestyle (b) Academic Achievement and (c) Attitude towards Research:**

**(a) Lifestyle**

A perusal of **Table No.4.30** depicts the significance of mean difference between Internet-users and Non-users belonging to Science stream on different dimensions of lifestyle. A comparative look of the table reveals significant mean differences between the two groups on four out of six dimensions of lifestyle. The data reveals that Internet-users from Science stream have obtained a higher mean score ( $M=25.34$ ) on Academic Oriented Lifestyle than Internet Non-users in the same stream ( $22.96$ ). Both the groups have been reported to differ significantly on this dimension ( $t=5.21$ ). It is inferred that Internet-users experience a better Academic Oriented Lifestyle. On Socially Oriented Life Style, Internet Non-users are reported to have a higher mean score ( $M=23.31$ ) than Internet-users ( $M=21.15$ ). The obtained 't'-value has been seen to be 7.40 which is significant at 0.01 level of confidence. So, it can be inferred that Internet Non-users from Science stream have a tendency to adapt better Socially Oriented Lifestyle. On Trend Oriented Lifestyle, the mean scores of Internet Non-users have been found to be 21.59 which is higher than the mean score of Internet-users ( $M=16.89$ ). The obtained 't'-value came out to be 7.71 which is statistically significant at 0.01 level. It can be inferred that Internet Non-users from Science stream have an excellent adaptation towards the Trend Oriented Lifestyle.





Besides, the two groups were reported significantly different on the Family Oriented Lifestyle. The mean score in case of Internet Non-users from Science stream seems to be higher ( $M=38.82$ ) than the mean score of Internet-users ( $M=35.61$ ). The obtained 't'-value has been found to be significant at 0.01 level of confidence ( $t=4.74$ ). It can be said that the group of Science stream Internet Non-users has better adaptability on Family Oriented Lifestyle. However, in rest of the two dimensions i.e. Health Oriented Lifestyle and Career Oriented Lifestyle, the differences between the mean scores of two groups under discussion turned out to be insignificant. Coming to the composite score on Lifestyle of the science stream Internet-user and Internet Non-user group, it has been found that former group exhibited a higher mean score ( $156.67$ ) than later ( $M=150.56$ ). The obtained 't'-value has been reported to be significant at 0.01 level ( $t=4.62$ ). On this basis, it has been found that the Internet Non-users from Science stream have a tendency towards a better lifestyle as against to their comparable group. While comparing the Internet-user and Internet-Non-user (Social science stream) on various dimensions of lifestyle, the results are reported in (**Table No. 4.31, Page: 153**). Findings revealed the mean comparison of the two groups (Internet-user and Internet-Non-user) belonging to Social science stream on Health Oriented Lifestyle. The mean score in case of Internet-users is reported to be higher ( $M=29.40$ ) than the Internet Non-users ( $M=26.22$ ). The obtained 't'-value is significant at 0.01 level of confidence ( $t=5.84$ ). The findings revealed a better adaptation of Health Oriented Lifestyle in case of Internet Non-users. On Academic Oriented Lifestyle, Internet-users have shown a higher mean score ( $M=25.87$ ) than the Internet Non-users belonging to Social science stream ( $M=23.36$ ). The obtained 't'-value is reported to be 5.33, which is statistically significant at 0.01 level of confidence. It indicates that Social Science stream Internet-users have the better adaptability towards the Academic Oriented Lifestyle. The two groups under reporting were further compared on Career Oriented Lifestyle. The mean score in case of Internet-users and Non-users has been observed to be 24.85 and 23.36 respectively. The calculated 't'-value has been observed to be 2.20 (significant at 0.05 level). On the basis of the results, it can be inferred that the Internet-users from Social science stream have better Career Oriented Lifestyle. On Socially Oriented Lifestyle, Internet-users have exhibited a higher mean score ( $M= 24.45$ ) than Internet Non-users



( $M=22.16$ ). The mean difference has been observed to be significant at 0.01 level ( $t=6.65$ ) which signifies that Internet-users from Social science stream have better adaptability towards Socially Oriented Lifestyle. The two groups have again been observed to differ significantly on Trend Oriented Lifestyle at 0.01 level of confidence ( $t=3.63$ ). As the Internet-users scored a higher mean value ( $M=19.37$ ) in comparison to Internet Non-users ( $M=17.00$ ) from the stream under discussion. On Family Oriented Lifestyle dimension, the mean score in case of Internet Non-users is reported to be higher ( $M= 38.96$ ) than the mean score of the Internet-users ( $M =35.01$ ). The obtained 't' value has been observed to be 5.82, which is significant at 0.01 level of confidence. It can be inferred that the Internet-users have a favourable adaptability towards Family Oriented Lifestyle. Coming to the composite Score of Life Style, the results revealed Internet-users with a mean score of 158.95 and Non-users with a mean score of 151.06. The obtained 't'-value came out to be 5.89 which is significant at 0.01 level of confidence. However, this mean difference between the two groups (Social science stream) favours the Internet-users. It can be observed that Internet-users have a tendency to adapted better lifestyle. Further, the comparison between the Internet-users and Internet Non-users (Arts stream), on various dimensions of lifestyle has been reflected in **Table No. 4.32**. A cursory look of the table reveals that on Health Oriented Lifestyle, the mean score in case of Internet-users is reported to be lower ( $M=28.34$ ) than the mean score of Internet Non-users ( $M= 30.70$ ). The obtained 't'-value has been found to be 4.85, which is statistically significant at 0.01 level of confidence. It can be inferred that the Internet Non-users from Arts stream have better Health Oriented Lifestyle. On Socially Oriented Lifestyle, the Internet Non-users are reported to have a higher mean score ( $M=23.41$ ) than Internet-users ( $M=21.51$ ). The obtained 't'-value has been seen to be 5.10 which is significant at 0.01 level of confidence. So, it can be inferred that Internet Non-users from Arts stream have a tendency to adapt better Socially Oriented Lifestyle. The results further reveal that on Trend Oriented Lifestyle, Internet Non-users have shown a higher mean score ( $M=20.23$ ) than the Internet-users belonging to Arts stream ( $M=15.59$ ). The obtained 't'-value is reported to be 7.52, which is statistically significant at 0.01 level of confidence. It indicates that Internet Non-users from Arts stream have the better adaptability towards the Trend Oriented Lifestyle. On the



Family Oriented Lifestyle, Internet Non-users have been observed with a higher mean score ( $M=39.85$ ) than Internet-users ( $M=37.69$ ). The calculated 't'-value is reported to be significant at 0.01 level ( $t=4.57$ ). It can be said that Internet Non-users from Arts stream have an excellent adaptation towards Family Oriented Lifestyle. However, in rest of the two dimensions i.e. Academic Oriented Lifestyle and Career Oriented Lifestyle, the difference between the mean scores of the groups under discussion turned out to be insignificant. Coming to the composite score on Lifestyle of the Internet-user and Non-user (Arts stream), it has been found that Non-users exhibited a higher mean score ( $M=162.62$ ) than Internet-users who are reported to be lower ( $M=151.68$ ). The obtained 't'-value has been reported to be significant at 0.01 level ( $t=8.53$ ). On this basis, it has been found that the Arts stream Internet Non-users have a tendency to towards better lifestyle. Results revealed that Internet-users and Non-users from Science stream found a significant mean differences on various dimensions (including composite scores) of lifestyle. Science stream Internet Non-users have been found with better adaptability in Academic oriented lifestyle, Socially oriented lifestyle, Trend oriented lifestyle and Family oriented lifestyle. Whereas, Science stream Internet-users were more adaptable on Academic oriented lifestyle. It can be concluded that Science stream Internet-users remain involved in academic field and are seen to spend maximum time on studies. Using Internet to get information and consulting library and watching academic programmes and good motivation for higher education has also been seen in agreement among science stream users. On the other hand, Internet Non-users (Science stream group) were found with higher tendency on Trend oriented lifestyle, Socially oriented lifestyle, and Family oriented lifestyle. It reflects that Science stream Internet Non-users may be keen to adopt new fashion roles and update themselves with new trends of their daily life routines like dressing, purchasing and enjoyment. They always remain in close touch with their family and shares each and every moment of daily activities within the family circles. Devoting of maximum time towards their family and maintenance of their family values have also gone in their favour. They (Internet Non-users) participate in social activities and enjoy every social gathering and frequently consult their friends. They share things with others and always keep in mind the views of society while doing day-to-day activities and are: interested in social services; keen



to do good for society and interested in expanding their social boundaries. However, in rest of the two dimensions i.e. Health oriented lifestyle and Career oriented lifestyle, the differences between the mean scores of the two groups under discussion could not be established. This can be said that Science stream Internet-users and Non-users had more or less similar lifestyle on these two dimensions. It can further be inferred that both groups are equally conscious in health related matters. Acquiring knowledge about health oriented issues and performing of physical exercise for the maintenance of their health and consulting physical experts for regular medical checkup was observed in case of both the groups and they were also seen very much conscious about the dietary and hygienic related issues in the maintenance of their health. They frequently interact with people related to their career and discuss career related concerns in selected areas of education. While comparing Internet-users and Internet Non-users (Social science stream group) on various dimensions of lifestyle, significant mean differences were reported to exist. Social science stream Internet-users were found to have a tendency for better lifestyle. They have been found with higher adaptability on Health, Academic, Career and Trend oriented lifestyle. On the basis of these findings, it can be deduced that Social science stream Internet-users seem to be conscious for: keeping themselves physically fit, and acquiring knowledge about health, and dietary and hygienic related issues. They remain involved in academic field and spend maximum time on studies with maximum usage of technology base facilities in order to get information. They are observed to be aware of different career options and seem to be inquisitive to gain knowledge about their career. Higher frequency of Internet based interaction with people related to their career, discussion about career related concerns have also been observed in their favour. On the other hand, Internet Non-users from the same stream have been found more inclined towards Family and Socially oriented lifestyles. The above results are concluded that Internet Non-users from Social science stream may be: aware about family affairs; share each and every moment of daily activities within their family setting. Devoting of maximum time towards their family, maintenance of their family values, participation in social activities and social gathering have also gone in their favour. Frequent consultation with their friends and sharing of things with others and to be punctual in putting their views in society has favourably seen to be associated



with Internet-Non-user group (Social science stream). They are also reported interested in: social services, doing well for the society and interested in expanding their social boundaries. Internet-users and Internet Non-users from Arts group (**Refer Page: 154**) have been compared on various dimensions of lifestyle. The two groups were observed significantly different on four out of six dimensions of lifestyle. Internet Non-users from (Arts stream) were found more inclined towards Health, Trend, Family and Socially oriented lifestyle. On this basis, it may be concluded that Internet Non-users (Arts stream) may be conscious in order to keep themselves active on health oriented issues e.g. performing physical exercise to maintain health and consultation with physical experts for regular medical checkup, dietary and hygienic related issues. The results further revealed that Internet Non- users belonging to the group under discussion devote maximum time towards the maintenance of family affairs and values. Higher participation in social activities and social gathering, sharing of things with others, and providing of solutions to societal matters has been found favourably among Internet Non-users. However, in rest of the two dimensions i.e. Academic and Career oriented lifestyle, the two groups failed to arrive at any level of significance, i.e. the difference between the mean scores could not be established. This can be said that Internet-users and Non-users belonging to Arts stream have more or less similar lifestyle on these two dimensions. It can be inferred that both the groups have similar involvement in academic field and library consultation. They seem to be familiar on different career options and are inquisitive in gaining the knowledge related to their career. The findings also confirmed that higher frequency to interact with people on career matters has gone in favour of the Internet Non-users. From the above discussion, it can be revealed that Internet-users (Social science stream) were found to have better lifestyle as compared to the Internet-users from Science and Arts stream. On the other hand, Internet Non-users from Science and Arts stream were found with better lifestyle as compared to Internet-users from the same stream. So, it can be inferred that lifestyle of Internet-users belonging to social science stream seems to be significantly better than Internet-user group of Science and Arts stream. *In the light of these results reported above, the hypothesis number seven (Refer Chapter - 1), which reads as, "There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Lifestyle*



*on stream basis (Faculty wise).” stands accepted. These findings do not have any reference to any of the previous researches and therefore needs future research in the field to confirm the findings.*

**B3: Comparison between Internet-users and Non-users (Faculty Wise) on:  
(b) Academic Achievement:**

The data presented in **Table No. 4.33** depicts the Stream-wise comparison between the Internet-users and Non-users on academic Achievement. A comparative look at the table reveals that Internet-users from Science stream are seen with higher mean score on academic achievement (M=66.71) than their comparable group under discussion (M=61.81). The calculated t value came out to be 7.33 which is significant at 0.01 level. It can be inferred that Internet-users from Science stream exhibit higher academic achievement than their comparable group. The table further reveals that Internet-users from Social science stream have a higher mean score (M=66.19) as compared to Internet Non-users (M=52.44). The calculated t value is reported to be 20.10 which is significant beyond 0.01 level. It can be inferred that Internet-users from Social science stream are better in their academic grades than Internet Non-users. The table further reveals that Internet-users from Arts stream are observed with lower mean score (M=59.52) than Internet Non-users who are seen with a higher mean score (M=64.18). The calculated “t”-value has been observed to be 9.07 which is significant at 0.01 level. This can be inferred that Internet Non-users from Arts group exhibit higher academic achievement than their comparable group. Results from the table revealed that Internet-users from Science stream are reported with higher academic achievement as compared to Internet Non-users. While comparing the mean scores of Social science stream Internet-users and Non-users on academic achievement. It can be said that Internet-users have higher academic achievement than their comparable group. On the other hand, Arts stream Internet-users was reported with higher academic achievement. So, it can be said that Internet usage has a significant influence on different fields of studies. *In the light of these results reported above, the hypothesis number eight (Refer Chapter - 1), which reads as, “There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Academic Achievement on stream basis (Faculty wise).” stands accepted.* The results are supported by a group of researchers in the field (Omidian & Maleki,



2013; Omidian, 2011; Ming-der-Wu, 2010; Pradeepkumar & Panchanatham, 2010; Michael *et al.*, 2008; Biradar, 2006; Preeti Mahajan, 2006; King, 2007; Sam & Nor din, 2005; Anderson, 2001).

*Omidian & Maleki* (2013) indicated science students with higher proficiency in the use of the strategies of Internet search-engines than students who belonged to arts faculty. *Omidian* (2011) identified a low computer self efficacy and high computer anxiety among Arts group subjects as compared to science group. *Ming-der-Wu* (2010) showed that graduate students from humanities considerably prefer more print materials than electronic resources. *Pradeepkumar & Panchanatham* (2010) found that the Arts students did not concentrate more in using e-journals and e- books when compared to the science based students. *Michael et al.* (2008) revealed that science based students use Internet more than the non-science based students. *Biradar* (2006) revealed that the rate of Internet use is more among students of science, Life science, Engineering Technology and Management faculties as compared to the students of Arts, Social science, Law, Education and Commerce. *Preeti Mahajan* (2006) explored that Internet has a great effect on the academic atmosphere of the students. The students of the sciences were observed to use full Internet service. Students of humanities and social sciences considered their university library as the last choice for finding information. Whereas, most of the science students preferred to use Internet instead of library. However, students of social sciences and humanities were observed to use library more than the Internet. *King* (2007) reported that Arts students didn't know names of different search engines. They also didn't not use e-mail and the www as an information source. *Sam & Nor din* (2005) reported that the university students from the faculty of Computer Science and Information Technology were found to be online for longer duration than the students of the faculty of Social Science, Business studies, Arts, and Human Development. *Anderson* (2001) found Internet access time of students differed according to the field of study. It indicated that students seem to browse the Internet according to the nature of their course. The investigator further added that physical science students spend more time on searching related study material from the Internet as compared to Arts students.

**B3: Comparison between Internet-users and Non-users (Faculty Wise) on:  
(c) Attitude towards Research:**



**Table No. 4.34** depicts the significance of mean differences between the Science stream Internet-users and Non-users on different dimensions of Attitude towards Research viz. General aspects of Research and Research Process and Usefulness of Research In Professional Career. It has been found that Internet-users belonging to Science stream had a higher mean score than the Internet Non-users. The mean scores of Internet-users were reported to be 49.32, 33.05 respectively, whereas, the mean value of Internet Non-users of the same stream on the above dimensions came to be 45.45 and 29.03. The table further shows that Internet-users and Internet Non-users of Science stream differ significantly from each other on these two dimensions with 't'-values of 6.13 and 7.28 respectively. On relevance of Research in Personal and Social life, the mean score of Internet users is reported low (M =29.96) as compared to Internet non users (M= 30.35). whereas, on Difficulties in Research and Research Anxiety dimension, the mean score in case of Internet users is higher (M=39.29) as compared to Internet non users (M = 38.84). The 't'-values in these dimensions came out to be 0.61 and 0.72 ( $P < 0.01$  and  $0.05$ ) respectively. The findings revealed that both the groups have similar inclination towards the Relevance of Research in Personal-Social life and Difficulties in Research and Research Anxiety. Coming to the composite score of attitude towards Research, the results reveal Internet-users with a mean score of 151.62 and Internet Non-users with a mean score of 143.67. The obtained 't'-value came out to be 5.37 which is significant at 0.01 level of confidence. However, this mean difference between the two groups favours the Internet-user group of Science stream. It can be observed that Internet-users of Science stream seem to be with favourable attitude towards research than their comparable group. The information reported in **Table No. 4.35** depicts the significance of mean difference between the two groups of Internet-users and Internet Non-users (Social Science stream) on different dimensions of Attitude towards Research viz. General aspects of Research and Research Process, Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety. It has been found that Internet-users belonging to this stream had a higher mean score than the Internet Non-users on the above dimensions and the obtained mean score in case of Internet-users were reported to be 48.67, 32.91 and 40.66 respectively, whereas, the mean value of Internet Non-users of the same stream were lower on these dimensions 43.83, 27.90





and 37.16. The table further shows that Internet-users and Internet Non-users of Social science stream differed significantly from each other on these three dimensions with 't'-values of 6.88, 7.80 and 5.63 respectively. However, on Relevance of Research and Research Anxiety, the mean difference could not be established at any level of significance. The 't'-value on this dimension came out to be 1.33 ( $P < 0.01$  and 0.05). Analysis of data reveals that Internet-users seem to be with favourable attitude towards General aspects of Research and Research Process, Usefulness of Research in Professional Career, and Difficulties in Research and Research Anxiety than their comparable group. The findings further revealed that both the groups have not claimed to be superior to either of the groups on the Relevance of Research in Personal and Social Life. Coming to the composite score of attitude towards Research, the results reveal Internet-users with a mean score of 154.25 and Internet Non-users with a mean score of 140.01. The obtained 't'-value came out to be 10.15 which is significant at 0.01 level of confidence. However, this mean difference favours the Internet-user group belonging to Social science stream. It can be observed that Internet-users from Social science stream may be favourable on attitude towards research than their comparable group. While comparing the Internet-user and Internet-Non-user group (Arts stream) on various dimensions of attitude towards research **Table No. 4.36**, reveals statistically significant difference on General aspects of Research and Research Process. The mean scores of Internet-users on this dimension is reported to be 49.35 which is higher than the mean score of Internet Non-users from Arts stream ( $M=45.11$ ). The 't'-value came out to be 8.22, which is significant at 0.01 level. It is inferred that Internet-users from Arts stream can be favourable on attitude towards General aspects of Research and Research Process. However, in rest of the three dimensions i.e. Usefulness of Research in Professional Career, Relevance of Research in Personal Social Life and Difficulties in Research and Research Anxiety, the mean scores of Internet-users were reported to be 32.62, 31.58 and 38.21 respectively, whereas, the mean value of Internet Non-users of the same stream came to be 32.46, 32.19 and 37.77, the mean differences failed to arrive at any level of significance. The 't'-values in these dimensions came out to be 0.26; 0.17 and 0.75. The findings revealed that both the groups have similar inclination towards the i) Usefulness of research in professional career, ii) Relevance of research in personal



social life and iii) Difficulties in research and Research Anxiety. Coming to the composite score of attitude towards Research, the results reveal Internet-users with a mean score of 151.76 and Non-users with a mean score of 147.53. The obtained 't'-value came out to be 3.61 which is significant at 0.01 level of confidence. However, this mean difference favours the Internet-user group from Arts stream. It can be observed that Internet-users of Science stream may be favourable in attitude towards research than their comparable group. The results also revealed Internet-users and Non-users significantly different on various dimensions of Attitude towards Research (faculty wise). Internet-users from Science stream had been found favourable on Attitude towards Research with reference to: i) General aspects of research and ii) Research process and Usefulness of research in professional career. On the basis of these findings, it can be inferred that Science stream Internet-users may be favourable on attitude towards the concept of research, research process, and current scenario of research works. This group of Internet-users feels that research work does not impose any extra workload on them. They are well-known about the essentiality to publish their research findings in order to enhance the authenticity and acceptability of research works within academic community. Positive feelings with regard to the significance and usefulness of research in their professional life, field of study and career, research skill as helpful for their future and research projects as an integral part of every post graduate course has remained the demand of Internet users. They believe that research activity provides them insight to solve the related issues of their career and profession. However, in the rest of the two dimensions i.e. Relevance of research in personal-social life and Difficulties in research and research anxiety, the mean differences between the two groups failed to arrive at any level of significance. It can be inferred that both groups have more or less similar attitude towards Research on these two dimensions. Both the groups were found with positive feeling about the relevance of research and research-related activities in their personal and social life. Attitude towards the application of research methods/processes and findings solutions to routine type of problems have favourably been seen associated with science stream group (Internet-users and Internet Non-users). Both the groups (Internet user and non user) from science stream seem to have a common feeling that knowledge acquired through research may be more useful in their lives as compared to knowledge gained



through reading literature. The two groups are further observed to employ research approaches in their lives and consider that research is highly relevant and beneficial for their personal and social lives. They also feel that society gets benefited from research and makes them systematic and hardworking in their daily lives. They feel comfortable to get engaged in research and scholarly activities. Inclination towards research projects and interest in research and research related activities was observed with positive agreement between both the groups of subjects. While comparing the Internet-users and Internet Non-users (Social science stream) on various dimensions of lifestyle, it has been found that the two groups differ significantly from each other on attitude towards research and the difference favours the Internet user group. Internet-users of the stream were found favourable on attitude towards–i) General aspects of research and research process–ii) Usefulness of research in professional career and iii) Difficulties in research and research anxiety. It can be said that Internet-users from Science stream show a favourable attitude towards the concept of research, and research process. The study revealed that research work does not impose any extra workload to the subjects belonging to science stream. Science stream group of Internet-users has been reported in positive association with the significance and usefulness of research viz.a.viz. research findings. Research as an integral and essential component has been expressed by this group of subjects. They feel stress-free and comfortable when engaged in different sorts of theoretical and practical research-related activities. Work on research projects with devotion and interest has favoured the subjects under discussion. To feel at ease in arithmetic and statistical computation in research, Internet-users from science stream were seen very much confident in understanding research terminology. Besides, the findings revealed that understanding of methodology to carry research works and awareness about the steps to follow in pursuing any research project has gone in favour of Internet-users (Science stream). However, on Relevance of research in personal-social life, the differences between the two groups failed to arrive at any level of significance, i.e. the difference between the mean scores could not be established. This can be said that both groups belonging to science stream may be more or less similar on attitude towards the Relevance of research in personal-social life. Both the groups are reported with productive ideas about the relevance of research and research-related activities in



their personal and social life. Internet users and non users of science stream were seen equally inclined towards: employing research approaches in routine life and considering research as highly relevant and beneficial for one's personal and social life. While comparing the Internet-users and Non-users (Arts stream) on different dimensions of lifestyle, it has been found that the two groups differ significantly on attitude towards research. Arts stream Internet-users have been found favourably inclined towards General aspects of research and research process and were observed with the expression that research work does not impose any extra workload on them. They are well-known about the essentiality to publish the research findings in order to enhance the authenticity and acceptability of research work within academic community. They have positive feelings with regard to the significance and usefulness of research in their professional life and career. On rest of the three dimensions, the difference between the mean scores of the two groups could not be established. This can be attributed that Internet-use and Non-use could not establish any variation in Arts stream students with regard to Usefulness of research in professional career, Relevance of research in personal social life and Difficulties in research and research anxiety. It can further be concluded that the two groups have more or less similar Attitude towards research. From the above discussion it can be revealed that Internet-users of Science, Social science and Arts stream were found positive on attitude towards research as compared to the Internet Non-user group. So, it can be concluded that Internet use, among the university students with different streams, and attitude towards research is in positive association except for Internet Non-users. ***In the light of these results reported above, the hypothesis number nine (Refer Chapter - 1), which reads as, "There will be a significant difference between the mean scores of Internet-users and Internet Non-users on their Attitude towards Research on stream basis (Faculty wise)." stands accepted.*** The results are supported by a cluster of researchers in the field (Fauzi *et al.*, 2014; Sudhier & Seethalekshmi, 2011; Siemens *et al.*, 2010; Odunlade, 2008; Pruskil *et al.*, 2009; Unnikrishnan *et al.*, 2008; Horrigan, 2006; Mahajan, 2006; Kaur, 2005; Kumar & Kaur, 2004). Fauzi *et al.* (2014) found Internet users from Social science with higher scores on academic attainments. For Social science students, a significant and positive correlation existed between the overall time spent through online basis and the time



spent on the Internet for academic research. *Sudhier & Seethalekshmi*, (2011) revealed that Internet resources are the most used e-resources among the students from the Arts Faculty. Most of the students use Internet for educational purposes and most preferred search engine for academic purposes, seminar presentations and for the project works. *Siemens et al.* (2010) found that science students were better on attitudes towards research. The findings further reveal that majority of the students expressed that the research seems to be beneficial to them in their career. They also found science students, with pre-medical background, significantly better on attitude towards research than those who belong to Arts subjects. *Odunlade* (2008) revealed that Science and Social science students do make use of the Internet; because it was considered to provide a wide coverage of adequate information. The study further revealed that (part of the benefits of the Net) provides the student with resources to carry out assignment which enhances their knowledge and allows them to communicate faster. It was also revealed that though a greater percentage of them patronize the library, the satisfaction required was not provided. Some of the reasons were: inadequacy of library materials, obsolete cataloging and poor library conditions. *Pruskil et al.* (2009) found that students who had high attitude towards science would tend to be highly involved in research activities. *Unnikrishnan et al.* (2008) found significant relationship between the study and the purpose of Internet use. Science students preferred Internet over text books because it accessed the latest knowledge. *Horrigan* (2006) reported Internet as a resource for news and information about science. The findings also confirmed that the convenience of getting scientific material on the Web opens doors to better attitudes and understanding of science. *Mahajan* (2006) revealed that students use electronic resources more than paper resources as they were confident to find resources through Internet rather than paper resources. The other purposes of using Internet were: document delivery services, online job seeking, publishing research papers in e-journals etc. Most of the science researchers and Social science students agreed that Internet had a positive impact on their study and research, while students in humanities did not agree. *Kaur* (2005) found that Internet as time saving, easy to use, more informative and more preferred. Nearly all the science students believed that they obtained more information which seems to be beneficial to their area of study. This may be due to result of various



Internet resources like scientific database, e-journals, e-books and technical reports available freely or through little subscription on the Internet. *Kumar & Kaur* (2004) found that majority of the Internet-users used it for educational and research purposes.

### **SECTION C: FACTOR ANALYSIS**

Since one of the objectives of the present investigation was to find the dominant factors of lifestyle and attitude towards research of Internet users and non users, therefore, the collected information was subjected to Factor Analysis by utilizing Principal components of Factor extraction (PCFA) and Orthogonal rotation (Varimax criterion with Kaiser Normalization). Principal component method of Factoring was used while Kaiser-Mayer-Olkin (KMO) measure of sampling adequacy was applied to test whether the partial correlations among variables are small. Bartlett's Test of specificity was carried out to confirm multi-co-linearity between the variables. It examined whether the correlation matrix is an identity matrix. The principal components extraction was rotated to the terminal solution while *Varimax* criterion was applied to delineate the pattern of variation in the variables rather than among Internet-users and Internet Non-users. Absolute values of coefficients that are less than 0.600 were suppressed. This implies that only Factor loadings with 0.600 and above were assumed to be interpretable. Accordingly, the results inferred are discussed as:

#### **C1: Dominant Factors influencing Internet-users on Lifestyle and Attitude towards Research (N=300)**

**Table No. 4.37** shows the information of two tests that were used to verify if the PCFA employed in testing the hypothesis is appropriate. The two main tests in the table are: a) the KMO and b) Bartlett's Tests. The KMO value (0.814 as per Table 4.38) shows that the degree of common variance among the variables is quite high. The KMO index ranges from 0 to 1 and the sample can be considered suitable for PCFA if this index is equal or higher than 0.600 in the light of a high significance of the Bartlett's test of Sphericity (Chi-Square=1954.802,  $p=.000$ ). Bartlett's test of Sphericity indicates that correlation coefficient matrix is significant as  $p$ . value is 0.000 which is less than .05 ( $P<0.05$  assumed level of significance). Therefore, the results presented in the same table reveal that the data used is adequate enough to conduct the Principal Components Factor Analysis (PCFA).



The results presented in **Table No. 4.38** indicated that the 1<sup>st</sup> part of the table shows communalities which indicate the amount of variance in each variable that is accounted for. Initial communalities have been considered as the estimation of variance in each variable accounted for by all Factors (or components). Extraction communalities indicate the estimation of variance in each variable accounted for by the factors (or components) in the factor solution. The 2<sup>nd</sup> part of the table shows the *Initial Eigenvalues* and the percentage of variance explained by each successive factor. Table shows the Eigenvalues and the percentage of variance explained just for the three factors of the initial solution that are regarded as important. The Scree plot (**Refer Fig. 40, Chapter 4<sup>th</sup>**) reflects the results for further understanding. The Scree plot shows the Eigenvalues against all the Factors. The Scree plot becomes interesting as it flattens out (like the rubble that collects at the foot of a Scree), and this indicates very clearly which Factors account for a lot of the variance, and which account for little. The graph is useful for determining how many Factors to retain. It can be seen that the curve begins to flatten between 3 and 4 Factor number. Remaining 7 Factors have an Eigen value of less than 1, so only three Factors have been retained. A Scree plot has been used to identify and comment on Factors. It reflects each Factor on a chart, in descending order of magnitude. The observation reveals (**Page: 161**) that in the plot, Scree flattens out considerably after the first Factor, and then it levels out a little for the next 2 Factors, tailing downwards all the time. This suggests that the first Factor is the significant Factor in explaining the greatest amount of variance. Indeed, in using the Scree plot a ‘bend in the elbow’ of the data is noticed (after Factor one), and thereafter Factors placed above the bend in the elbow were considered for inclusion, and factors below the bend in the elbow were not considered. Third part of the table 4.38 dealt with the *Extraction of Sums of Squared Loadings* with two important pieces of information. First, in the column marked ‘% of variance’ it shows how much variance is explained by each of the Factors identified (from the greatest amount of variance to the least amount of variance). This Factor analysis is based on three Factors due to greater Eigen values ( $> 1$ ). It is to be noted that the first factor of the initial solution is much more important than the second and the second is more important than the third. However, in the right side part of the table 4.39 the Eigenvalues and percentage of variance explained for the two rotated factors are



displayed. So, the results in the same table reveals that the first Factor accounts for 42.003% of the variance in the total scenario in a very large amount, while the second Factor identified, accounts for only 21.815% and the third Factor with 11.170 % of the total variance. Each Factor is observed to be unrelated to the other, and the amount of variance in each Factor is also unrelated. The other Factor is independent to each other. It has been observed that how much variance in the total picture is explained by each Factor and which Factors possess the most and least explanatory power to explain the total scenario of 10 variables. Second, SPSS keeps a score of the cumulative amount of explanatory power of the 3 Factors identified. In the column, 'Cumulative %' tells us that in total 74.988% of the total picture (of the 10 variables) is accounted for explained by the 3 Factors identified. On the other hand, 'Rotation of Sums of Squared Loadings' (the fuller power of Factor analysis) is tapped thereby identifying more clearly the groupings of variables into Factors, and separating each Factor from the other much more clearly. With the Rotation of Sums of Squared Loadings, the percentage of variance explained by each Factor is altered, even though the total cumulative percentage 74.988% remains the same. The first Factor in the rotated solution no longer accounts for 42.003% as in the Extraction of Sums of Squared Loadings, but only 32.547% of the variance, and Factor 2, accounted for 21.815% of the variance in the Extraction Sums of Squared Loadings now accounts for 30.239% of the variance in the Rotated Sums of Squared Loadings. Factors 3 accounted for only just 11.170% of the variance in the Extraction Sums of Squared Loadings now accounts for 12.201% of the variance in the Rotated Sums of Squared Loadings. Further, Table No.4.40 shows the initial un-rotated Factor matrix which is computed to assist in obtaining a preliminary indication of the number of Factors to extract. The Factor matrix contains Factor loadings for each variable on each Factor. In computing the un-rotated Factor matrix, the researcher is simply interested in the best linear combination of variables-best in the sense that the particular combination of original variables accounts for more of the variance in the data as a whole than any other linear combination of variables. The un-rotated Factor solution may not provide a meaningful pattern of variable loadings. Generally, rotation will be desirable because it simplifies the Factor structure, and it is usually difficult to determine whether un-rotated Factors will be meaningful. The idea of rotation is to reduce the





number of Factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier. **The Table No. 4.39** further shows the Factor loading/correlations for a rotated Factor solution. Comparing the graphs for the rotated and un-rotated solutions, it can be seen that the proximity of the points representing the variables to the axes (and the frame) have changed. This change was brought about by rotating the whole frame, including the axes, in a counter clockwise direction. In this case, the Varimax method was used; for each variable, this leads to maximize the loading on one Factor and to minimize the loadings on the other Factors. The Principal Components Factor Analysis (PCFA) was used as the extraction technique and Varimax was used as a method of rotation. Investigator took the threshold value of 0.600 for factor loading criterion. The table further shows the result of the extracted Factors. Loadings indicate the degree of correspondence between the variable and the Factor, with higher loadings making the variable representative of the Factor. Other variables from the list are some numerical distance away from the variables selected and also seem to be conceptually unrelated to the seven variables identified for inclusion in the Factor. The variables selected are high, close to each other and distant from the other variables. This distinguishes more clearly one Factor from another than the Extracted Sums of Squared Loadings. Rotation is undertaken on the basis of *Varimax rotation*. This maximizes the variance between Factors and hence helps to distinguish them from each other. In SPSS the rotation is called *orthogonal* because the Factors are unrelated to, and independent of, each other. Further analysis presented in **Table No. 4.40** shows the loadings of the ten variables on the three Factors extracted. The higher the absolute value of the loading, the more the Factor contributes to the variable. The gap on the table represent loadings that are less than 0.600, this makes reading the table easier. Here the investigator suppressed all loadings less than 0.600 with the help of default setting SPSS to use the Kaiser stopping criterion (i.e., all Factors with Eigenvalues greater than 1) to decide how many Factors to extract. Analysis yielded a three-Factor solution with a simple structure (Factor loadings  $\geq .600$ ). This implies that there are three substantively meaningful uncorrelated pattern of relationship among the variables. For the first factor three variables that loaded significantly high on this factor i.e. Trend seeking



lifestyle (TOLS), Career oriented lifestyle (COLS), Health conscious lifestyle (HOLS) and Attitude towards difficulties in research and research anxiety (ADRRA) with factor loadings of 0.906, 0.888, 0.882 and 0.853 respectively. The variables that load significantly high on the second factor are mostly the variables that deal with Academic oriented lifestyle ( AOLS), Attitude towards relevance of research in personal and social life (ARRPSL), Social oriented lifestyle ( SOLS) and Attitude towards usefulness of research in professional career (AURPC) with factor loadings of 0.905, 0.903, 0.877 and 0.717 respectively. There are only two variables that loaded significantly high on the third factor i.e. Attitude towards general aspects of research and research process (AGARRP) and Family oriented lifestyle (FOLS) with factor loadings of 0.717 and 0.676 respectively.

Factor analysis of Internet-users (University students) created 3 Factors that included 10 types of information. The results represented in **Fig. 41 (Page: 163)** which show these groups by such names which Investigator assigned as well as the types of information in each group. Rotated Matrix of three Factors (clustering of items) shows the Factor loadings and percentage of variation for each variable and highlighted the Factor that each variable loaded most strongly. Factor 1 accounted for 32.54% of the variance. It has been found that four variables loaded strongly on Factor 1 and generated 90.6% of the variation in Trend Seeking lifestyle with Factor loading 0.906. The data further depicts that 88.8% of variation in Career Oriented Lifestyle with Factor loading 0.888. Further, 88.2% of variation in Health Conscious Lifestyle with Factor loading 0.882 and 85.3% of variation in Attitude towards Difficulties in Research and Research Anxiety with Factor loading 0.853 was observed. Each of the variables that loaded on this Factor has shown a correlation ( $r$ ):  $0.853 \leq r \leq 0.906$  with the Factor. The researcher devised the name of this Factor as **“Contemporary Lifestyle with Career & Health & Preferences.”** Factor 2 accounted for 32.54% of the variance. It was observed that four variables also loaded strongly on this factor which generated 90.5% of the variation in Academic Oriented Lifestyle with Factor loading 0.905. The 90.3% of variation in Attitude towards Relevance of Research in Personal and Social Life with Factor loading 0.903 was also reported. It was also observed that 87.7% of variation in Social Oriented lifestyle with Factor loading 0.877 and 71.7 of variation in attitude towards usefulness of research in



professional career with Factor loading 0.717. Each of the variables that loaded on this Factor has a correlation (r):  $0.717 \leq r \leq 0.905$  with the Factor. The researcher devised the name of this Factor as “*Academic Attainment and Research Affinity.*” However, Factor 3 accounted for 12.20 % of the variance. The variables that load significantly high on this Factor generated 75.2 % of variation in Attitude towards General Aspects of Research and Research Process with Factor loading 0.752 and 67.6 % of variation in Family Oriented Lifestyle (Factor loading 0.676). It has correlation (r):  $0.676 \leq r \leq 0.752$  with the variables that loaded on it. The researcher devised the name of this Factor as: “*Research Convenience in Routine Life.*” For further understanding Refer Fig. 42 which shows a clear pattern of the loadings, with all items identified with 3 Factors; this result illustrates the benefits of rotation. Three-dimensional chart that includes not only horizontal and vertical axes but also *depth* by *rotating* the plotted points through 90 degrees, then the effect of this would be to bring closer together those variables that are similar to each other and to separate them more fully in distance from those variables that have no similarity to them, i.e. to render each group of variables (Factors) more homogeneous and to separate more clearly one group of variables (Factor) from another group of variables (Factor). The process of rotation keeps together those variables that are closely interrelated and keeps them apart from those variables that are not closely related.

## **C2: Dominant Factors influencing Internet Non-users on Lifestyle and Attitude towards Research (N=300)**

**Table No. 4.41** shows statistics of two tests that are used to verify if the PCFA employed in testing the hypothesis was valid based on data used. The two main tests in the table are the KMO and Bartlett's Tests. The KMO value (0.772 as per Table) shows that the degree of common variance among the variables is quite high. As reported in C2 above, the KMO index ranges from 0 to 1 and the sample is considered suitable for PCFA if this index is equal or higher than 0.600. In the light of a high significance of the Bartlett's test of Sphericity (Chi-Square=1945.063,  $p=.000$ ). Bartlett's test of Sphericity indicates that correlation coefficient matrix is significant as p value is 0.000 which is less than .05 ( $p<0.05$  assumed level of significance). Therefore, the results presented in table 4.43 reveals that the data used is adequate enough to conduct the Principal Components Factor Analysis (PCFA). The results



presented in **Table No. 4.42** indicated that the 1<sup>st</sup> part of the table shows communalities which indicate the amount of variance in each variable that is accounted for. Initial communalities are estimates of the variance in each variable accounted for by all Factors (or components). Extraction communalities are estimates of the variance in each variable accounted for by the factors (or components) in the factor solution. The 2<sup>nd</sup> part of the table showing the *Initial Eigenvalues* and percentage of variance explained by each successive factor. Table shows the Eigenvalues and percentage of variance explained for just the three factors of the initial solution that are regarded as important. The Scree plot (**Refer Fig. 43**) reflects the results for further understanding. The Scree plot graph shows the Eigenvalues against all the Factors. The Scree plot becomes interesting where it flattens out (like the rubble that collects at the foot of a Scree), and this indicates very clearly which Factors account for a lot of the variance, and which account for little. The graph seems to be useful for determining how many Factors to retain. It can be seen that the curve begins to flatten between 3 and 4 Factor number. Remaining 7 Factors have an Eigenvalues of less than 1, so only three Factors have been retained. A Scree plot can also be used at this stage, to identify and comment on Factors. It shows each Factor on a chart, in descending order of magnitude. In the above plot, Scree flattens out considerably after the first Factor, and then it levels out a little for the next 2 Factors, tailing downwards all the time. This suggests that the first Factor is the significant Factor in explaining the greatest amount of variance. Indeed, in using the Scree plot one perhaps has to look for the ‘bend in the elbow’ of the data (after Factor one), and then consider those Factors above the bend in the elbow as being worthy of inclusion, and those below the bend in the elbow as being relatively unimportant. Third part of the table in the section labeled *Extraction Sums of Squared Loadings* which contains two important pieces of information. First, in the column marked ‘% of variance’ SPSS tells us how much variance is explained by each of the Factors identified, in order from the greatest amount of variance to the least amount of variance. This Factor analysis is based on three Factors, because these three Factors have Eigenvalues greater than one. So, here the first Factor accounts for 37.463% of the variance in the total scenario with very large amount, while the second Factor identified accounts for only 23.160% and the third Factor 15.410 % of the total



variance - a much lower amount of explanatory power. Each Factor is unrelated to the each other, and so the amount of variance in each Factor is unrelated, due to their independent nature with each other. The results observed that how much variance in the total picture is explained by each Factor and which Factors possess the most and least explanatory power to explain the total scenario of 10 variables. Second, SPSS keeps a score of the cumulative amount of explanatory power of the 3 Factors identified. In the column 'Cumulative %' tells us that in total 76.033% of the overall picture (of the 10 variables) is accounted for explained by the 3 Factors. On the other hand, 'Rotation Sums of Squared Loadings' (the fuller power of Factor analysis) is tapped thereby identifying more clearly the grouping of variables into Factors, and separating each Factor from the other much more clearly. With the Rotation Sums of Squared Loadings, the percentage of variance explained by each Factor is altered, even though the total cumulative percentage 76.033% remains the same. The first Factor in the rotated solution no longer accounts for 37.463% as in the Extraction Sums of Squared Loadings, but 33.074% of the variance, and that Factor 2, which accounted for 23.160% of the variance in the Extraction Sums of Squared Loadings now accounts for 23.084% of the variance in the Rotated Sums of Squared Loadings. Factors 3 accounted for only just 15.410% of the variance in the Extraction Sums of Squared Loadings and now account for 19.875% of the variance in the Rotated Sums of Squared Loadings. Further, **Table No. 4.43** shows the initial un-rotated Factor matrix which is computed to assist in obtaining a preliminary indication of the number of Factors to extract. The Factor matrix contains Factor loadings for each variable on each Factor. In computing the un-rotated Factor matrix, the researcher is simply interested in the best linear combination of variables-best in the sense that the particular combination of original variables accounts for more of the variance in the data as a whole than any other linear combination of variables. The un-rotated Factor solution may not provide a meaningful pattern of variable loadings. Generally, rotation will be desirable because it simplifies the Factor structure, and it is usually difficult to determine whether un-rotated Factors will be meaningful. The idea of rotation is to reduce the number of Factors on which the variables under investigation have high loadings. Rotation does not actually change anything but makes the interpretation of the analysis easier. The same table further shows the Factor



loading/correlations for a rotated Factor solution. Comparing the graphs for the rotated and un-rotated solutions, it can be seen that the proximity of the points representing the variables to the axes (and the frame) have changed. This change was brought about by rotating the whole frame, including the axes, in a counter clockwise direction. In this case the Varimax method was used; for each variable, this seeks to maximize the loading on one Factor and to minimize the loadings on other Factors. The Principal Components Factor Analysis (PCFA) was used as the extraction technique and Varimax as a method of rotation refer table 4.43 for the result of the extracted Factors). Loadings indicate the degree of correspondence between the variable and the Factor, with higher loadings making the variable representative of the Factor. Other variables from the list are some numerical distance away from the variables selected and also seem to be conceptually unrelated to the seven variables identified for inclusion in the Factor. The variables selected are high, close to each other and distant from the other variables. This distinguishes more clearly one Factor from another than that undertaken in the Extraction Sums of Squared Loadings. Rotation is undertaken by *Varimax rotation*. This maximizes the variance between Factors and hence helps to distinguish them from each other. In SPSS the rotation is called *orthogonal* because the Factors are unrelated to, and independent of, each other. **Table No. 4.44** shows the result of the extracted Factors. The table shows the loadings of the ten variables on the three Factors extracted. The higher the absolute value of the loading, the more the Factor contributes to the variable. The gap on the table represent loadings that are less than 0.600, this makes reading the table easier. Here the investigator suppressed all loadings less than 0.600 with the help of default setting SPSS to use the Kaiser stopping criterion (i.e., all Factors with Eigenvalues greater than 1) to decide how many Factors to extract. Analysis yielded a three-Factor solution with a simple structure (Factor loadings=>.600). This implies that there are three substantively meaningful uncorrelated patterns of relationships among the variables. For the first factor, three variables that loaded significantly high i.e. Family oriented lifestyle (FOLS), Attitude towards usefulness of research in professional career (AURPC), Social oriented lifestyle (SOLS) and Academic oriented lifestyle (AOLS) with factor loadings of 0.922, 0.901, 0.877 and 0.701 respectively. There are four variables that loaded significantly high on the second factor i.e. Health conscious



lifestyle (HOLS), Attitude towards general aspects of research and research process, (AGARRP), Career oriented lifestyle (COLS) and Academic oriented lifestyle (AOLS) with factor loadings of 0.815, 0.809, 0.765 and 0.510 respectively. The variables that were seen to load significantly high on the third factor are mostly the variables that deals with Attitude towards relevance of research in personal and social life (ARRPSL) with factor loading 0.831; Trend seeking lifestyle (TOLS) with factor loading -0.823 and Attitude towards difficulties in research and research anxiety (ADRRA) with factor loading 0.412.

Factor analysis of Internet Non-users (University students) created 3 Factors that included 10 types of information. The results are represented in the (Fig. 44 Page: 168) which shows these groups by the names Investigator gave them, as well with the types of information in each group. Rotated Matrix (3 Factors with clustering of items) shows the Factor loadings and percentage variation for each variable and highlighted the Factor that each variable loaded most strongly. While Trend oriented lifestyle showed strong negative factor loadings. Loading resulting from an orthogonal rotation is a correlation coefficient of each variable with the factor, so they naturally range from -1 to +1. A negative loading simply means that the results need to be interpreted in the opposite direction from the way it is worded. Factor 1 accounted for 33.07% of the variance. It has been found that four variables loaded strongly on Factor 1 and generated 92.2 % of variation in Family Oriented Lifestyle with Factor loading 0.922. Data further reveals 90.1% of variation in Attitude towards Usefulness of Research in Professional career with Factor loading 0.901. The findings further revealed: 87.7% variation in Social Oriented lifestyle with Factor loading 0.877 and 70.1% of variation in Academic Oriented Lifestyle with Factor loading 0.701. Each of the variables that were seen to be loaded on this Factor has a correlation ( $r$ ):  $0.701 \leq r \leq 0.922$  with the Factor. The researcher devised the name of this Factor as “*Socio-familial Involvement and Professional Interest.*” Factor 2 accounted for 23.08% of the variance. It has been observed that there are three variables loaded strongly on this factor and generated 81.5% of variation in Health Conscious Lifestyle with Factor loading 0.815. Data further depicts 80.9% of variation in Attitude towards General Aspects of Research and Research Process with Factor loading 0.809. It was observed that 76.5% of variation in Career Oriented



Lifestyle with Factor loading 0.765 and 51% of variation in Academic Oriented Lifestyle with Factor loading 0.510 and correlation is reported to be  $(r): 0.510 \leq r \leq 0.815$  with the variables that loaded on it. The researcher devised the name of this Factor as **“Health Efficacy with Research Perception.”** However, Factor 3 accounted for 12.20 % of the variance. The variables that load significantly high on this Factor are Attitude towards Relevance of Research in Personal and Social Life which generated 83.1% of variation with Factor loading 0.831. It was observed that 82.3% of variation in Trend Seeking lifestyle (Factor loading -0.823) and 41.2% variation in Attitude towards Difficulties in Research and Research anxiety (Factor loading 0.412). It has correlation  $(r): 0.412 \leq r \leq 0.831$  with the variables that loaded on it. The researcher devised the name of this Factor as **“Research Acquaintance for Existence.”** Fig. 45 shows a clear pattern of the loadings, with all items identified with 3 Factors; this result illustrates the benefits of rotation. Three-dimensional chart that includes not only horizontal and vertical axes but also *depth* by *rotating* the plotted points through 90 degrees, then the effect of this would be to bring closer together those variables that are similar to each other and to separate them more fully in distance from those variables that have no similarity to them, i.e. to render each group of variables (Factors) more homogeneous and to separate more clearly one group of variables (Factor) from another group of variables (Factor). The process of rotation keeps together those variables that are closely interrelated and keeps them apart from those variables that are not closely related.

Finally, the factor analysis led to the emergence of following factors in case of both the groups of Internet-users and Internet Non-users:

**Internet-user Group:**

1. *Contemporary Lifestyle with Career & Health Preferences;*
2. *Academic Attainment and Research Affinity;*
3. *Research Convenience in Routine Life.*

**Internet Non-user Group:**

1. *Socio-familial Involvement and Professional Interest;*
2. *Health Efficacy with Research Perception;*
3. *Research Acquaintance for Existence.*





From the above results, it can be observed that three factors determine the lifestyle and attitude towards research among the Internet-users group. It indicated Internet-users were found much interested to adapt modern lifestyle and have conscious about their health and career interests. It can be inferred that Internet-users update themselves with new trends and are very much eager to opt new ways of life. They used Internet and frequently consult the source which helps them to adopt modern lifestyle. Internet-users use their abilities and preferences with regard to career; they can access Internet sites describing the qualifications, skills, and educational requirements of various careers and can engage in online conversations with professionals to gain insights into the day-to day activities of specific careers. Connecting worldwide sites to get information on specific careers, like prepare for the job, kinds of courses are helpful, and job outlook for the future etc. They match the career information with personal abilities, desires, and values and gain valuable practice in synthesizing the information to formulate a viable career plan. Many career development sites that may visit to learn about careers and also use email to contact experts and professionals around the world to explore more personal aspects of a specific career by the Internet-group of subjects. Internet has been proposed as an effective medium to disseminate health information to address the health issues among Internet-users. It is first place for them to visit and seek health information, which influence the health seeking behaviour of university students. Internet-users were reported to take better care of themselves to communicate with their health consultants. Certainly, they use Internet for health related matters and to seek variety of health information. Internet-users were also found to have constructive ideas about research and research-related activities and employed research approaches in their lives and consider that research is highly beneficial for them. They consider research would be helpful for their future and improve the process and practice of education at any level. Internet-users recognize “Internet” is an integral part of the social fabric and it provides a major context in which personal, academic and research development is enacted.

On the other hand, Internet revolutionized the student’s lives!” is an often heard exclamation. It has added a lot to students’ lives indeed, and has also made a few things disappear. Internet Non-users reported that the content of Internet holds little



meaning for them, and they do not want to waste precious time online. It can be said that Internet Non-users spent healthy time in social activities; spend a considerable amount of their time involving social and familial interaction. Social interactions online are not psychologically interchangeable with social interactions offline for Internet Non-users group of subjects. Internet Non-users had more total contact with family members and an increased social participation. Higher level of community and family involvement were reported among Internet Non-users. They stay in touch with family and friends and found with higher levels of generalized trust, larger social networks and providing sense of belongingness through social contacts. Internet Non-users were found interested about their health and research concerns. They represent a unique target for the promotion of positive health aspects such as physical activity and psychological well-being. Physical activity level of university students directly affected their healthy lifestyle behaviors. As results already indicated that Internet-use leads to ignoring other activities by the students and it has a negative effect on their physical and social activities. Health-related qualities of life of Internet Non-users were reported well. They were found to spend much time in physical and social related activities and have very positive perceptions of their general physical health; they evaluate their general state of physical health positively and rate their physical health as being 'good' or 'excellent'. In the course of attending university, they develop healthy lifestyle habits, perceptions, and research motivation which promoting health. They employed research approaches in their lives and consider that research is relevant and beneficial for their personal, social and physical concerns. It has been reported that Internet-Non-users have a sound sense of social, physical and psychological wellbeing. Keeping in view the above results the ***hypothesis number ten (Refer Chapter - 1), which reads as, "The dominant set of factors of Internet-users and Internet Non-users on Lifestyle and Attitude towards Research bear no similarity" stands accepted.*** As it has been found that Internet-users and Internet-Non users bear no similarity. The results are in consonance with the findings of some of the researchers in the field (Manoj & Bhattacharjee 2013; Sampath & Manjunath 2013; Chongtham & Nil Ratan 2012; Carrick-Davies 2011; Venable 2010; Ilo & Ifijeh 2010; Ifeoma 2010; Mitchell et al. 2009; Madureira 2009; Molina-Garcia 2009; Kamba 2008; Unagha 2008; Amato et al. 2008; Hashim 2008; Pollard 2007; Schrofer



2007; Lloyd et al. 2007; Ebem 2007; Adegboji & Toyo 2006; Rajeev & Amritpal 2006; Yusuf 2006; Ammobi Chinwe 2006; Lenhart & Madden 2005; Lee, Kang Zum 2005; Menec 2003; Metzger 2003; Morgan & Cotten 2003; Nie & Erbring 2002; Shaw and Gant 2002; Adeya & Oyelaran-Oyeyinka 2002; McKenna 2002; Watts 2002; Offer et al. 2001; Katz et al. 2001; Howard et al. 2001; Williams 2001; Kiesler et al. 2000).

*Manoj & Bhattacharjee* (2013) revealed that the Internet use had generated a significant influence upon users in their research and academic work. Results further revealed that university students had claimed the Internet as a great tool for obtaining to the needed information for academics and research. *Sampath & Manjunath* (2013) revealed that university students used Internet service to support their study and research. They also showed that Internet use has improved their academic performance. *Chongtham & Nil Ratan* (2012) revealed that the Internet use had affected the research and academic work of university students. They acknowledged the Internet as a significant medium for gathering relevant knowledge and information for their academic and research work. *Carrick-Davies* (2011) revealed those who have a familiarity with the Internet leverage this to benefit their career. *Venable* (2010) reported that the Internet provides an important medium for the delivery of career support. This career support might be concerned with the development of digital career literacy. *Ilo & Ifijeh* (2010) reported that the Internet is an invaluable medium for students' research in their socio-personal life. *Ifeoma* (2010) revealed that Internet plays a major role in helping postgraduate researchers' access large number of materials from different parts of the world. With its advent, lecturers and students can work together without physical interaction between each other. *Mitchell et al.* (2009) revealed that the Internet has been acknowledged as a valuable means of health promotion; with information in web spread throw static health educational sites, peer support groups, online health consultations and delivery of Internet interventions. *Kamba* (2008) revealed that the only way to pursue knowledge is through research and the Internet is having a profound impact on the research process. *Unagha* (2008) reported that the Internet has become one of the most important channels of communication and research, a powerful tool in searching for, retrieving, disseminating and improved utilization of information among higher education



students. *Pollard* (2007) reported that Internet can be used as a means to both acquire and share health information with the advantage of the user being able to maintain anonymity. It can help users to prepare for medical consultations and in making decisions regarding treatment options. *Schrofer* (2007) stated that university students take responsibility more for determining educational learning strategies and thinks that the reason for this is the quality of the information obtained from Internet. *Adegboji & Toyo* (2006) reported that Internet contributed significantly to the ease of research through downloading materials. Further reported that higher education students used Internet for course related research. *Rajeev & Amritpal* (2006) revealed that majority of university students were used the Internet for educational and for research purpose and least number of students used the Internet for entertainment aims. *Yusuf* (2006) revealed that the Internet provides wide range opportunities for easy access of relevant and current literature, wide range of instruments, online opportunity for validation of instrument, simulation of an on-going research, and so on. *Ammobi Chinwe* (2006) revealed that students used Internet for the areas of knowledge improvement, collection of materials for assignment and collection of materials for research. *Lenhart & Madden* (2005) revealed that the Internet stimulates the closeness of existing interpersonal relationships by reducing restrictions of time and location. *Kiesler et al.* (2000) indicated that the Internet provides opportunities for family collaboration and communication between parents and children and increases their access to useful information regarding parenting, education, and family health. Similar findings have been given other researchers in the field (*Metzger* 2003; *Adeya & Oyelaran-Oyeyinka* 2002; *McKenna* 2002; *Watts* 2002; *Offer et al.* 2001 and *Howard et al.* 2001). However, a cluster of research studies revealed the findings in-favour of Internet Non-users as: *Amato et al.* (2008) Internet Non-users engaged in traditional social activities, such as socializing with others, having meals together with household members. Internet-Non-users spend much time engaging in these activities with household members. *Hashim* (2008) found Internet Non-users have better social tolerance and good communication. *Lloyd et al.* (2007) found that Internet Non-use has been found to be associated with positive personal and social developmental outcomes. *Morgan & Cotten* (2003) reported that Internet Non-user have good quality of social relationships. *Nie & Erbring* (2002) revealed that Internet



Non-users spend more time interacting face-to-face with family and friends. Time spent on online activities may cut other activities such as social interaction. Therefore, increase in virtual interaction decreases the amount of face-to-face interaction and this in turn may lead to social isolation. *Shaw and Gant* (2002) revealed that the Internet Non-users spend more time with social gatherings and that they interact more with family, friends and their community. *Williams* (2001) revealed that Internet Non-users have the tendency to accommodate friends, their family members and other personal responsibilities. They have healthy interpersonal relationship which affects positively on their social engagements. Similar findings have been given other researchers in the field (*Madureira* 2009; *Molina-Garcia* 2009; *Ebem* 2007; *Lee, Kang Zum* 2005; *Menec* 2003; *Katz et al.* 2001).



In this section, an attempt has been made to summarize the findings of this study. The findings of the research were arrived after the data collected was subjected to various appropriate statistical tools, procedures and tests. In fact, conceptions and judgments from previous studies were incorporated to compare with the present findings. Subsequently, some conceptions were evolved pertaining to the association and intricacy of the variables under study. The present study was undertaken with the objectives of studying, Internet usage among university students in relation to their lifestyle, Academic achievement and Attitude towards research. The research results were presented and major findings reported in the previous chapter. This chapter will provide main conclusions, implications and future suggestion thereof, based on the main findings for the study. The objectives of the study, as documented in Chapter 1, were to determine the Lifestyle, Academic achievement and Attitude towards research of Internet-users and Internet Non-users (university students) of Kashmir University. On the basis of the findings an attempt has been made to provide result oriented implications as perceived from the statistical facts. From the analysis, Interpretation and discussion of the results presented in the preceding chapters, the present study emanated certain interesting and useful results based thereon can be drawn. A brief reporting of these results are summarised under the following captions.

The study emanated certain interesting and useful results. A brief reporting of these results are summarised under the following captions:

**(A) Descriptive Analysis**

Lifestyle, Academic Achievement and Attitude towards Research  
(Internet-users and Internet Non-users)



**(B) Sub-Group Analysis**

- i) Lifestyle, Academic Achievement and Attitude towards Research  
(Gender wise)
- ii) Lifestyle, Academic Achievement and Attitude towards Research  
(Faculty wise)

**(C) Comparative Analysis**

- i) Comparison between Internet-users and Internet Non-users on:  
Lifestyle, Academic Achievement and Attitude towards Research
- ii) Comparison between Internet-users and Internet Non-users (Gender wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research
- iii) Comparison between Internet-users and Internet Non-users (Faculty Wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research

**(D) Factor Analysis**

Dominant factors influencing:

- i) Internet-users on Lifestyle and Attitude towards Research.
- ii) Internet Non-users on Lifestyle and Attitude towards Research.

**Section (A): Descriptive Analysis:**

**Lifestyle, Academic Achievement and Attitude towards Research  
(Internet-users and Non-users)**

The below recorded conclusions are draw with regard to this Section:

1. Percent-wise distribution of Internet-users and Internet Non-users, on various levels of Lifestyle revealed majority of Internet-users with moderate level of lifestyle in comparison to Internet Non-users.
2. The study concluded that Internet-users, in comparison to Internet Non-users, exhibited higher academic achievement. The percent wise distribution revealed the major percentage of Internet-users placed in first division category.
3. The study revealed that majority of Internet-users were found moderately favourable on attitude towards research as against to their comparable group.



### **Section (B): Sub-Group Analysis**

#### **i) Lifestyle, Academic Achievement and Attitude towards Research (Gender wise)**

The sub group analysis led to the following conclusions:

1. Percent-wise comparison of male and female Internet-users on Lifestyle revealed majority of the female Internet-users on *above average level* as against to their male counterparts.
2. The comparison between male and female Internet Non-user group on Lifestyle revealed that majority from the female Internet Non-user group was placed in *high level* category of Lifestyle as compared male Internet Non-user group.
3. It was concluded that the percent-wise distribution of male and female Internet-users on academic achievement indicated a higher frequency of female Internet-users in *first division* category as against to their male counterparts.
4. The percent-wise comparison of Internet Non-user group from both the genders on academic achievement revealed females with satisfactory results as compared to male group. Female Internet Non-users were placed in *first division* category.
5. The study was concluded with the observation that both the genders from Internet-users group were *moderately favourable* on attitude towards research.
6. The findings revealed that a considerable percentage of male Internet Non-users had a *moderate level* of attitude towards research in comparison to female Internet Non-users.

#### **ii) Lifestyle, Academic Achievement and Attitude towards Research (Faculty wise)**

The faculty wise comparison revealed the following broader conclusions:

1. The findings revealed that Internet Non-users from *Science stream* had *above average level* of Lifestyle as against the Internet-users of same stream.





2. The percent-wise comparison between Internet-users and Internet Non-users belonging to *Social science stream* on Lifestyle was found significantly higher in case of Internet-users with *above average level* of Lifestyle.
3. The study found that on *high level* category, the lifestyle of Internet Non-users from *Arts stream* was higher as against Internet-users.
4. The percent wise comparison between Internet-users and Internet Non-users from *Science stream* found a maximum percentage with first *division* in case of Internet users.
5. The comparison between the Internet-users and Internet Non-users from *Social science stream* on academic achievement revealed a large percentage of Internet-users with *first division* as compared the Internet Non-users.
6. It was concluded that Internet Non-users from *Arts stream* were considerably in higher percentage with *first division* as against the Internet-users.
7. Percent-wise comparison between Internet-users and Internet Non-users belonging to *Science stream* found a *moderate level* of attitude towards research among Internet-users in comparison to Internet-Non users.
8. While comparing the Internet-users and Internet Non-users from *Social science stream* on attitude towards research, it has been observed that a significant percentage of Internet Non-users found their place as *unfavourable level* as against Internet-users.
9. Percent wise comparison of *Arts Stream* Internet-users and Internet Non-users on attitude towards research revealed large percentage of Internet-users found as *moderate level* as against Internet Non-users.

### Section (C) Comparative Analysis

#### (i) Comparison between Internet-users and Non-users on:

##### **Lifestyle, Academic Achievement and Attitude towards Research:**

This section is reported with following conclusions:

1. It has been found that Internet-users and Internet Non-users were significantly different on all the dimensions including the composite score of lifestyle.



2. The study found Internet-users with good adaptation towards Health Oriented Lifestyle, Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle.
3. Internet Non-users were found with an inclination towards Socially Oriented Lifestyle and Family Oriented Lifestyle. However, the overall results revealed Internet-users with better adaptability on lifestyle than their comparable group.
4. A significant difference between the Internet-users and Internet Non-users on Academic Achievement was confirmed. This confirmation supported Internet-users' group with higher academic achievement.
5. Internet-users and Internet Non-users differed significantly on all the four dimensions of Attitude towards Research. The study observed that Internet-users with a favourable Attitude towards the General aspects of Research and Research Process, Usefulness of Research in Professional Career, Relevance of Research in Personal Social Life. Difficulties in Research and Possession of Research Anxiety could not be found among Internet-users.

**(ii) Comparison between Internet-users and Non-users (Gender wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research:**

Gender wise comparison emanated the following broader conclusions:

1. Male and female Internet-users differed significantly on three out of six dimensions of Lifestyle. The findings concluded that female Internet-users had excellent adaptation towards Academic Oriented Lifestyle and Trend Oriented Lifestyle. Whereas, male Internet-users were found with a favourable tendency in the adaptation of better Career Oriented Lifestyle.
2. Both the groups under investigation were found equally inclined on Health Oriented Lifestyle, Socially Oriented Lifestyle and Family Oriented Lifestyle. Overall results favoured female Internet-users with a better tendency in the adaptation of lifestyle than their comparable group.
3. The Male and female Internet Non-users differed significantly on three out of six dimensions of Lifestyle. Male Internet Non-users were found with better adaptation towards Health Oriented Lifestyle. Whereas, female Internet Non-



- users equally better on adaptability towards Socially Oriented Lifestyle and Family Oriented Lifestyle.
4. Both the groups were similar on Academic Oriented Lifestyle, Career Oriented Lifestyle and Trend Oriented Lifestyle. Overall results revealed with equal inclination towards their life style.
  5. Male and female Internet-users on academic Achievement were found significantly different on academic achievement. The results favoured female Internet-users with higher academic achievement.
  6. Male and female Internet Non-users on Academic Achievement were found significantly different from each other. The results favoured female Internet Non-users with higher academic achievement.
  7. Male and female Internet-users differed significantly on three out of four dimensions of Attitude towards Research. Male Internet-users were found with favourable tendency on General aspects of Research and Research Process, Usefulness of Research in professional Career and Difficulties in Research and Research Anxiety.
  8. Both the groups were observed with similar inclination towards the Relevance of Research in Personal and Social Life. Overall results revealed male Internet-users with a favourable leaning towards Research in comparison to their comparable group.
  9. Male and female Internet Non-users were significantly different on two out of four dimensions of Attitude towards Research. Female Internet Non-users' showed favourable tendency towards the General aspects of Research and Research Process.
  10. The study found that male Internet Non-users were favourably inclined towards the Relevance of Research in Personal and Social Life.
  11. Both the groups had a similar inclination towards the Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety.
  12. The overall results revealed both the groups of Internet-users and Internet Non-users with an equal tendency towards their lifestyle.



**(iii) Comparison between Internet-users and Non-users (Faculty Wise) on:  
Lifestyle, Academic Achievement and Attitude towards Research:**

The conclusions deduced in this section are put as:

1. Internet-users and Internet Non-users from *Science stream* differed significantly on four out of six dimensions of lifestyle. Internet-users were found to have a tendency to adapt better Academic Oriented Lifestyle. On the other hand, Internet Non-users were found to have an excellent adaptation towards Socially Oriented Lifestyle, Trend Oriented Lifestyle and Family Oriented Lifestyle.
2. The dimensions of Health Oriented Lifestyle and Career Oriented Lifestyle were not found in any way different to both the groups of subjects from *Science Stream*.
3. The overall results revealed that Internet Non-users from *Science Stream* had a tendency to adapt better Lifestyle than their comparable group.
4. Internet-users and Internet Non-users from *Social Science Stream* were found significantly different from each other on all the six dimensions of Lifestyle. Internet-users have shown good adaptation towards Health Oriented Lifestyle, Academic Oriented Lifestyle, Career Oriented Lifestyle, and Trend Oriented Lifestyle. Whereas, Internet Non-users were found with higher inclination towards Socially Oriented Lifestyle and Family Oriented Lifestyle.
5. The overall results revealed Internet-users from *Social Science Stream* with higher leaning on Lifestyle than their comparable group.
6. The study concluded that Internet-users and Internet Non-users from *Arts Stream* were significantly different from each other on four out of six dimensions of Lifestyle. Internet Non-users from *Arts Stream* were found better on Health Oriented Lifestyle, Socially Oriented Lifestyle, Trend Oriented Lifestyle and Family Oriented Lifestyle. However, both the groups



reported similar inclination towards the Academic Oriented Lifestyle and Career Oriented Lifestyle.

7. The overall results revealed Internet Non-users from *Arts Stream* with an excellent adaptation on Lifestyle than their comparable group.
8. It was concluded that Internet-users and Internet Non-users belonging to *Science Stream* were different from each other on academic Achievement. Better grades and higher Academic Achievement favoured Internet-user group.
9. A significant mean difference on academic achievement between the Internet-users and Internet Non-users from *Social Science Stream* was confirmed. This difference favoured the Internet-user group with higher grades and Academic Achievement.
10. Internet-users and Internet Non-users from *Arts Stream* were found different on Academic Achievement. Observation of this mean difference has gone in favour of Internet Non-user group, who were seen higher on grades and acquired higher Academic Achievement.
11. It was found that Internet-users and Internet Non-users (*Science Stream*) were significantly different on two out of four dimensions of Attitude towards Research. Internet-user group was found favourable on both the dimensions i.e. General aspects of Research and Research Process and Usefulness of Research in Professional Career. However, both the groups could not be differentiated on Relevance of Research in Personal and Social Life and Difficulties in Research and Research Anxiety.
12. The overall results revealed Internet-users (*Science Stream*) with a favourable Attitude towards Research in comparison to their comparable group.
13. Internet-users and Internet Non-users from *Social Science Stream* were seen significantly different in three out of four dimensions on Attitude towards Research. Internet-users were found with favourable attitude towards the General aspects of Research and Research Process, Usefulness of Research in Professional Career and Difficulties in Research and Research Anxiety. On



one dimension i.e. Relevance of Research in Personal and Social Life, the difference between the two groups could not be established.

14. The overall findings revealed Internet-users (*Social Science Stream*) with a favourable Attitude towards Research as against to their comparable group.
15. Internet-users and Internet Non-users from *Arts Stream* differed significantly in one out of four dimensions of Attitude towards Research. Internet-users were found in a favourable condition towards the General aspects of Research and Research Process. In rest of the three dimensions of Attitude towards research i.e. Usefulness of Research in Professional Career, Relevance of Research in Personal and Social life and Difficulties in Research and Research anxiety, the differences between the two groups could not be established.
16. The overall results revealed that Internet-users (*Arts Stream*) were favourable on the Attitude towards Research than Internet non user group.

#### Section D: Factor Analysis

##### i) Dominant factors influencing Internet-users on: *Lifestyle and Attitude towards Research*

The following conclusions are drawn by applying factor analysis:

1. The factor analysis led to the emergence of three factors in case of Internet-users with the explanation of 74 % of the total variation in data. Each of the variables that loaded on the first factor with a correlation (r) of  $0.853 \leq r \leq 0.906$ . This First factor is designated as "*Contemporary Lifestyle with Career and Physical Efficacy*". This factor was found more influential among the Internet-users group with high factor loadings.
2. The Second factor that loaded with correlation (r) as  $0.717 \leq r \leq 0.903$ . Therefore, the factor is designated as "*Academic Attainment and Research Affinity*". This factor is the second influential factor of Internet-users.
3. The variables that loaded on the Third factor with a correlation (r) coefficient of  $0.676 \leq r \leq 0.717$  is labelled as "*Research Connivance in Routine Life*". This is a third but least influential factor among Internet-users.



4. It is to be recorded that out of these factors, “*Contemporary Lifestyle with Career and Physical Efficacy*” and “*Academic Attainment and Research Affinity*” exhibited the greatest variability in case of Internet-users.
5. Last identified factor i.e. “*Research Connivance in Routine Life*” emerged as the 3<sup>rd</sup> factor which exhibits low variability among Internet-users.

**ii) Dominant factors influencing Internet-Non-users on: *Lifestyle and Attitude towards Research:***

1. Three factors were also discovered from Internet Non-users which explained 76 % of the total variation in the data. Each of the variables that loaded on the first factor has a correlation (r) coefficient as  $0.701 \leq r \leq 0.922$ . This factor is labelled as “*Socio-familial Involvement and Professional Interest*”. This is the First and most influential factor among Internet Non-users group.
2. The Second factor on which the variables that loaded on this factor had found correlation (r) coefficient as  $0.510 \leq r \leq 0.815$ . This factor is labelled as “*Health Efficacy with Research Perception*”. This factor is the second influential factor of Internet Non-users.
3. The variables that loaded on the third factor with a correlation (r) coefficient as  $0.412 \leq r \leq 0.831$ . Therefore, the factor is labelled as “*Research Acquaintance for Existence*”. This is a third and least influential factor among Internet-users.
4. The factor analytical method found that Internet Non-users group with the greatest variability in “*Socio-familial Involvement and Professional Interest*” and “*Health Efficacy with Research Perception*”.
5. Last identified factor i.e. “*Research Acquaintance for Existence*” emerged as the 3<sup>rd</sup> factor which exhibited a low variability among Internet Non-users.

**Suggestions for Future Research**

In the light of the findings of the present study, the investigator feels that the following suggestions are taken into consideration, while conducting a study similar to the present area of research. The present study was conducted on postgraduate students of various faculties of University of Kashmir. The present study suggests the future researchers to explore and address on various concerns of Internet usage



to examine its influence during their research voyage. Therefore, the following suggestions are recommended for future Research:

1. This type of study may be conducted at larger level and may be replicated. It is suggested to increase the sample size with the inclusion of other categories of students and variables.
2. It is suggested for the future researchers to indentify the students enrolled in different courses and their Internet usage be compared on course basis in order to investigate the influence of Internet usage on other academic disciplines.
3. A comparative study is suggested to be undertaken in different states of India to draw interstate variations with regard to Internet usage.
4. A similar study on other factors such as students' age, socio-economic background and rural-urban dichotomy is recommended to be carried out.
5. Since the present investigation was conducted on post graduate students, so, to generalize these results, studies on some other educational levels is suggested.
6. A study may be attempted to investigate the psychological, sociological and technological factors that are responsible for the Internet-use and Non-use among students at the higher education level.
7. The follow up studies may be undertaken to establish the validity of the findings of the present study.
8. Factor analytic studies may be carried out to study the relatively important factors contributing in the same area of research.
9. A longitudinal study can be undertaken that brings out the factors which promote students to take up Information and communication technology as one the prime subject in their studies.
10. A few studies have been conducted in this area, especially in our state, many more studies are recommended to be conducted with different environments or places involving the same variables as of the present study.
11. Last but not the least, it is expected from other investigators to carry out the research in the similar field with the compilation of some case studies.





### **Practical Implications**

As we are living in the era of modern technology, therefore, future needs and requirement of students are to be addressed upon. The present study seems to enable future policy makers in the promotion of Internet facilities among future generation. The study reveals that computer and Internet are playing a pivotal role in educational projects viz. a. viz. research. A vast number of teaming millions use Internet and visit Google world for educational pursuits. It is easier to search through Internet as compared to the longer stay in the library rooms to collect , consolidate and compile information. The present study may send a strong message to publishers and writers to shift their attention to soft copies of their finding and make them available on the Internet so that more students can get access to this invaluable information. It is recommended that students should align their potential for significant and positive use of the Internet. Students must realize that the Internet as a medium. It is recommended that students should not waste their time on useless activities. Basic Internet tools may be introduced to students in their early stages of educational endeavour. The benefits of Internet should be disseminated to all students regardless of any status. Institutions should provide better infrastructure to facilitate students. Universities should organize courses which can promote internal capacity among the student community as a requirement to the use of Internet in efficient and effective way. The courses organized by Universities should highlight the use of Internet research techniques and course materials should be situated on the Web to facilitate access by students.

The following recommendations based on the findings and conclusions of the study are highlighted as under:

1. The present study will encourage those students who do not use Internet. The study will further contribute to create awareness among those students who are afraid of both computer and Internet. They should be provided training so that they can also use computer and Internet.
2. Since Internet usage has adverse effects on social interaction, the students should be encouraged to be self-disciplined especially in terms of time allocation to social



and academic activities to avoid wasting much time for Internet use. This is because students have formed the habits of staying all-night-long browsing the Internet. Students, therefore, need to be able to access Internet technologies, to learn how to use them technically and then learn when and how to use them in ways that support social participation.

3. Parents, teachers, guardians and counsellors should encourage the students to relate with people in acceptable manner in order to develop social tolerance among themselves and avoiding circumstances that will bring about social upheavals. They should be told to be accommodating.
4. The Government should come up with a policy, guiding the practice of service providers. Service providers should not just be given a free hand to operate. Rather, government should devise means of filtering and controlling all information that come into the Internet through a central processing unit.
5. The future researchers can find out safe and secure ways so that those students who are not using Internet can also prove otherwise. The important direction for future research is to address misuse of Internet by students. It is a serious problem and affects the students. Instead of stop using Internet it is the duty of the future researchers and scholars to find out safe and sound ways of using Internet.
6. For Internet resources to be used effectively, students are required to develop a set of new skills that include strategies for searching relevant materials. Internet use will encourage our students generations to make use of modern technologies to accomplish their academic and research objectives.
7. The findings of the study listed above have important implications in our university students. Internet has immense potential to enables the students to get instant information for their varied purposes. In order to make more beneficial and effective, awareness programme for maximum use of Internet should be undertaken by the Universities.
8. It is recommended that university should provide Internet facility to its students and research scholars and motivate the students to use the Internet for their research and academics. The study also advocated that there should be training on how to use the Internet for academic and research.



9. The present study also observed that use of Internet might cause some socialization problems. The students' dependency on Internet has reduced the face to face interaction among them. Internet has positive effect on learning but has bad influence on social sides of a student's behaviour. It is also recommend that universities should organise seminars to make students aware about the significance of Internet as an educational tool. Universities should inspire group learning via Internet and should promote the use of weblogs.
10. University students who browse Internet are found to be better in academic achievement and attitude towards research than those who do not browse. So, it is suggested to promote browsing as one of the learning experiences and provided the Internet experience to the students.
11. The results of this research could help university students to increase the knowhow of Internet-use and will enable them to increase the research self-efficacy and improving the quality of their research preparation.
12. There should be more training, awareness, exposure or workshops on the use of other search engines which are seldom or never used in the Internet to improve and enrich their search for literatures for their academic work.



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# INFORMATION BLANK

Prepared by

Dr. Mohammad Iqbal Mattoo  
(Supervisor)

Syed Noor-ul-Amin  
(Investigator)

\*\*\*\*\*

## Researchers' Introduction letter

**Dear Respondents**

I solicit your cooperation in the completion of this attached **Information blank**. I am a Ph.D. Research Scholar of the Department of Education, University of Kashmir and am conducting research on Internet usage among university students in Kashmir. This research is carried out to comply with the requirements of my Doctoral programme. Responses expressed by you in this Information Blank will strictly be used for research purpose.

You are requested to please tick the appropriate box against each Column and fill in the space which seems relevant. Information revealed by you shall remain **confidential**.

Thank You

*Please fill in the following Information:*

A) Name \_\_\_\_\_ Gender: Male  Female

Domicile: Rural  Urban  Department \_\_\_\_\_

Qualification \_\_\_\_\_ Semester 3<sup>rd</sup>  4<sup>th</sup>

Marks Obtained: \_\_\_\_\_ Out of \_\_\_\_\_ Aggregate Percentage (%) \_\_\_\_\_

B) Do you use Internet? Yes  No

✓ If yes, mention how long you have been using it?

For last one year  More than one year

✓ For Internet-use, are you using

(i) Laptop  (ii) Desktop  (iii) others

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S. K. Bawa (Phagwara)  
Sumanpreet Kaur (Phagwara)

Consumable Booklet  
of  
**LSS-BK**  
(English Version)

Fill in the following informations –

Date

Name (Optional) \_\_\_\_\_

Father's Name \_\_\_\_\_ Sex : Male  Female

Teaching Experience \_\_\_\_\_ Designation \_\_\_\_\_

Name of the Institute \_\_\_\_\_ Date of Birth \_\_\_\_\_

### INSTRUCTIONS

On the next pages there are statements pertaining to different patterns of lifestyle. Please read the statements one by one on the following pages. Each statement is followed by the five response categories, i.e., **Strongly Agree, Agree, Indifferent, Disagree, Strongly Disagree**. You put a  mark on any one alternative for each statement as your answer.

There is no right or wrong answer. Your responses will be kept confidential.

There is no time limit, but you can comfortably complete it within 15 to 20 minutes.

### SCORING TABLE

Area	I	II	III	IV	V	VI	Total Score	Life Style Status
Score								
z-Score								
Interpretation								

Estd. 1971

☎:(0562) 2464926

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4/230, KACHERI GHAT, AGRA-282 004 (INDIA)



2 | Consumable Booklet of LLS-BK

Sr. No.	STATEMENTS	RESPONSE					SCORE
		Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	

AREA I

1.	I like junk food.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I have been on dieting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	I take my meals when I find time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I take bath everyday even in severe winters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I read books on health.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	I often watch health oriented programmes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	It is difficult for me to get up early in the morning.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I wash my hands before and after taking meals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	I take plenty of water, fruits and vegetables in a day.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	I do physical exercises to maintain body weight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	I regularly go for medical check up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<b>Total Score</b>							<input type="text"/>

AREA II

1.	I study near examinations only.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I spend maximum time on studies.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	I mostly bunk classes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I study only selected topics for examination in place of whole syllabus.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I read reference books along with text books.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	I want to go for higher qualification.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	I use technology to get information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I visit library daily.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	I watch academic programmes on T.V.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<b>Total Score</b>							<input type="text"/>



Sr. No.	STATEMENTS	RESPONSE					SCORE
		Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	
<b>AREA III</b>							
1.	I am confused about my aim of life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I am aware of different career options available for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	I have selected subjects keeping in mind my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I have selected the area of education in which I am interested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I do regular preparation for competitive examinations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	I am always keen to gain knowledge related to my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	I do not watch T.V. programmes related to my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I frequently interact with people related to my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	I often discuss my career with my peer group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<b>Total Score</b>							<input type="text"/>
<b>AREA IV</b>							
1.	<b>Freinds</b> circle should be of limited size.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I always help my freinds in their adversities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	I always share my things with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I frequently visit my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I always keep in mind views of society while dressing up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	I enjoy every social gathering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	<b>Social</b> service is mere wastage of time.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I participate in social activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<b>Total Score</b>							<input type="text"/>





## 4 | Consumable Booklet of LLS-BK

Sr. No.	STATEMENTS	RESPONSE					SCORE
		Strongly Agree	Agree	Indifferent	Disagree	Strongly Disagree	
<b>AREA V</b>							
1.	I update myself with new trends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I always do chatting on internet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	<b>Purchasing</b> branded things are mere wastage of money.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	<b>My</b> choice of dress is affected by fashion channel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I change my vehicle with the launch of the new one in the market.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	Disco clubs should be opened in every village and city.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	I frequently read fashion magazines.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I avoid watching fashion channel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	I am very much eager to opt new fashion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	<b>Fashion</b> shows should not be organised.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	I prefer to adopt new fashion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
						<b>Total Score</b>	<input type="text"/>
<b>AREA VI</b>							
1.	I maintain my family values.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
2.	I violate my family aspirations.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	I do not talk about my family disputes in peer group.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I prefer to remain apart from my family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	I greet my family on all occasions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
6.	I spend money keeping in view my family status.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
7.	<b>There</b> is no need to discuss daily activities with family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
8.	I like to go on tour with my family only.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
9.	I celebrate festivals with my family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	I will prefer to leave home if I get job at distant place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	<b>Family</b> should be respected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
12.	I devote maximum time towards my family.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
						<b>Total Score</b>	<input type="text"/>





2 | Consumable Booklet of ASTR-SV5Y

Sr. No.	STATEMENTS	RESPONSE					Score
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
1.	Research is merely wastage of time, efforts and money.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
2.	I feel comfortable to get engaged in research and scholarly activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
3.	Research is useful for my professional career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
4.	I try to engage in discussions about research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
5.	Research has nothing to do with my field of study or course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
6.	Research makes me nervous and anxious.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
7.	Any recent research work is just like 'old wine in a new bottle'.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
8.	Research at any degree level enhances the chances of exploitation/harassment of research students by research supervisors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
9.	I feel that society gets benefited from research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
10.	Research is very useful for every profession.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
11.	It is not possible to produce quality researches in present scenario.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
12.	Manipulation of data has become the key feature of present research activities in every field.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
13.	The skills that I have acquired through research will be helpful for me in the future.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
14.	I feel that knowledge acquired through research is more useful in my life as compared to knowledge gained through reading some literature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
<b>Total Score page 2</b>						<input type="text"/>	



Sr. No.	STATEMENTS	RESPONSE					Score
		Strongly Agree	Agree	Undecided	Dis-agree	Strongly Disagree	
15.	I employ research approaches in my professional as well as personal life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
16.	Mostly, 'cut, copy and paste' technology is employed in present day research works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
17.	I can easily understand research reports.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
18.	Research is highly relevant and beneficial for my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
19.	I would love to work on a research project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
20.	I become tense when it comes to statistical analysis of research data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
21.	Collection of data has a demoralizing effect on the researchers.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
22.	The relationship between researcher and research supervisor become very cordial during research process.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
23.	I am much interested in research and research related activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
24.	Research work does not impose any extra workload on the students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
25.	It seems like a joke to generalize the research findings obtained from a small sample to the whole population.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
26.	Research makes us systematic and hardworking in our daily lives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
27.	I feel at ease with arithmetic and statistical computations in research.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
28.	I am confident that I can understand research terminology.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
29.	Research works which are carried out by government or semi-govt. departments have mostly pre-determined conclusions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
<b>Total Score page 3</b>							<input type="text"/>



4 | Consumable Booklet of ASTR-svsy

Sr. No.	STATEMENTS	RESPONSE					Score
		Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	
30.	I am aware of the steps that I have to follow in pursuing a research project.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
31.	Formulation of research hypothesis makes the researcher aware of intended results and thus, provides a scope for manipulation in research work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
32.	Conducting research is an effective means to become a successful educator or teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
33.	Conducting research provides insight into various issues related to one's profession.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
34.	I find it difficult to understand the methodology of conducting research works.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
35.	Research develops originality among individuals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
36.	It is very essential to publish the research findings in order to enhance the authenticity and acceptability of research works among academic community.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
37.	Identification and selection of a suitable research problem requires a good deal of patience and logical reasoning on the part of the researcher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
38.	I don't think that research is essential to improve the process and practice of education at any level.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
39.	Research projects and skills should be an integral part of every post graduate course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
40.	I believe that research-oriented thinking plays an important part in our everyday life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
41.	It is my strong belief that research requires an expert, accurate and systematic observation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
42.	Completed research projects/works just become the property of libraries and has nothing to do with their social implications.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>

Total Score page 4

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RP



**Table: Showing the identified Correlation Matrix of the Internet-users on various dimensions of Lifestyle and Attitude towards Research (N =300)**

Variables	HOLS	AOLS	COLS	SOLS	TOLS	FOLS	AGARRP	AURPC	ARRPSL	ADRRRA
<b>HOLS</b>	*	-.305	.831	-.283	.778	.036	.239	-.195	-.328	.637
<b>AOLS</b>		*	-.326	.805	-.319	-.041	-.216	.507	.861	-.109
<b>COLS</b>			*	-.305	.779	.026	.243	-.175	-.329	.657
<b>SOLS</b>				*	-.340	-.087	-.255	.492	.812	-.126
<b>TOLS</b>					*	-.066	.229	-.096	-.328	.732
<b>FOLS</b>						*	.101	-.111	-.051	-.167
<b>AGARRP</b>							*	.015	-.237	-.007
<b>AURPC</b>								*	.506	-.157
<b>ARRPSL</b>									*	-.097
<b>ADRRRA</b>										*

Above table shows the correlation matrix which gives the correlation coefficients between a single variable and every other variable in the investigation.

#### Acronyms:

(1) *HOLS*= Health Oriented Lifestyle. (2) *AOLS*=Academic Oriented Lifestyle. (3) *COLS*=Career Oriented Lifestyle. (4) *SOLS*=Social Oriented lifestyle. (5) *TOLS*=Trend Oriented lifestyle. (6) *FOLS*=Family Oriented lifestyle. (7) *AGARRP*=Attitude towards General Aspects of Research and Research Process. (8) *AURPC*=Attitude towards Usefulness of Research in Professional career. (9) *ARRPSL*=Attitude towards Relevance of Research in Personal and Social Life. (10) *ADRRRA*=Attitude towards Difficulties in Research and Research Anxiety



**Table: Showing the Correlation Matrix of the Internet Non-users on various dimensions of Lifestyle and Attitude towards Research (N =300)**

Variables	HOLS	AOLS	COLS	SOLS	TOLS	FOLS	AGARRP	AURPC	ARRPSL	ADRRRA
<b>HOLS</b>	*	.235	.577	-.115	-.323	-.096	.505	-.079	.045	.131
<b>AOLS</b>		*	.557	.507	-.114	.526	.283	.509	-.073	-.009
<b>COLS</b>			*	.324	-.334	.309	.377	.311	.004	.107
<b>SOLS</b>				*	-.275	.765	-.162	.724	.196	.026
<b>TOLS</b>					*	-.453	.201	-.481	-.667	-.129
<b>FOLS</b>						*	-.316	.927	.446	.043
<b>AGARRP</b>							*	-.317	-.512	.036
<b>AURPC</b>								*	.467	.042
<b>ARRPSL</b>									*	.169
<b>ADRRRA</b>										*

Above table shows the correlation matrix which gives the correlation coefficients between a single variable and every other variable in the investigation.

**Acronyms:**

(1) *HOLS*= Health Oriented Lifestyle. (2) *AOLS*=Academic Oriented Lifestyle. (3) *COLS*=Career Oriented Lifestyle. (4) *SOLS*=Social Oriented lifestyle. (5) *TOLS*=Trend Oriented lifestyle. (6) *FOLS*=Family Oriented lifestyle. (7) *AGARRP*=Attitude towards General Aspects of Research and Research Process. (8) *AURPC*=Attitude towards Usefulness of Research in Professional career. (9) *ARRPSL*=Attitude towards Relevance of Research in Personal and Social Life. (10) *ADRRRA*=Attitude towards Difficulties in Research and Research Anxiety