

## INFLUENCE OF GENDER AND SMOKING EXPERIENCE ON TOBACCO SMOKING QUITTING AMONG UNDERGRADUATES IN SELECTED UNIVERSITIES IN NIGERIA

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### **Abstract**

*Several studies examined the determinants of addiction to tobacco smoking among undergraduates in Nigeria. This study investigated the influence of gender and smoking experience on tobacco smoking quitting among undergraduates in the selected universities in Nigeria. The study adopted descriptive survey research design. One hundred and twenty-one participants were sampled for the study, using purposive and network sampling techniques. Participants were randomly assigned to gender and smoking experience groups. Tobacco Smoking Cessation Questionnaire was used ( $r = 0.86$ ). Data were analysed using ANCOVA. There was no significant main effect of gender on tobacco smoking. Significant main effect of smoking experience on tobacco smoking cessation exists. The study concludes that TS is prevalent in Nigeria. It is therefore, recommended that; agencies involved in Anti-tobacco smoking should intensify their efforts towards tobacco smoking cessation in Nigeria.*

**Keywords:** Gender, Smoking experience, tobacco smoking quitting, Undergraduates

### **Introduction**

Smoking is one of the contributory factors to peoples' ill health and sudden death. Tobacco can be taken in several forms; it can be chewed, drunk as tea, snuffed and smoked in form of cigarette. Cigarette smoking is a significant risk factor for cardiovascular disease, cancer, respiratory function impairment and also one of the major causes of premature mortality in industrialised and developing nations (Doll, Edwards and Forbes, 2004).

Tobacco is prepared with nicotine-rich leaves of an American plant, which involves the process of drying and fermenting so as to promote smoking or chewing. Cessation of tobacco smoking increases the user's life span and reduces morbidity (United States Department of Health and Human Services, 1990). Many attempts to stop smoking are made unaided, with a success rate of around (2% to 4%) (Hughes 2007; West, 2005). Aided quit attempts, particularly through a combination of behavioural counselling and nicotine replacement therapy (NRT), bupropion or varenicline, can improve success rates, but these remain low (Cahill, 2010; Hughes, 2007; Staten & Ridner, 2006).

Studies of gender differences in smoking behaviours and cessation patterns have also been conducted by numerous researchers. For example, Ellis et al. (2008) examined the differences by gender in smoking cessation after providing nicotine replacement therapy. The authors assessed data collected from an annual phone interview called the Community Health Survey (CHS) conducted in New York City. The study used data from the interviews from 2002 to 2005. The criteria for the survey included adults 18 years and older, resident in New York City, consented to having their information shared, agreed to follow up interviews, admitted to wanting to quit smoking in the next seven days, and smoked at least ten cigarettes a day. About 40,000 causes of nicotine replacement therapy were given to the participants in the study.

Ritterband et al (2003) affirmed that counseling calls were made to each participant three weeks after receiving the nicotine replacement therapy and that the calls included questions about the effectiveness of the patch and the side effects associated with the patch. The limitations of the study were as follows: the phone interviews were cross-sectional so the results did not interpret the causality; the answers were self-reported and may have been subjected to bias; it is possible that the change seen in the smoking rates may have been due to a cohort effect and not individual change in behaviour, there were a low number of completed counseling calls. Finally, the conclusions drawn about the replacement therapy were limited to the post-enrollment three-week evaluation. The smoking rate dropped from 23.8% to 18.8% and nearly all the smokers who quit were women. The

authors found that the participants in the young adult age group used the nicotine replacement therapy more than the other age groups.

The relationship between experiences and smoking has been extensively examined in both the United States and other countries (Katomeri, 2009;Avecado, & Ekkekakis, 2006). The 1989 US surgeon general's report, upon a thorough review of the literature, concluded that experience an individual has could serve as a predictor of cigarette smoking patterns (United States Department of Health & Human Services, 1990). The general consensus has been that the kind of experience one has, the more likely this person is to remain with smoking as a habit. Upon review of the literature, it was found out that researchers who reached this conclusion typically categorised the smoking experience variable as follows: beginners, middle class smokers and highly smokers and heavy smokers (Taylor & Katomeri, 2007). When smoking experiences are defined in this manner, smoking prevalence sometimes differs little between those who are low level smokers and those higher levels and sometimes the prevalence of smoking cessation is higher (Patrick, 2009). These seemingly counter intuitive results motivated the study to scrutinise the relationship between smoking and their experiences (Zhu, Anderson, Tedeschi, Rosbrook, Johanson & Byrd, 2002).

### **Objectives of the Study**

The following are its objectives:

- 1 To establish the effect of gender on tobacco smoking quitting among undergraduates.
- 2 To investigate the effect of smoking experience on tobacco smoking quitting among undergraduates.

### **Method**

The research design that was used in this study is descriptive survey research design. The study adopted the design because the participants for the study were randomly assigned to treatment groups using fish bowl method without replacement. The population for the study consisted of undergraduates (male and female full time matriculated Undergraduates) in two universities in Nigeria that is; University of Lagos and Obafemi Awolowo University.

The sample size for this study consisted of one hundred and twenty-one university undergraduate smokers. To select participants for the study, network and purposive sampling techniques were used. In the first instance, purposive sampling technique was adopted for the two universities. The second sampling technique that was used to identify undergraduate smokers in halls of residence in each of the institutions is network sampling technique. The criteria included in this study were: smokers who were undergraduates, those screened and confirmed to be smokers by using detector question items, male and female undergraduate smokers who showed genuine interest by filling the informed consent form and questionnaire, those who were available and accessible throughout the intervention and complied with the conditions of the study. The research instrument used for data collection was a self-developmental instrumentation. The questionnaire however, has two sections. Section one consists of demographic profiling of the participants which are age, sex, and smoking experience while section two contains question items relating to Tobacco Smoking quitting.

### **Results**

On the distribution of participants by age, 28(23.1%) of the participants are between the age of 18 and 22 years, 49(40.5%) are between 23 and 27 years, 28(23.1%) are between 28 and 31 years, 16(13.2%) are aged 33years and above. This showed that majority of the participants were between the age of 23 and 27years. This implies that tobacco smoking as a habit is on the increase among university students in Nigeria, particularly those with 23years to 37years age bracket. Distribution of participants by smoking experience, 77(63.6%) of the participants are beginners, 12(9.9%) are intermediate, 20(16.5%) are advanced while 12(9.9%) did not respond. This shows that majority of the participants are beginners.

### **Hypotheses testing**

There is no significant main influence of gender on Tobacco smoking quitting among undergraduates in Nigeria.

Table 1  
**ANCOVA showing main influence of gender on Tobacco smoking cessation among undergraduates**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta <sup>2</sup> / Effect Size
Corrected Model	785.312	2	392.656	1.400	.251	.023
Pretest tobacco	664.592	1	664.592	2.370	.126	.020
Gender	65.772	1	65.772	.235	.629	.002
Error	33089.431	118	280.419			
Total	33874.744	120				

(R-squared = .023, Adjusted R-Squared = .007)

The above results showed that there is no significant main influence of gender on tobacco smoking quitting among undergraduates ( $F(2,118) = .235, P > .05, \eta^2 = .002$ ). This indicated that there is no significant gender influence in tobacco smoking quitting among undergraduates. Hence, the hypothesis is retained. This could be deduced that being male or female undergraduate smoker has no significant basis on quitting tobacco smoking.

Table 2  
**Estimated Marginal means of gender on Tobacco smoking quitting**

Gender	Mean	Std. Error
Male	57.078	1.651
Female	59.163	3.967

However, the mean ( $x = 59.163$ ) for female smokers is greater than ( $x = 57.078$ ) of male smokers. This means that female smokers responded to the treatment better than their male counterparts. There is no significant main influence of smoking experience on Tobacco smoking quitting among undergraduates.

Table 3  
**ANCOVA showing main influence of smoking experience on Tobacco smoking quitting among undergraduates**

Source	Sum of Squares	DF	Mean Square	F	Sig.	Eta <sup>2</sup> / Effect Size
Corrected Model	4152.527	3	1384.176	5.449	.002	.123
Pretest tobacco	237.187	1	237.187	.934	.336	.008
Smoking experience	3432.986	2	1716.493	6.757	.002	.104
Error	29722.217	117	254.036			
Total	33874.744	120				

(R-squared = .123, Adjusted R-Squared = .100)

The table above showed that there is a significant main influence of smoking experience on tobacco smoking quitting among undergraduates ( $F(2,117) = 6.757, P < .05, \eta^2 = .104$ ). This denotes a significant difference in the groups on tobacco smoking cessation. Hence, the hypothesis is rejected. The table also showed a contributing effect size of 10.4%. This indicates that smoking experience has influence on tobacco smoking cessation among undergraduate smokers.

Table 4: **Estimated Marginal means of smoking experience on Tobacco smoking cessation**

Smoking experience	Mean	Std. Error
Beginner	61.125	2.218
Intermediate	59.472	2.522
Advanced	47.815	2.999

From the above table, participants who were beginners in smoking had the highest mean score then followed by those who were intermediate and lastly by those who were Advanced. The mean score of ( $x=61.125$ ) for beginners is greater than ( $x= 59.472$ ) for intermediate smokers and ( $x=47.815$ ) for the advanced smokers respectively. It could therefore, be concluded that undergraduate smokers who are just beginning the habit had better chance of quitting than those who are in between the intermediate and advanced smokers while those at the intermediate have better chances of quitting than those at the advanced stage.

Table 5  
**Scheffe Post Hoc Pairwise comparison on Smoking experience in the analysis**

Smoking experience	Smoking experience	Mean differences	Std. Error	Sig.
Beginner	Intermediate	1.7327	3.3511	.875
	Advanced	13.9629*	3.6929	.001
Intermediate	Beginner	-1.7327	3.3511	.875
	Advanced	12.2302*	3.8862	.009
Advanced	Beginner	-13.9629*	3.6929	.001
	Intermediate	-12.2302*	3.8862	.009

It was noted in the table that there was a significant difference among the three classification of smokers based on smoking experience; Beginner and Advanced, Intermediate and Advanced respectively.

### **Discussion**

Gender differences in smoking quit rates are frequently reported and are the subject of much speculation but this study found no significant effect of gender on smoking cessation. This result is contrary to the view of Ellis *et al.* (2008) who concluded that women were more responsive to tobacco control programmes but men required a more intensive strategy. Potential mediating mechanisms include reductions in weight gain, withdrawal symptoms, and cigarette cravings; notably. The latter two factors are known contributors to cessation resistance and smoking relapse. This is contrary to the submission of Odey *et al.* (2012) who reported that majority of university student smokers fall below 18years. The distribution of participants by gender, 80(66.1%) of the participants are males and 41(33.9%) are females, showing that majority of the participants are male. The implication of this is that, tobacco smoking is decreasing among female undergraduates in Nigerian universities compared to male counterparts. Trust *et al.* (2011) agreed with the findings that tobacco smoking among females is declining in some developed and developing countries as compared to male smokers. It is important to note that more awareness on anti-tobacco smoking crusade is needed in all educational institutions in Nigeria.

Morell, Cohen & Dampsey (2008) corroborated the above submission in their findings that there were no gender differences among undergraduates in terms of their smoking behaviour. On the smoking experience, the general consensus has been that the kind of experience one has, the more likely this person is to remain with smoking as a habit. Upon review of the literature, it was found out that researchers who reached this conclusion typically categorised the smoking experience variable as follows: beginners, middle class smokers and highly smokers and heavy smokers (Taylor & Katomeri, 2007). When smoking experiences are defined in this manner, smoking prevalence sometimes differs little between those who are low level smokers and those higher levels and sometimes the prevalence of smoking cessation is higher (Patrick, 2009). Bjornson *et al.* (1995) also concluded that the interaction of gender with smoking experience as far as quitting smoking is concerned was not significant.

### **Conclusion and Recommendations**

Based on the findings of this study, the following conclusions were drawn:

Smoking experience has significant effect on tobacco smoking quitting among undergraduates of the university in Nigeria compared to gender variable. Smoking experience as an intervention has strongly proven to be effective in quitting the habit of tobacco smoking. This intervention was

empirically effective because of the feedback from the participants during and after the application of the treatment. The outcome of this study suggests that health care providers should promote the application of this intervention, most especially among the young adults who believe that life is characterized by freedom and a mere adventure. Also, the results of this study indicate that though, several attempts to stop cigarette smoking have yielded little success rate but with the conceptualization and application of these interventions, the confidence level of student smokers in the institutions of higher learning, particularly at the universities in Nigeria would be boosted. There is therefore, the necessity to include topics on tobacco smoking effects and reasons for its quitting in some courses such as General Studies in all tertiary institutions. Also, it should be included as a topic in some subjects like Civic Education, Biology, Health Education and Social Studies in both Primary and Secondary Schools in Nigeria. In addition, the findings of this study would serve as reference points to other researchers who may be interested in carrying out some studies focusing on similar psychotherapies to treat other deviant behaviours among people.

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