CHAPTER – IV

DATA ANALYSIS,
RESULTS AND DISCUSSION

DATA SCREENING AND DETECTION OF OUTLIERS

The sample available for the present analysis consisted of 400 subjects which were classified equally in two groups Smokers 200, and Non Smokers 200. For each the data on eleven sub-factors i.e. Independent variables are smokers, non smokers and Dependent variables are personality characteristics i.e. Neuroticism, Extroversion, Openness to experience, Agreeableness and Conscientiousness and Frustration factor i.e. Regression, Fixation, Resignation and Aggression.

While preparing the computer data file from master chart, extreme care was taken with respect to the accuracy of the input of data. The data file was completely checked till an errorless check trial was obtained. Since the proposed statistical analysis consisted of mean, SD, ‘t’ test ,product moment correlation of variance varying on smokers, non smokers.
Hypothesis No. 1: Subject with Smokers would possess higher Neuroticism than Subject with Non Smokers.

Table 4.1.
Means and SD of Smokers and Non smokers on Personality Characteristics - Neuroticism

<table>
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<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
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<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>31</td>
<td>3.11</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>23.5</td>
<td>4.77</td>
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Fig.4.1:
Bar diagram showing Mean values and SD values of Smokers and Non smokers on Personality characteristics – Neuroticism

Hypothesis No. 1

Table 4.1 and Figure 4.1 present the mean and S.D values on the personality factors Neuroticism for smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on personality factors Neuroticism.
Table 4.2
‘t’ value for Smokers and Non-smokers on Personality factor Neuroticism

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<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>'t' Value</th>
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<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>31</td>
<td>3.11</td>
<td>18.75**</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>23.5</td>
<td>4.77</td>
<td></td>
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** Significant at 0.01 level, 0.05 level

Table 4.2 presents the t value for the Smokers and Non-smokers on personality factor i.e. Neuroticism. Significant effect was found for Smokers and Non-smokers (t = 18.75, P<0.01 &0.05) on personality factor Neuroticism.

Pearson product moment correlation values \( r = 0.89 \) (P< 0.01, 0.05) shows significant correlation between smokers and non-smokers on personality characteristics Neuroticism.

Thus the result is supporting to hypothesis no. 1. Subject with Smokers would posses higher Neuroticism than Subject with Non Smokers.

These results are in consistent with the finding of Kara Hames; Dr.Jennifer S. Parker (2008) who reported Neuroticism is significantly higher smokers than in Non smokers. Antonio Terracciano, Corinna E Lockenhoff1, Rosa M Crum, O Joseph Bienvenu and Paul T Costa Jr, (2008) Multivariate
analyses of covariance controlling for demographic variables indicated significant personality differences among smoking status groups. Compared to never smokers, current smokers scored higher on Neuroticism. S Hu, CL Brody, C Fisher, L Gunzerath, ML Nelson, SZ Sabo, LA Sirota, SE Marcus, BD Greenberg, DL Murphy and DH Hamer (2000) Cigarette smoking behavior is influenced by both personality traits and inherited factors. Previous research showed that neuroticism a broad personality domain that includes anxiety, depression, impulsiveness and vulnerability increases the risk of being a smoker, primarily because of difficulty in quitting.

B. H. Burns (1969), The ability to give up smoking was found to bear no relationship to age, or to the initial quantity of cigarettes smoked. Personality factors, as derived from the scores on the Maudsley Personality Inventory, were found to be related to success in giving up smoking. Those who stopped smoking showed significantly lower neuroticism scores and higher (not significant) extroversion scores than those who did not. The occurrence of withdrawal symptoms, in particular tension, irritability, and a craving for a cigarette, was the commonest reason given for not stopping, by those who continued to smoke. Withdrawal symptoms occurred significantly more frequently in patients with a greater initial smoking habit and also in
patients with significantly higher neuroticism scores. The female patients were significantly less successful in stopping smoking than the males. Significantly higher neuroticism scores were found in the female smokers than in the male smokers, and in the females who continued to smoke than in the males who continued to smoke. The sex difference in the smoking habit, and the general problem of giving up cigarettes with the development of chronic chest disease, are discussed.

Renee Goodwin, and Steven P. Hamilton, (2002) Consistent with previous findings, these data suggest that panic attacks are associated with higher odds of cigarette smoking. They also introduce new evidence documenting this association in the absence of depression and alcohol substance use disorders. Our results also revealed that the relationship between panic attacks and cigarette smoking was no longer evident after we controlled for neuroticism, indicating that there may be a synergistic relationship between high neuroticism and the likelihood of the co-occurrence of panic attacks and cigarette smoking. These results provide preliminary evidence suggesting that neuroticism may reflect an underlying shared vulnerability to the co-occurrence of cigarette smoking and panic attacks.
Dara G. Friedman-Wheeler, David A. F. Haaga, Kathleen C. Gunthert, Anthony H. Ahrens, and Elizabeth McIntosh (2008) In conclusion, in a sample of adult daily cigarette smokers, depression and neuroticism were associated with the projected use of disengagement coping strategies, as well as with favorable mood-regulation expectancies for disengagement coping strategies. The projected use of coping strategies was closely related to outcome expectancies for them, regardless of participants’ levels of depression or neuroticism. David Patton, Gordon E. Barnes–and Robert P. Murray (1992) Results showed that smokers were the most extraverted group. Gender differences in the relation between smoking and neuroticism were found. Male smokers were much more neurotic than non-smokers and men who quit smoking, whereas there were no group differences in neuroticism for women. Both male and female smokers were high on psychoticism.

Cherry & Kiernan (1976) High scores on Neuroticism could be a cause as well as an effect of smoking. Indeed, longitudinal data suggest that high Neuroticism is a risk factor for smoking initiation. Breslau (1993) The smokers’ higher scores on Neuroticism facets are consistent with the susceptibility toward psychopathology found in nicotine-dependent smokers.
Khantzian (1997) The high score on Neuroticism is also consistent with the view that some individuals use cigarette smoking as self-medication.

Costa & McCrae, (1981); Terracciano & Costa, (2004). Individual-level research has produced a relatively large body of strong and fairly consistent evidence that the neuroticism factor is most related to smoking and that more neurotic persons are more likely to smoke. Chapman B, Fiscella K, Duberstein P, Kawachi I.(2010) Never smoking was associated with higher neuroticisms. John M. malouff, Einar B. Thor Stneinsson, Nicola S. Schutte (2006) The results, based on nine studies and a total of 4,730 participants, show that smoking was associated with the following five-factor traits high neuroticism. David G. Gilbert and Brenda O. Gilbert (1995)Smokers are more likely to be high in neurotic traits (e.g., depression, anxiety, anger) and in social alienation (psychoticism, impulsivity, un-socialized sensation-seeking, low conscientiousness, low agreeableness) and low in achievement socioeconomic status. Psychological and biological mechanisms putatively mediating these associations are reviewed. It is concluded that a number of relatively indirect and complex processes, as well as more direct (e.g., self-medication for psychopathology, nicotine sensitivity), mediate the inheritance of smoking behavior.
Shadel, Niaura, Goldstein, & Abrams, (2000) The work that has been done investigating neuroticism, extraversion, and smoking has had inconclusive findings. Adam A. Torres Mary Pritchard (2005) we expected high scores for neuroticism for smoking.

Harakeh and Malouff (2006) Finally, we tested whether adolescent personality characteristics could account for the effects of the parent’s smoking trajectory on adolescent smoking. Replicating earlier literature, adolescents who were higher in neuroticism were more likely to have smoked. Vollrath and Torgersen (2002) used a typological approach and found that individuals both high in Neuroticism and low in Conscientiousness were disproportionately likely to be smokers. Breslau (1993) The smokers’ higher scores on Neuroticism facets are consistent with the susceptibility toward psychopathology found in nicotine-dependent smokers. Khantzian (1997)The high score on Neuroticism is also consistent with the view that some individuals use cigarette smoking as self-medication.

Tate, Pomerleau & Pomerleau (1994) whereas individuals high in Neuroticism would smoke to reduce tension and anxiety.
Hypothesis No. 2  Subject with Smokers would posses lower Conscientiousness than Subject with Non Smokers.

Table 4.3

Means and SD of Smokers and Non smokers on Personality Characteristics- Conscientiousness

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<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
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<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>29.25</td>
<td>3.99</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>38.85</td>
<td>2.87</td>
</tr>
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</table>

Fig.4.2:
Bar diagram showing Mean values and SD values of Smokers and Non smokers on Personality characteristics – Conscientiousness

Hypothesis No. 2

Table 4.3 and Figure 4.2 present the mean (smokers 29.25, Non-smokers 38.85) and S.D values on the personality factors Conscientiousness for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is lower than Non-smokers groups on personality factors Conscientiousness.
Table 4.4
‘t’ value of Smokers and Non-smokers on Personality factor Conscientiousness.

<table>
<thead>
<tr>
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<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>'t' Value</th>
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<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>29.25</td>
<td>3.99</td>
<td>27.43**</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>38.85</td>
<td>2.87</td>
<td></td>
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</table>

**Significant at 0.01 level, 0.05 level**

Table 4.4 presents the t value for the Smokers and Non-smokers on personality factors Neuroticism. Significant effect was found for Smokers and Non-smokers (t = 27.43, P< 0.01 & 0.05) on personality factor Conscientiousness.

Pearson product moment correlation values r =0.69 (P<0.01, 0.05) shows significant correlation between smokers and non-smokers on personality characteristics Conscientiousness.

**Thus the result is support to hypothesis no.2. Subject with Smokers would posses lower Conscientiousness than Subject with Non Smokers.**

Trobst.( 2000) Low Conscientiousness has been associated with other health risk behaviors. Vollrath and Torgersen (2002) reported that the Impulsive and Insecure personality types, which are characterized by low Conscientiousness, are more likely to be current-smokers. Kara Hames; Dr.Jennifer S. Parker (2008) The findings in this study indicate that there are differences in the personality traits and risk behavior tendencies of those who choose to smoke and those who refrain. It is possible that the relatively small
sample of smokers in this study was not sufficient to achieve significant differences in all hypotheses. However, the scores did vary in the direction of the hypotheses. The results are similar to the findings of who found smokers lower in conscientious than Non smokers.

Antonio Terracciano, Corinna E Löckenhoff1, Rosa M Crum, O Joseph Bienvenu and Paul T Costa Jr, (2008) Multivariate analyses of covariance controlling for demographic variables indicated significant personality differences among smoking status groups. Compared to never smokers, current smokers scored lower on Conscientiousness. E. A. O'Connor, S. Friel and C. C. Kelleher(1997) It is therefore important to account for the inter-relationship between these three factors smoking, fashion consciousness and dietary behavior when implementing health promotion and health education policies. While we have moved from health education policies related to health related risks to ones more concerned with personal development, we may need to consider whether smoking is not, in fact, an assertive action on the part of women of which a fashion statement is a part, and revise our health education strategy accordingly.

Diane Von Ah1, Sheryl Ebert, Anchalee Ngamvitroj, Najin Park, Duck-Hee Kang (2005) Students who reported lower levels of conscientiousness and self-efficacy had a greater likelihood to had tried cigarette smoking. Also, students who had lower levels of self-efficacy reported smoking more frequently and greater quantities of cigarettes than students with higher levels of self efficacy. Self-efficacy was the most significant predictor of smoking behaviors. Costa, P., McCrae, R.R., (1992)
Conscientiousness also was a significant predictor of cigarette smoking initiation. Students with higher levels of conscientiousness were less likely to try cigarette smoking than students with lower levels of conscientiousness. Individuals high in conscientiousness have been described as efficient, organized and goal directed, while those with lower levels of conscientiousness are considered more impulsive and easier to persuade.

John M. Malouff, Einar B. Thosteinsson, Nicola S. Schutte (2006) describes a meta-analysis of the relationship between the Five-Factor Model of personality and smoking. The results, based on nine studies and a total of 4,730 participants, show that smoking was associated with the following five-factor traits: low conscientiousness. A. R. Sutin, A. Terracciano, B. Deiana, S. Naitza, L. Ferrucci, M. Uda, D. Schlessinger and P. T. Costa Jr (2010) Conclusions Consistent with the literature on personality and self-reported health, individuals high on Neuroticism or low on Conscientiousness show elevated levels of this inflammatory cytokine. Identifying critical medical biomarkers associated with personality may help to elucidate the physiological mechanisms responsible for the observed connections between personality traits and physical health.

Sarah E. Hampson, Judy A. Andrews, Maureen Barckley, Edward Lichtenstein and Michael E. Leeb (2002). Conscientiousness predicted instituting a more restrictive household smoking rule (p < .01), and perceived risk predicted reduction in cigarettes smoked per day for men (p < .001). Perceived risk predicted a reduction in the proportion of cigarettes smoked in the home for those who had high (p < .05) but not low or moderate levels of Conscientiousness, a dimension in one personality model. Hampson et al
The effects of these interventions were not moderated by the level of perceived risk of radon combined with smoking, or Conscientiousness. However, across interventions, more conscientious individuals were more likely to adopt more restrictive household smoking rules. Furthermore, the effect of perceived risk of the combination of radon and smoking on a reduction in cigarettes smoked in the home was moderated by Conscientiousness: perceived risk predicted a reduction only for those who were highly conscientious individuals. Neither perceived risk nor Conscientiousness predicted quitting smoking. Bogg & Roberts, (2004) More conscientious individuals engage in more health-enhancing and fewer health-damaging behaviors, including less tobacco use.


Booth-Kewley and Vickers, (1994) In contrast, Conscientiousness predicts the inclination to refrain from risky health behaviours such as smoking and excessive drinking. David G. Gilbert and Brenda O. Gilbert (1995) Smokers are more likely to be high in neurotic traits (e.g., depression, anxiety, anger) and in social alienation (psychoticism, impulsivity, unsocialized sensation-seeking, low conscientiousness, low agreeableness) and low in achievement socioeconomic status. Psychological and biological mechanisms putatively mediating these associations are reviewed. It is concluded that a number of
relatively indirect and complex processes, as well as more direct (e.g., self-medication for psychopathology, nicotine sensitivity), mediate the inheritance of smoking behavior.

Terracciano & Costa; Vollrath, Knoch, & Cassano, (1999) Fewer studies have included agreeableness and conscientiousness but the majority show that lower conscientiousness is more common among smokers.

Adam A. Torres Mary Pritchard (2005) we expected high scores for extraversion and neuroticism and low scores for agreeableness, conscientiousness and openness. For smoking and drinking we expected high scores in extraversion, neuroticism, and openness, and a low score in conscientiousness. Vollrath and Torgersen (2002) used a typological approach and found that individuals both high in Neuroticism and low in Conscientiousness were disproportionately likely to be smokers.
**Hypothesis No. 3**  Subject with Smokers would posses Lower Agreeableness than Subject with Non Smokers.

**Table 4.5**
Means and SD of Smokers and Non smokers on Personality Characteristics- Agreeableness

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<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
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<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>27.5</td>
<td>4.3</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>36.5</td>
<td>3.21</td>
</tr>
</tbody>
</table>

**Fig. 4.3:**
Bar diagram showing Mean values and SD values of Smokers and Non smokers on Personality characteristics – Agreeableness

Hypothesis no.3

Table 4.5 and Figure 4.3 present the mean and S.D values on the personality factors Agreeableness for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is lower than Non-smokers groups on personality factors Agreeableness.
Table 4.6
‘t’ value for Smokers and Non-smokers on Personality factor Agreeableness

<table>
<thead>
<tr>
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<th>N</th>
<th>M</th>
<th>S.D.</th>
<th>'t' Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>27.5</td>
<td>4.3</td>
<td>23.98**</td>
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<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>36.5</td>
<td>3.21</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level, 0.05 level**

Table 4.6 presents the t value for the Smokers and Non-smokers on personality factors Agreeableness. Significant effect was found for Smokers and Non-smokers ($t = 23.98 \text{ P}<0.01 \& 0.05$) on personality factor Agreeableness.

Pearson product moment correlation values $\gamma = 0.57 \text{ (P< 0.01, 0.05)}$ shows significant correlation between smokers and non-smokers on personality characteristics Agreeableness.

Thus the result is support to hypothesis no.3. Subject with Smokers would posses lower Agreeableness than Subject with Non Smokers.

Malouff, Thorsteinsson, and Schutte (2006) showed that smoking was related to low agreeableness. Terracciano & Costa; Vollrath, Knoch, & Cassano, (1999) Fewer studies have included agreeableness but the majority show that lower agreeableness is associated with smoking is more common among smokers.
The results, based on nine studies and a total of 4,730 participants, show that smoking was associated with the following five-factor traits: low conscientiousness, low agreeableness.

Gilbert & Gilbert, (1995) Over a decade ago, a major review concluded that smokers, compared with nonsmokers, were more likely to be high in traits such as depression, anxiety, anger, social alienation, impulsivity, sensation seeking, and psychoticism and low in traits such as conscientiousness and agreeableness.


David G. Gilbert and Brenda O. Gilbert (1995) Smokers are more likely to be high in neurotic traits (e.g., depression, anxiety, anger) and in social
alienation (psychoticism, impulsivity, unsocialized sensation-seeking, low conscientiousness, low agreeableness) and low in achievement socioeconomic status. Psychological and biological mechanisms putatively mediating these associations are reviewed. It is concluded that a number of relatively indirect and complex processes, as well as more direct (e.g., self-medication for psychopathology, nicotine sensitivity), mediate the inheritance of smoking behavior.

Terracciano & Costa; Vollrath, Knoch, & Cassano, (1999) Fewer studies have included agreeableness and conscientiousness but the majority show that lower agreeableness is associated with smoking.

Adam A. Torres Mary Pritchard (2005) we expected high scores for extraversion and neuroticism and low scores for agreeableness.
Hypothesis No. 4  
Subject with Smokers would posses higher openness than Subject with Non Smokers.

Table 4.7
Means and SD of Smokers and Non smokers on Personality Characteristics- Openness

<table>
<thead>
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<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
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<tr>
<td>Smokers</td>
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<td>36.05</td>
<td>2.08</td>
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<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>30.05</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Fig.4.4:  
Bar diagram showing Mean values and SD values of Smokers and Non smokers on Personality characteristics – Openness

Hypothesis IV

Table 4.7 and Figure 4.4 present the mean and S.D values on the personality factors Openness for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on personality factors Openness.
Table 4.8 presents the t value for the Smokers and Non-smokers on personality factors Openness. Significant effect was found for Smokers and Non-smokers (t = 6.89, P <0.01 &0.05) on personality factor Openness.

Pearson product moment correlation values $\gamma = 0.77$ (P < 0.01, 0.05) shows significant correlation between smokers and non-smokers on personality characteristics Openness.

Thus the result is support to hypothesis no.4. Subject with Smokers would posses higher Openness than Subject with Non Smokers.

Chikako Waga and Kazuhiko Iwahashi (2007) As the results, the Openness score by NEO-FFI was higher among smokers than nonsmokers. Coan, (1973) However, smoking has sometimes been found to be more likely among those higher in openness at the individual level of analysis.

Seo DC, Torabi MR, Weaver AE (2008) The rate of transition from openness to future smoking to tobacco use initiation is higher among white adolescents than among minority adolescents. Exposure to protobacco

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ value</th>
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</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>36.05</td>
<td>2.08</td>
<td>6.89</td>
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<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>30.05</td>
<td>3.28</td>
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</table>

**Significant at 0.01 level, 0.05 level**
messages had a greater effect on openness to future smoking than exposure to antitobacco messages. The rate of transition from openness to future smoking to tobacco use initiation is higher among white adolescents than among minority adolescents.

Shadel, Niaura, Goldstein, & Abrams, (2000). An interesting finding is that of openness and nicotine dependence, which notes that smokers who view themselves as being more independent, or original, are less dependent on nicotine.

Adam A. Torres Mary Pritchard (2005) we expected high scores for extraversion and openness. For smoking and drinking we expected high scores in openness.

Black (2000); Florida and Gates, (2001); Florida, (2002) find an association between openness and diversity and higher levels of human capital and of creative occupations. Such environments have an advantage in attracting individuals from across the spectrum of gender, race, ethnicity, sexual orientation and so on. Openness and tolerance also reflect an economic structure which values meritocracy, and in which individuals can succeed more on the basis of talent than on demographic categories. We contrast our focus on diversity and openness with the extant literature focus on gender, race and ethnicity. We propose that characteristics of open, diverse and tolerant environments which we measure in terms of observed concentrations of immigrants and gay populations will outperform conventional measure of gender, race and ethnicity in predicting smoking and obesity.
**Hypothesis No. 5** Subject with Smokers would possess higher Extroversion than Subject with Non Smokers.

**Table 4.9**

Means and SD of Smokers and Non smokers on Personality Characteristics - Extroversion

<table>
<thead>
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<th>Mean</th>
<th>S.D</th>
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<tr>
<td>Smokers</td>
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<td>37.95</td>
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</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>33.95</td>
<td>4.77</td>
</tr>
</tbody>
</table>

**Fig.4.5:**

Bar diagram showing Mean values and SD values of Smokers and Non smokers on Personality characteristics – Extroversion

Table 4.9 and Figure 4.5 present the mean and S.D values on the personality factors Extroversion for various smokers and non smokers. It can be observed from the table that the meanscore of the Smokers groups is higher than Non-smokers groups on personality factors Extroversion.
Table 4.10 ‘t’ value for Smokers and Non-smokers on Personality factor Extroversion

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>37.95</td>
<td>2.31</td>
<td>13.79</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>33.95</td>
<td>2.84</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level, 0.05 level**

Table 4.10 presents the t value for the Smokers and Non-smokers on personality factors Extroversion. Significant effect was found for Smokers and Non-smokers ($t = 13.79, P<0.01 \& 0.05$) on personality factor Extroversion.

Pearson product moment correlation values $\gamma = 0.58$ ($P< 0.01, 0.05$) shows significant correlation between smokers and non-smokers on personality characteristics Extroversion.

Thus the result is support to hypothesis no. 5. Subject with Smokers would posses higher Extroversion than Subject with Non Smokers.

Kara Hames, Dr.Jennifer S. Parker (2008) who reported extroversion is significantly higher smokers than in Non smokers. Antonio Terracciano, Corinna E Löckenhoff1, Rosa M Crum, O Joseph Bienvenu and Paul T Costa Jr, (2008) Extroversion showed no association with drug use on the factor level, facet-level analyses revealed a consistent association between high
scores on E5: Excitement-Seeking and all types of drug use. H. J. Eysenck, Mollie Tarrant, B.A. Myra Woolf, L. England (1969) Extroversion.-The mean scores for non-smokers and light, medium, and heavy smokers are 7.016, 7.133, 7.445, and 7.805, giving a grand mean for these four groups of 7.358. The means increase with an increase in smoking as required by the hypothesis. The mean for the pipe smokers is 6.96, that for ex-smokers 7.27. (No predictions were made for these groups, and consequently they will not be included in the analysis of variance to determine the significance of the relationship between smoking and personality. McCrae, Costa & Bosse 1978, Eysenck 1980, Breslau, Kilbey & Andreski 1993, Arai et al. 1997, Kassel, Stroud & Paronis 2003), Results across studies are mixed but when differences were found, smokers tended to score higher on Extroversion compared to those who never smoked. Fewer studies have examined the association of smoking status with other major dimensions of personality.

It is possible that some extrovert smokers have been punished in situations of social interaction, which may have contributed to a decrease in the association between smoking and extroversion.

Hampson, Goldberg, Vogt, & Dubanoski, (2007); Shadel, Niaura, Goldstein, & Abrams, (2000). Similarly, a somewhat slimmer majority of the evidence also shows that smoking is more associated with extraversion than introversion.

Eysenck and Eysenck, (1975), Eysenck and Eysenck, (1991), which contains not only the Psychoticism scale, but also scales of Neuroticism and Extroversion. As discussed in the previous section, whilst psychoticism scores have been found to be consistently higher in smokers, research on the other dimensions has demonstrated mixed findings. For example, while some studies report smokers to score higher on the Extroversion and Neuroticism scales than non-smokers.

Costa and McCrae, (1992), and found that participants with a configuration either high extroversion or high neuroticism engaged in a range of “risky health behaviors”, including those associated with cigarette smoking.

Shadel, Niaura, Goldstein, & Abrams, (2000) The work that has been done investigating neuroticism, extroversion, and smoking has had inconclusive findings.
Wilkinson & Abraham, (2004) Additionally, high extroversion scores are also related to smoking Robins, Tracy, Trzesniewski, Potter, & Gosling, (2001) along with high self-esteem which is usually a characteristic of high extroversion scores. Kubicka, Matejcek, Dytrych, & Roth, (2001) Different types of drinking, like average daily consumption, are also correlated with extroversion.

Adam A. Torres Mary Pritchard (2005) we expected high scores for extroversion and neuroticism and low scores for agreeableness, conscientiousness and openness. For smoking and drinking we expected high scores in extroversion, neuroticism, and openness, and a low score in conscientiousness. Eysenck & Eysenck (1964). Among the facets of Extroversion, only Excitement-Seeking differed among groups, with current smokers scoring higher than non-smokers. The role of Excitement-Seeking is particularly relevant in light of the stimulating effect of nicotine. However, global Extroversion was unrelated to smoking status, because there were no differences among groups on the other facets. Prior findings suggesting that Extroversion is related to smoking were often obtained using measure of Extroversion that included impulsivity as facet. Tate, Pomerleau & Pomerleau (1994) argued that individuals high in Extroversion would smoke in search of stimulation.
Table 4.11
Means and SD of Smokers and Non smokers on Frustration factor Regression

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>30.05</td>
<td>2.75</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>22.5</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Fig.4.6:
Bar diagram showing Mean values and SD values of Smokers and Non smokers on Frustration factor Regression

Table 4.11 and Figure 4.6 present the mean and S.D values on the frustration factor Regression for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on frustration factor Regression.
Table 4.12 presents the \( t \) value for the Smokers and Non-smokers on frustration factor Regression. Significant effect was found for Smokers and Non-smokers \((t = 26.94, \ P < 0.01 \& 0.05)\) on frustration factor Regression.

Pearson product moment correlation values \( r = 0.66 \) \((P < 0.01, 0.05)\) shows significant correlation between smokers and non-smokers on frustration factor Regression.

**Thus the result is support to hypothesis no. 6. Subject with Smokers would posses higher than Regression Subject with Non Smokers.**

Chakroun N, Doron J, Swendsen J. (2004) Results of multiple logistic regressions showed no difference between non-consumers and any group of consumers with regard to anxiety, depression and harm avoidance. However, consumers of other illicit substances significantly differed from non-consumers for novelty seeking trait \((qOR=8.4; \ p < 0.05)\). Results of the ANOVA also showed no differences between the four groups with regard to
scores of harm avoidance and level of antisocial personality but again a comparison of novelty seeking scores was significant, $F(94)=6.46$, $p<0.05$. Moreover, the contrast method demonstrated that novelty seeking scores increased linearly and significantly ($p<0.001$) from the group of non-consumers to the group of the consumers of the most deviant substances. Koji Matsumoto, Akinori Oki, Reiko Furuta, Hiroo Maeda, Toshiharu Yasugi, Naoyoshi Takatsuka, Yasuo Hirai, Akira Mitsushashi, Takuma Fujii, Tsuyoshi Iwasaka, Nobuo Yaegashi, Yoh Watanabe, Yutaka Nagai, Tomoyuki Kitagawa, Hiroyuki Yoshikawa, (2010) To assess the relationship between smoking and spontaneous regression of cervical precursor lesions, a total of 516 women with low-grade squamous intraepithelial lesion (LSIL) were monitored by cytology and colposcopy every 4 months. Probability of LSIL regression within 2 years was analyzed in relation to smoking behaviors. In conclusion, tobacco smoking may interfere with regression of cervical precursor lesions.

Nils Braakmann (2008) Considering both overall smoker status as well as the number of cigarettes consumed, we provide estimates for the smoking wage penalty using standard regression methods, including panel estimators for fixed and panel instrumental variable estimators. Furthermore, we analyses
the impact of stopping and starting to smoke relative to permanent smokers and non-smokers by Mahalanobis matching. In the cross-section, we find a rather large wage penalty for smokers of about 4%. However, panel estimator and IV results show relatively few support for hypotheses linking the smoking wage penalty to either lower productivity of smokers, be it health related or not, or discrimination. Matching results suggest that starting or stopping to smoke does not later earnings relative to remaining either smoker or non-smoker.

Francesca Dominici, Scott L. Zeger (2003) We then apply two-part regression SQUARE to the 1987 National Medicare Expenditure Survey to estimate the difference $\Delta(x)$ between persons suffering from smoking-attributable diseases and persons without these diseases as a function of the propensity of getting the disease

A Gramenzi, A Gentile, M Fasoli, B D'Avanzo, E Negri, F Parazzini, C La Vecchia (1989) Stratification and the Mantel-Haenszel procedure, and unconditional multiple logistic regression were used to obtain relative risks according to levels of cigarette smoking. The regression equations included terms for age, education, coffee and alcohol consumption, diabetes, hypertension, hyperlipidaemia, body mass index and oral contraceptive use.
Hee Jae Cho (1997) The logistic regression model tests whether smoking has an effect on lung cancer and whether the age effect on lung cancer exists and whether there is an interaction between smoking and age group and tries to find the best model which can predict the chance of lung cancer with the smoking and age variables.

Hans Hedenstrom, Per Malmberg and Hrafn V. Fridriksson (1987) The results from 146 smokers and 124 never-smokers were evaluated separately and combined. For all lung function tests a single regression equation was obtained. The prediction formulas included time-related smoking variables and were valid for both smokers and never-smokers. For many lung function tests, a nonlinear age coefficient resulted in a significant reduction in variance compared with simple linear models. Heavy tobacco smoking influenced most lung function tests less than ageing from 20 to 70 years, but for airways resistance, transfer factor and phase III the opposite was found.
Hypothesis No. 7  Subject with Smokers would posses higher Fixation than Subject with Non Smokers.

Table 4.13
Means and SD of Smokers and Non smokers on Frustration factor Fixation

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>29.5</td>
<td>2.30</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>21.5</td>
<td>6.5</td>
</tr>
</tbody>
</table>

Fig.4.7: Bar diagram showing Mean values and SD values of Smokers and Non smokers on Frustration factor Fixation

Table 4.13 and Figure 4.7 present the mean and S.D values on the frustration factor Fixation for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on frustration factor Fixation.
Table 4.14 presents the t value for the Smokers and Non-smokers on frustration factor Fixation. Significant effect was found for Smokers and Non-smokers ($t = 16.63$, $P < 0.01$ & $0.05$) on frustration factor Fixation.

Pearson product moment correlation values $r = 0.37$ ($P < 0.01$, 0.05) shows significant correlation between smokers and non-smokers on frustration factor Fixation $r$.

Thus the result is support to hypothesis no. 7. Subject with Smokers would posses higher than Fixation Subject with Non Smokers.

The finding in line with a study by David Patton, Gordon E. Barnes and Robert P. Murray (1992) Results showed that smokers were the most fixation group. Kassel, Stroud & Paronis (2003), Results across studies are mixed but when differences were found, smokers tended to score higher on fixation compared to those who never smoked.

Annette W Dahland Soren Toksvig-Larsen (2004) Results Half of the smokers and one fifth of the nonsmokers developed complications. Their

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>29.5</td>
<td>2.30</td>
<td>16.63**</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>21.5</td>
<td>6.5</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level, 0.05 level**
mean time in external fixation was 96 (SD 20) days. Smokers required an average of 16 days more in external fixation. Delayed healing and pseudoarthrosis were commoner in smokers than nonsmokers. The risk ratio for smokers to develop complications was 2.5, as compared to nonsmokers.

Whiteman, Fowkes, Deary, & Lee, (1997) More recent reports demonstrated a link between smoking and higher neuroticism, extraversion, fixation, aggression, novelty seeking, impulsiveness, excitement seeking, and sensation seeking self-discipline, and constraint.

Van Proodry (1964) The smoking habit has also been correlated with aggressive tendencies and fixation. Hisamichi S.(1997) which showed a strong relation between tobacco consumption and fixation. Breslau (1993) The smokers’ higher scores on fixation facets are consistent with the susceptibility toward psychopathology found in nicotine-dependent smokers.

Maxwell (1962) Smoking is widely regarded as a response to stress and a mean for reliving tension and fixation.
**Hypothesis No. 8**

Subject with Smokers would possess higher Resignation than Subject with Non Smokers.

**Table 4.15**

Means and SD of Smokers and Non smokers on Frustration factor Resignation

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>31.3</td>
<td>3.16</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>27.8</td>
<td>1.94</td>
</tr>
</tbody>
</table>

**Fig.4.8:**

Bar diagram showing Mean values and SD values of Smokers and Non smokers on Frustration factor Resignation

Table 4.8.1 and Figure 4.8 present the mean and S.D values on the frustration factor Resignation for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on frustration factor Resignation.
Table 4.16
‘t’ value of Smokers and Non-smokers on frustration factor Resignation

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>31.3</td>
<td>3.16</td>
<td>13.46**</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>27.8</td>
<td>1.94</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level, 0.05 level**

Table 4.8.1 presents the t value for the Smokers and Non-smokers on frustration factor Resignation. Significant effect was found for Smokers and Non-smokers (t =13.46, P<0.01 &0.05) on frustration factor Resignation.

Pearson product moment correlation values $\gamma = 0.67$ (P<0.01, 0.05) shows significant correlation between smokers and non-smokers on frustration factor Resignation.

Thus the result is support to hypothesis no. 8. Subject with Smokers would posses higher than Resignation Subject with Non Smokers.

These results are consistent with the finding of C. C. Kelleher(1997) It is therefore important to account for the inter-relationship between these three factors smoking, fashion Resignation and dietary behavior when implementing health promotion and health education policies. DH Hamer (2000) Cigarette smoking behavior is influenced by resignation and inherited factors. Lawrence M. Scheier, Margaret M. Doyle, Christopher Williams (2003) resignation behaviors were reported most frequently, followed by delinquent behaviors, alcohol use, and cigarette smoking. Leo Sher, Maria A. Oquendo, Hanga C. Galfalvy, Michael F. Grunebaum, Ainsley K. Burke, Gil Zalsman and J. John Mann (2004) The greater frequency of suicidal behavior and severity of suicidal ideation in major depression with comorbid alcoholism appears related to associated aggressive traits. Alcoholism, smoking, and resignation suicide may have a common biological causal substrate.
**Hypothesis No. 9**  
Subject with Smokers would possess higher Aggression than Subject with Non Smokers.

Table 4.17

Means and SD of Smokers and Non smokers on Frustration factor Aggression

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
<td>200</td>
<td>30.65</td>
<td>2.78</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>24.3</td>
<td>5.51</td>
</tr>
</tbody>
</table>

Fig.4.9:

Bar diagram showing Mean values and SD values of Smokers and Non smokers on Frustration factor Aggression

Table 4.9.1 and Figure 4.9 present the mean and S.D values on the frustration factor Aggression for various smokers and non smokers. It can be observed from the table that the mean score of the Smokers groups is higher than Non-smokers groups on frustration factor Aggression.
Table 4.18
‘t’ value of Smokers and Non-smokers on frustration factor Aggression

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>S.D</th>
<th>‘t’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smokers</td>
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<td>30.65</td>
<td>2.78</td>
<td>4.60**</td>
</tr>
<tr>
<td>Non-Smokers</td>
<td>200</td>
<td>24.3</td>
<td>5.51</td>
<td></td>
</tr>
</tbody>
</table>

**Significant at 0.01 level, 0.05 level

Table 4.9.1 presents the ‘t’ value for the Smokers and Non-smokers on frustration factor Aggression. Significant effect was found for Smokers and Non-smokers (t =4.60, P<0.01 &0.05) on frustration factor Aggression.

Pearson product moment correlation values $\gamma = 0.42$ (P< 0.01, 0.05) shows significant correlation between smokers and non-smokers on frustration factor Aggression.

**Thus the result is support to hypothesis no. 9. Subject with Smokers would posses higher than Aggression Subject with Non Smokers.**

The results have been found in consonance with the studies by D. R. Cherek (1988) Nicotine, administered with experimental cigarettes, produced dose-dependent decreases in both types of aggressive responding elicited by low or high frequency subtractions of money attributed to another person.

Martin D. Schechter and Michael J. Rand (1973) This increase in aggression in deprived smokers is discussed as a factor in the continuance of the smoking habit and is positively correlated to rated hostility scores on the Buss-Durkee Hostility Inventory.

Van Proodry (1964) The smoking habit has also been correlated with aggressive tendencies. Larson and Silvett (1968) research investigating the...
relationship between cigarette smoking and aggression has been lacking. Silverman (1970), Schechter (1973), Nicotine the main pharmacological agent in tobacco has been reported to decrease various types of aggressiveness in rats.

Dotson LE, Robertson LS, Tuchfeld B. Plasma (1975) alcohol concentrations and the number of cigarettes smoked by men during social-drinking situations were significantly related to change in testosterone levels. Age, height, plasma alcohol and smoking were related to self-reports of prior assault and verbal aggression. Aggressions was not related to testosterone concentration. Kenneth W. Griffin, Gilbert J. Botvin, Lawrence M. Scheier, Margaret M. Doyle, Christopher Williams (2003) Aggressive behaviors were reported most frequently, followed by delinquent behaviors, alcohol use, and cigarette smoking.

Parallel findings have been reported in studies of humans (Cherek, 1981; Cherek, Bennett, & Grabowski, 1991). Cherek et al. examined the aggressive responses of 8 healthy male heavy smokers under conditions of ad-lib smoking, nicotine gum, placebo gum, or no gum. Compared with the ad-lib condition, aggressive responding was higher with placebo gum and highest in the no-gum condition. Having smokers chew two pieces of nicotine polacrilex gum (2 mg) for 30 min before the experiment reduced aggressive responding to levels comparable to ad-lib cigarette smoking. Acri & Grunberg (1992), Schechter & Rand (1974). Responding to levels comparable to ad-lib cigarette smoking. Cigarette smoking has been shown to reduce anger, irritation, and aggression in deprived habitual smokers but only when they are placed in anger-provoking.

Jules Angsta, Paula J Clayton (1998) Bottom of From a random sample of Swiss army conscripts, 28 cases of suicide, 36 deaths due to accident and 2754
controls were analyzed for social and psychological features, in particular for personality factors at age 19 years; further information was collected during a follow-up study to age 36 years. Among the subjects who committed suicide low school achievement, smoking, and psychiatric disorders were overrepresented. In both groups of deaths aggressiveness (excitability, reactive aggression, spontaneous aggression) and depression scores were higher than among controls. The findings are compatible with those of other studies and biological theories about the role of impulsiveness in suicide.

Dotson LE, Robertson LS, Tuchfeld B. (1975) Plasma alcohol concentrations and the number of cigarettes smoked by men during social-drinking situations were significantly related to change in testosterone levels. Age, height, plasma alcohol and smoking were related to self-reports of prior assault and verbal aggression. Agression was not related to testosterone concentration.

H Persky, CP O'Brien, E Fine, WJ Howard, MA Khan and RW Beck (1977) A variety of measures of affect failed to show a significant correlation between hostility aggression and plasma testosterone levels or alcohol ingestion.

Leo Sher , Maria A. Oquendo, Hanga C. Galfalvy, Michael F. Grunebaum, Ainsley K. Burke, Gil Zalsman and J. John Mann (2004) The greater frequency of suicidal behavior and severity of suicidal ideation in major depression with comorbid alcoholism appears related to associated aggressive traits. Alcoholism, aggression, smoking, and suicide may have a common biological causal substrate.
CONCLUSIONS:

On the basis of data and discussion of results, the hypotheses were tested and verified. Some hypotheses were partially retained and some were rejected and following conclusions were drawn.

- Subject with Smokers tend to show higher Neuroticism than Subject with Non Smokers.
- Subject with Smokers tend to show lower Conscientiousness than Subject with Non Smokers.
- Subject with Smokers tend to show lower Agreeableness than Subject with Non Smokers.
- Subject with Smokers tend to show higher Openness than Subject with Non Smokers.
- Subject with Smokers tend to show higher Extroversion than Subject with Non Smokers.
- Subject with Smokers tend to show higher Regression than Subject with Non Smokers.
- Subject with Smokers tend to show higher Fixation than Subject with Non Smokers.
- Subject with Smokers tend to show higher Resignation than Subject with Non Smokers.
- Subject with Smokers tend to show higher Aggression than Subject with Non Smokers.
CHAPTER – V
SUMMARY, CONCLUSIONS, LIMITATIONS AND SUGGESTIONS

5.1 Research Problem
5.2 Objectives of the study
5.3 Research Hypotheses
5.4 Sample
5.5 Sample Distributions
5.6 Variables
5.7 Research Design
5.8 Tools used for Data Collection
5.9 Analysis of Data
5.10 Results of the present study
5.11 Conclusion
5.12 Limitations and Suggestion of the Present Research