

## Socio-Psychological Factors Influencing Onychophagia (Nail-Biting) among Students in University of Port Harcourt, Rivers State

Ekechukwu Rosemary Obiagaeri\* and Isukwem Gideon Chidozie

*Department of Educational Psychology, Guidance and Counselling, Faculty of Education, University of Port Harcourt, Rivers State, Nigeria*

**\*Corresponding Author:** Ekechukwu Rosemary Obiagaeri, Department of Educational Psychology, Guidance and Counselling, Faculty of Education, University of Port Harcourt, Rivers State, Nigeria.

**Received:** August 12, 2020; **Published:** October 31, 2020

### Abstract

The study investigated socio-psychological factors influencing onychophagia (nail-biting) among students of University of Port Harcourt, Rivers State, Nigeria. The study adopted the ex-post-facto research design. Three research questions as well as three corresponding hypotheses guided the study. The population of the study comprised 53,288 students of the University of Port Harcourt, Nigeria. A sample of 331 students from the Faculty of Education was drawn for the study using the purposive sampling technique. Three instruments were used to collect data for this study. They include: Nail-Biting Inventory (NBI), Anxiety Scale (AS) and Rosenberg Self-Esteem Scale (RSS). The instruments were designed on a four point Likert scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The Cronbach Alpha reliability was used to establish the internal consistency reliability coefficients of 0.65, 0.71 and 0.68 respectively. Responses to the research questions were answered with mean and standard deviation, while the hypotheses were tested with z-test statistics. The finding of the revealed that anxiety and self-esteem significantly influence onychophagia among students of University of Port Harcourt, whereas gender did not. Based on the findings of the study, it was recommended among others that counsellors should employ intervention strategies such as Cognitive Behavioural Therapy (CBT), and Habit-reversal training which will be directed at increasing awareness of the target behaviour (nail biting), and teaching alternative coping skills.

**Keywords:** *Socio-Psychological Factors (Gender, Anxiety, Self-esteem); Onychophagi*

### Introduction

You may recall when your parent, guardian, or an older person in your neighbourhood had seen you biting your nails and had asked you to take out your fingers from your mouth as a kid, and you had to stop. Nail-biting is a common behaviour usually seen in childhood [1]. For many however, nail-biting persists to adulthood and becomes so intense that it affects their appearance and interferes with their daily lives. Maraz, Hende, Urban and Demetrovics [2] explained that when nail-biting behaviour becomes repetitive, intentional or habitual, it is considered a disorder. Sequel to this, Ghanizadeh as cited in Zakia, Imtiaz, Iram and Aqsa [3] described nail biting, also known as onychophagia, as a chronic oral habit and grooming disorder that is characterized by repetitive and uncontrolled insertion of fingers into the mouth and biting of the nails. He further explained that onychophagia (nail-biting) is psychiatric disorder or impulse control disorder due to three features: intensity, duration and frequency. It is a compulsive, persistent and uncontrollable desire to insert the fingers into the mouth and biting on nail with teeth [4]. In other words, onychophagia is a habit of insertion of the fingers into the mouth, with contact between the nails and teeth. Penzel as cited in Akanksha, Anisha and Amina [5] explained that many persons occasionally use the teeth to replace nail clippers in grooming however, severe or clinical nail-biting involves biting past the nail bed and cuticles, drawing blood and resulting in chronic scarring, or in red, sore, and infected fingers. Onychophagia is considered an impulse control disorder in the DSM-IV-R and is classified under obsessive-compulsive and related disorders in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5) [5].

Ghanizadeh and Shekoochi [6] described onychophagia (nail-biting) as an obsessive habit of biting one's nails and finger tips often to the point of causing injury to self. It includes biting the cuticle and soft tissue surrounding the nail as well as biting the nail itself (Sachan and Chaturvedi, 2013). Deardoff and Finch as cited in Sachan and Chaturvedi (2013) nail-biting follows a sequence of four distinct postures; the hands are placed close to the mouth and kept there for a few seconds to half a minute; the fingers are quickly tapped against the front teeth; a series of quick spasmodic biting follows, with the fingernails pressed tightly against the biting edge of the teeth; the finger is withdrawn from the mouth. Schwartz [7] stressed that onychophagia (nail-biting) is usually not observed before the age of 3 or 4 years, however most cases of onychophagia are seen between the ages of 4 and 6 years; it stabilizes from 7 to 10 and increases considerably during adolescence. He further observed that the problem of nail-biting may likely continue for some persons into adulthood.

Onychophagia is quite debilitating and embarrassing especially to students in tertiary institutions. It has been observed that onychophagia is associated with substantial negative effects on university students' social, emotional and academic success. Specific effects include lack of concentration, poor social skills, often leading to avoidance of social interactions and low self-esteem [8]. The medical complications that can arise from onychophagia include such as malocclusion of the anterior teeth [9], teeth root resorption [10], intestinal parasitic infections, change of oral carriage of *Enterobacteriaceae*, bacterial infection, and alveolar destruction and permanent loss of finger nails [11]. Williams, Rose and Chisholm [12] opined that university students who bite their nails may have red, infected, and scarred fingertips, and may be self-conscious and reluctant to show their hands. They added that such students may avoid seeing doctors or dentists out of shame or fear of discovery, resulting in an exacerbation of medical problems associated with it. Onychophagia causes dysfunction in occupational, academic, social, and familial settings and results in significant amounts of time attempting to conceal nail loss and/or avoiding social and public events [13]. Various explanations have been offered as regards onychophagia (nail-biting) among university students, which include viewing it as a feature of obsessive compulsive disorder and impulse control disorder; notwithstanding, this study will examine socio-psychological factors influencing onychophagia (nail-biting) among students in University of Port Harcourt, Rivers State.

Gender studies have stressed that gender is a predicting factor of onychophagia (nail-biting) among university students. Gender is the range of physical, biological, mental and behavioural characteristics pertaining to and differentiating between masculinity and femininity (Haig, 2004). Depending on the context, the term may refer to biological sex (i.e. the state of being male, female), sex based social structure (including gender roles and other social roles) or gender identity (Udry, 2004). Gavish, Halachmi, Winocur and Gazit as cited in Ahmad and Hajar [14] maintained that girls aged 16 - 22 years reported 25.5% rate of onychophagia compared to boys. Banerjee and Chatterjee (2012) stressed that the problem of nail-biting is common with boys and that girls have more adjustment power than boys, hence they are less susceptible to onychophagia. Zakia, Imtiaz, Iram and Aqsa (2019) also support the view that gender is an influencing factor of onychophagia among tertiary students. They found out that nail-biting is more with females than males. Notwithstanding, Sankara and Nazia [15] found out that gender had no differential influence over onychophagia.

Anxiety is another variable that may influence onychophagia among university students. Okoye as cited in Udeorah (2019) explained that, anxiety is a situation whereby the individual feels or imagines that something unpleasant is going to affect him or her and this leads to tension. Oladele (2005) sees anxiety as an unpleasant, complex and variable pattern of behaviour which individuals show when reacting to internal (thoughts and feelings) or external (environmental situation) stimuli. Thomson [16] also maintained that anxiety is part of everyday life, but it becomes threatening when it is pervasive and invasive, when it affects too many areas of an individual's life and when the individual has neither the strategies nor the energy to cope with it. Anxiety is often accompanied by intense nervousness and uncontrollable heart palpitations which produces different physiological and emotional reactions in varied situation [17]. This anxious state of mind automatically affects the individual's mental wellbeing both psychologically and socially. Parvez [18] explained that when students feel anxious, they often put a finger in the mouth and bite the nail in a bid to find relief or escape the anxious situation. Sankara and Nazia [15] argued that nail-biting is an indicator of tension due to anxiety. Maraz, Hende, Urban and Demetrovics [2] observed that

people bit their nails when they need satisfaction in anxious, stressed and embarrassing situations. For Deardoff, Finch and Royall as cited Avesh and Chaturvedi [19] nail-biting is a demonstration of anxiety made worse by tense moments. They further explained that nail biters have more anxiety than those who do not have the habit.

Studies have also argued that onychophagia among university students may be influenced by self-esteem. Self-esteem has been conceptualized by psychologists as the positive and negative evaluations we have about ourselves [20]. It refers to the general feelings of self-worth or self-value and helps construct a sense of self [21]. In relation to onychophagia, researchers have argued that low self-esteem influence onychophagia. For example, Tanaka, Vitral, Tanaka, Guerrero and Camargo [9] explained that low self-esteem which constitutes lack of confidence and poor judgement of self tends to influence compulsive behaviour such as nail biting. Joubert as cited in Javed, Shazia, Waseem and Talal [22] stressed that nail biting behaviour is caused by low self-esteem and when nail biting continues it further reduces the self-esteem of the nail biter. Leung and Robson as cited in Przemysław, Magdalena, Adam and Jacek [23] maintained that nail biting is related to high anxiety and low self-esteem. Based on these, this study is geared toward examining socio-psychological factors influencing onychophagia (nail-biting) among students of University of Port Harcourt, Rivers State, Nigeria.

### Aim and Objectives of the Study

The study examined socio-psychological factors influencing onychophagia (nail-biting) among students of University of Port Harcourt Rivers State, Nigeria. Specifically, the study sought to:

1. Determine the extent to which gender (male/female) influence onychophagia among students of University of Port Harcourt.
2. Find out the extent to which anxiety influence onychophagia among students of University of Port Harcourt.
3. Find out the extent to which self-esteem influence onychophagia among students of University of Port Harcourt.

### Research questions

The following research questions guided the study:

1. To which extent does gender (male/female) influence onychophagia among students of University of Port Harcourt?
2. To which extent does anxiety influence onychophagia among students of University of Port Harcourt?
3. To which extent does self-esteem influence onychophagia among students of University of Port Harcourt?

### Hypotheses

The following hypotheses which were tested at 0.05 level of significance guided the study:

1. Gender (male/female) does not significantly influence onychophagia among students of University of Port Harcourt.
2. Anxiety does not significantly influence onychophagia among students of University of Port Harcourt.
3. Self-esteem does not significantly influence onychophagia among students of University of Port Harcourt.

**Methodology**

The study adopted the ex-post-facto research design. The population of the study comprised 53,288 students of the University of Port Harcourt, Nigeria. A sample of 331 students from the Faculty of Education was drawn for the study using the purposive sampling technique. Three instruments were used to collect data for this study. They include: Nail-Biting Inventory (NBI), Anxiety Scale (AS), and Rosenberg Self-Esteem Scale (RSS). The instruments were designed on a four point Likert scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2, and Strongly Disagree (SD) = 1. The Cronbach Alpha reliability was used to establish the internal consistency reliability coefficients of 0.65, 0.71 and 0.68 respectively. Responses to the research questions were answered with mean and standard deviation, while the hypotheses were tested with z-test statistics.

**Results and Discussion**

**Research question 1:** To which extent does gender (male/female) influence onychophagia among students of University of Port Harcourt?

**Hypothesis 1:** Gender (male/female) does not significantly influence onychophagia among students of University of Port Harcourt.

Gender	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Male	194	2.48	0.97	329	1.45	1.96	0.05	Accept
Female	137	2.63	1.05					

**Table 1:** Summary of z-test analysis on the influence of gender on onychophagia among students of University of Port Harcourt.

Data on table 1, show summary subject, mean, standard deviation and z-test of influence of gender on onychophagia among students of University of Port Harcourt. The z-test value, calculated and used in testing the hypothesis stood at 1.45 while the z-critical value stood at 1.96, using 329 degree of freedom at 0.05 level of significance. At 0.05 level of significance and 329 degrees of freedom, the calculated value of 1.45 is less than the z-critical value of 1.96. Hence, there is no significant influence gender on onychophagia among students of University of Port Harcourt. Consequently, the researcher retained the null hypothesis that there is no significant influence gender on onychophagia among students of University of Port Harcourt.

**Research question 2:** To which extent does anxiety influence onychophagia among students of University of Port Harcourt?

**Hypothesis 2:** Anxiety does not significantly influence onychophagia among students of University of Port Harcourt.

Variable	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Anxiety	331	2.99	0.95	329	2.09	1.96	0.05	Reject
Onychophagia	331	2.75	1.04					

**Table 2:** Summary of z-test analysis on the influence of anxiety on onychophagia among students of University of Port Harcourt.

Data on table 2, show summary subject, mean, standard deviation and z-test the influence of anxiety on onychophagia among students of University of Port Harcourt. The z-test value, calculated and used in testing the hypothesis stood at 2.09 while the z-critical value stood at 1.96, using 329 degree of freedom at 0.05 level of significance. At 0.05 level of significance and 329 degrees of freedom, the calculated value of 2.09 is far greater than the z-critical value of 1.96. Hence, there is a significant influence of anxiety on onychophagia among students of University of Port Harcourt. Consequently, the researcher rejected the null hypothesis in favour of the alternative that there is a significant influence of anxiety on onychophagia among students of University of Port Harcourt.

**Research question 3:** To which extent does self-esteem influence onychophagia among students of University of Port Harcourt?

**Hypothesis 3:** Self-esteem does not significantly influence onychophagia among students of University of Port Harcourt.

Variable	n	Mean	SD	df	z-cal.	z-crit.	Level of Significance	Decision
Self-esteem	331	2.65	1.01	329	2.80	1.96	0.05	Reject
Onychophagia	331	2.93	0.89					

**Table 3:** Summary of z-test analysis on the influence of self-esteem on onychophagia among students of University of Port Harcourt.

Data on table 3, show summary subject, mean, standard deviation and z-test on the influence of self-esteem on onychophagia among students of University of Port Harcourt. The z-test value, calculated and used in testing the hypothesis stood at 2.80 while the z-critical value stood at 1.96, using 329 degree of freedom at 0.05 level of significance. At 0.05 level of significance and 329 degrees of freedom, the calculated value of 2.80 is far greater than the z-critical value of 1.96. Hence, there is a significant influence of self-esteem on onychophagia among students of University of Port Harcourt. Consequently, the researcher rejected the null hypothesis in favour of the alternative that there is a significant influence of self-esteem on onychophagia among students of University of Port Harcourt.

**Summary of the findings**

The results obtained after data analysis are summarized below:

1. It was found out that gender had no significant influence on onychophagia among students of University of Port Harcourt.
2. Anxiety significantly influenced onychophagia among students of University of Port Harcourt.
3. Self-esteem was found to be significant in influencing onychophagia among students of University of Port Harcourt.

**Discussion of the Findings**

**Gender and onychophagia**

The finding of the study showed that gender does not significantly influence onychophagia among students of University of Port Harcourt. The null hypothesis of no significant influence of gender on onychophagia among students of University of Port Harcourt was accepted. The finding of the present does not agree with those of earlier studies by Gavish, Halachmi, Winocur and Gazit as cited in Ahmad and Hajar [14] who found out that gender significantly influence onychophagia, and that females aged 16 - 22 years reported 25.5% rate of onychophagia compared to males. Likewise, Zakia, Imtiaz, Iram and Aqsa [3] found out that gender is an influencing factor of onychophagia among tertiary students. They further stressed that that nail-biting is more with females than males. However, the finding of the present study is in agreement with that of Sankara and Nazia [15] who found out that gender had no differential influence over onychophagia.

**Anxiety and onychophagia**

The finding of the study revealed that anxiety significantly influence onychophagia among students of University of Port Harcourt. By implication, the null hypothesis of no significant influence of anxiety on onychophagia among students of University of Port Harcourt. was rejected. The finding of the present study is in agreement with an earlier study by Parvez [18] found out that when students feel anxious, they often put a finger in the mouth and bite the nail in a bid to find relief or escape the anxious situation. Sankara and Nazia [15] found

out that nail-biting is an indicator of tension due to anxiety. Maraz, Hende, Urban and Demetrovics [2] also found out that people bit their nails when they need satisfaction in anxious, stressed and embarrassing situations. For Deardoff, Finch and Royall as cited Avesh and Chaturvedi [19] nail-biting is a demonstration of anxiety made worse by tense moments. They further explained that nail biters have more anxiety than those who do not have the habit.

### Self-esteem and onychophagia

The finding of the present study showed that self-esteem significantly influence onychophagia among students of University of Port Harcourt. Hence, the null hypothesis of no significant influence of self-esteem on onychophagia among students of University of Port Harcourt was rejected. The finding of the present study is in agreement with those of earlier studies by Tanaka, Vitral, Tanaka, Guerrero and Camargo [9] who found out that low self-esteem which constitutes lack of confidence and poor judgement of self tends to influence compulsive behaviour such as nail biting. Joubert as cited in Javed, Shazia, Waseem and Talal [22] found out that nail biting behaviour is caused by low self-esteem and when nail biting continues it further reduces the self-esteem of the nail biter. Leung and Robson as cited in Przemysław, Magdalena, Adam and Jacek [23] also found out that nail biting is highly related to anxiety and low self-esteem.

### Conclusion

Onychophagia also known as nail biting, is a chronic oral habit and grooming disorder that is characterized by repetitive and uncontrolled insertion of fingers into the mouth and biting of the nails. It is a debilitating and embarrassing behaviour that could persists to adulthood and become so intense that it affects a person's appearance and daily life. It may lead to dermatological, esthetic, dental, or psychological complications. This study examined socio-psychological factors influencing onychophagia (nail-biting) among students of University of Port Harcourt. It was found out anxiety and self-esteem significantly influence onychophagia (nail-biting) among students of University of Port Harcourt, whereas gender did not.

### Intervention strategies

Based on the findings of the study, the researchers suggested the following intervention strategies:

1. Cognitive Behavioural Therapy (CBT), and Habit-reversal training; which will be directed at increasing awareness of the target behaviour (nail biting), and teaching alternative coping skills.
2. Lecturers and school counsellors should pay greater attention to students in the classroom so as to identify students with obsessive nail biting behaviour in order to offer practical help for them to change their behaviour.
3. The introduction of aversive stimulus is required for helping students with onychophagia. This is usually done through painting of finger nails with nail polish paste or a bitter substance so as to discourage the person from putting the finger nails into the mouth.

### Bibliography

1. Shahraki N., *et al.* "Abnormal oral habits: A review". *Journal of Dentistry and Oral Hygiene* 4.2 (2012): 12-15.
2. Maraz A., *et al.* "Pathological grooming: Evidence for a single factor behind tricotillomania, skin picking and nail biting". *PLoS ONE* 12.9 (2017): e0183806.
3. Zakia B., *et al.* "Socioeconomic status, dependent personality and nail biting behaviour among adults: Evaluation of structural relationship". *Review of Economics and Development Studies* 5.2 (2019): 387-396.



4. Ahmad G. "Nail Biting: Etiology, consequences and management". *Iranian Journal of Medical Sciences* 36.2 (2011): 73-79.
5. Akanksha J., et al. "Nail biting: A body-focused repetitive behaviour case report". *Journal of Behavioural Health* 5.1 (2016): 33-37.
6. Ghanizadeh A and Shekoochi H. "Prevalence of nail biting and its association with mental health in a community sample of children". *BMC Research Notes* 4 (2011): 116.
7. Schwartz A. It's called onychophagia or nail biting (2019).
8. Chamberlain SR., et al. "Lifting the veil on trichotillomania". *American Journal of Psychiatry* 164.4 (2007): 568-574.
9. Tanaka OM., et al. "Nailbiting or onychophagia: A special habit". *American Journal of Orthod Dentofacial Orthop* 134.2 (2008): 305-308.
10. Ghanizadeh A. "Comorbidity of enuresis in children with attention-deficit/hyperactivity disorder". *Journal of Attention Disorder* 13.5 (2010): 464-467.
11. Baydas B., et al. "Effect of a chronic nailbiting habit on the oral carriage of Enterobacteriaceae". *Oral Microbiological Immunology* 22.1 (2007): 1-4.
12. Williams TI., et al. "What is the function of nail biting: An analog assessment study". *Behavioural Research Therapy* 45 (2007): 989-995.
13. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Washington, DC: American Psychiatric Association (2013).
14. Ahmad G and Hajar S. "Prevalence of nail biting and its association with mental health in a community sample of children". *BMC Research Notes* 4 (2011): 116.
15. Sankara PP and Nazia S. "Relation between anger, loneliness, stress, nail biting and gender: A case study on engineering students". *International Journal of Engineering Development and Research* 7.2 (2019): 126-129.
16. Thomson D., et al. "Bullying: Effective strategies for long-term improvement. London: Routledge Falmer (2004).
17. Freeman R. "The internet: A web of disconnection". *Pacifica Graduate Institute* (2009).
18. Parvez H. "Body language: Nail biting and other anxiety behaviours (2015).
19. Avesh S and Chaturvedi TP. "Onychophagia (Nail biting), anxiety, and malocclusion". *Indian Journal of Dental Research* 23.5 (2013): 680-682.
20. Cheung C., et al. "Emotional intelligence as a basis for self-esteem in young adults". *The Journal of Psychology: Interdisciplinary and Applied* 149.1 (2015): 63-84.
21. Lightfoot C., et al. "The development of children". New York, US: Worth Publisher s (2008).
22. Javed AS., et al. "Onychophagia (nail biting): A body focused repetitive behaviour due to psychiatric co-morbidity". *Journal of Mood Disorders (JMOOD)* 7.1 (2017): 47-49.
23. Przemysław P., et al. "Onychophagia as a Spectrum of Obsessive-compulsive Disorder". *Acta Dermato-Venereologica* 89 (2009): 278-280.

**Volume 9 Issue 11 November 2020**

**©All rights reserved by Ekechukwu Rosemary Obiagaeri and Isukwem Gideon Chidozie.**

---

**Citation:** Ekechukwu Rosemary Obiagaeri and Isukwem Gideon Chidozie. "Socio-Psychological Factors Influencing Onychophagia (Nail-Biting) among Students in University of Port Harcourt, Rivers State". *EC Psychology and Psychiatry* 9.11 (2020): 52-58.