



Self-concept and Locus of Control as Internet Addiction Predictors among Undergraduate Students

Habibat Bolanle Abdulkareem^{1,*}, Jamiu Babatunde Bello², Tunde Adeniyi Salami¹

¹Department of Educational Management and Counselling, Al-Hikmah University-Ilorin, Nigeria

²Department of Primary Education, Nana Aishat College of Education, Ilorin, Nigeria

*Correspondence: E-mail: abdulkareemhabibat001@gmail.com

ABSTRACT

This study investigated the predictive power of students' locus of control as well as a self-concept on ability levels of internet addiction among undergraduate students of al-hikmah University- Ilorin. A correlation survey research design was adopted for the study. Five research questions were answered and five null hypotheses were tested. The study was conducted in the Ilorin Metropolis of Kwara State. A convenient sampling technique was used to select 550 participants that use the e-library and Information and Communication Technology (ICT) regularly. Instruments such as the Self-Concept Scale, Locus of Control Scale and Internet Addiction Scale were adopted to gather information from the respondents. Data collected were analyzed using Pearson product-moment correlation (PPMC) and regression analysis to answer both the research questions and the null hypotheses were tested at 0.05 level of significance. Findings revealed that self-concept, internal and external locus of control and gender significantly predicts internet addiction among undergraduate students of Al-Hikmah. The combination of self-concept and locus of control significantly predicts students' internet addiction among undergraduate students of Al-Hikmah. We recommended that School counsellors should build self-reliance in external control-oriented students to strive harder even when anticipating that luck and fate could determine their Success. School counsellors should support internal control-oriented students on the need to develop self-efficacy and competency and use opportunities to facilitate them to attain their desired goals. The school management should enlighten their students on how to use their efforts in the use of the internet and advocate how to avoid being addicted to it.

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1. INTRODUCTION

The usefulness of the internet cannot be overemphasized as it is applicable in all areas of teaching and learning. The use of technology has gone a long way in assisting virtually all internet users and interns with quick access to information in all ramifications. Even though the Internet is a global network, three billion individuals used it to communicate (Abbas et al., 2022). Meates (2020) argued that the use of the Internet was promoted among students with the use of technological tools like computers and smartphones like those made by Apple and Android. Ezeh et al. (2021) view internet addiction as an uncontrollable desire to use the internet, the devaluation of time spent without connecting to the internet, intense nervousness and aggression in the event of deprivation, and progressive deterioration of social and family life. Amudhan et al. (2021) posited that the use of the internet is essential in human life and as such the excessive use of the internet could also affect an individual suffering from one behavioural issue or the other. Sondhi and Joshi (2021) viewed internet - addiction as a multidimensional put-up that is aimed at enhancing individual thought of the brunt of the Internet platform on human psychology and behaviours.

Internet addiction as a harmful behaviour that could be harmful, causes stress in one's personal, life and could ruin an individual's manners. Gjoneska et al. (2022) argued that internet addiction could foster issues in individuals dealing with their day-to-day activities and as such could affect their attitude or behaviour. Behavioural issues can be traced down to locus of control; locus of control can be seen as a tendency of an individual to perceive an outcome as a result of one's action being within one's thoughts about her. Locus of Control was developed by Julian Rotter in the 1950. Researchers and psychologists postulated that locus of control is an idea about whether an outcome of an action of an individual is said to be contingent or conditional on events outside one's control. The notion of locus of control refers to a perspective on the occurrences that we believe are either beyond our control (external control orientation) or the results of our activities that are dependent on what we do. The amount of control an individual has over his/ her feelings could be regarded as a locus of control.

Olanrewaju and Olabisi (2022) view Locus of control as the individual's perception of the underlying main causes of the events in his/her life. Locus of focus can be classified into an internal locus of control and an external focus of control. Locus of control can be classified into the internal and external locus of control. Krampe et al. (2021) describe internal control as an idea about the outcomes of one's trial that are conditional on what an individual does while external control is the orientation which shows the events that are outside an individual's control. The personality of an individual can be traced down to the ways of doing things and her concept. Self-concept can be viewed as a language which could be a complex concept that means how people distinguish themselves and the way they judge and perform their own opinion. Bharathi and Sreedevi (2015) posited that the importance placed on our characteristics, traits, abilities and actions is known as Self-concept. They further said that self-concept is not innate but is developed or constructed by the individual through interaction with the environment and dazzling on such interaction. This study aims to examine locus of control and self-concept as determinants of internet addiction among undergraduate students. The current study will contribute towards bridging that knowledge gap.

The specific objectives are as follows:

- (i) To determine the relationship between locus of control and internet addiction among undergraduate students of Al-Hikmah University.

- (ii) To examine the relationship between self-concept and internet addiction among undergraduates of Al-Hikmah University.
- (iii) To explore the interaction influence of self-concept and locus of control on internet addiction among undergraduates of Al-Hikmah University.
- (iv) To determine the relative effect of locus of control and self-concept on internet addiction among undergraduates of Al-Hikmah University.
- (v) To determine the relative effect of locus of control, self-concept and gender on internet addiction among undergraduate students of Al-Hikmah University.

Research questions are in the following:

- (i) What is the predictive influence of self-concept on internet addiction among undergraduates of Al-Hikmah University?
- (ii) What is the predictive control of gender on students' internet addiction as a determinant of internet addiction among undergraduate students of Al-Hikmah University?
- (iii) What is the predictive power of external locus of control on internet addiction as a determinant of internet addiction among undergraduate students of Al-Hikmah University?
- (iv) What is the predictive power of internal locus of control on internet addiction as a determinant of internet addiction among undergraduate students of Al-Hikmah University?
- (v) What is the predictive power of the combination of gender, self-concept and locus of control on internet addiction among undergraduate students of Al-Hikmah University?

The following null hypotheses were formulated and tested at a 0.05 level of significance;

- (i) Ho1: There is no significant relationship between locus of control and self-concepts as a determinant of internet addiction among undergraduate students of Al-Hikmah University.
- (ii) Ho2: There is no significant relationship between gender and internet addiction among undergraduate students of Al-Hikmah University.
- (iii) Ho3: There is no significant relationship between external locus of control and internet addiction
- (iv) Ho4: There is no significant relationship between internal locus of control and internet addiction
- (v) Ho5: There is no significant relationship between gender, locus of control, self-concept and internet addiction among undergraduate students at Al-Hikmah University.

2. THEORETICAL FRAMEWORK

Callaghan and Papageorgiou (2015) examined the theory that predicts differences in locus of control (LOC) by gender and the relationships between LOC and the performance of accounting students in a large South African University. Confirmatory factor analysis was applied to test the applicability of Spector's LOC scales as a first-order construct. An exploratory factor analysis was then performed to provide a more fine-grained analysis of subordinate constructs. Three-component categories were found to emerge from a test of this widely used LOC questionnaire. The component categories were classified as beliefs about the effectiveness of agency, beliefs about chance and beliefs about networks in the contribution to the attainment of outcomes in working contexts. The findings of the study revealed that female accounting students demonstrate higher LOC in all three categories. Females were therefore found to have significantly higher levels of both LOC and student performance; the majority of tested items were not significant in their associations and total LOC was not found to be associated with higher performance for female or male students.

Churchill et al. (2020) examine whether gender differences in locus of control (LoC) explain gender gaps in mental health using longitudinal data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. The researchers discovered that gender differences in LoC are an important factor contributing to the well-recognised gender gap in mental health in favour of males and females narrowing their mental health by 2.2% and that if LoC of women were the same as that of men, it could close the gender gap in mental health by as much as 18.8%.

Abbas et al. (2022) developed an application to provide students with a friendly learning portable application that provides an entertaining educational atmosphere and makes provision for rich databases that contain diverse courses questions and answers to enhance students' learning skills but discovered that students were addicted to the internet. Cheng et al. (2021) examined the relationship between the usage of the Internet and academic achievement among the students of the English Department at Zarka University. The study found a change in the academic achievement of students with less than 10 hours per week of usage of social media by more than 75% of users. Similarly, Kircaburun et al. (2020) conducted a study to investigate the usage of the Internet for academic and non-academic purposes. The study found that computer science students spend more time on the internet than others, and found that the total time spent on the internet is weakly correlated with the time spent online, specifically for academic purposes. Tus (2020) study the relationship between the average number of hours that students spent on social media in a week and their Grade Point Average (GPA), it found a non-linear relationship between the two factors and concluded that students' studies are negatively affected by the excessive use of social media.

McPherson and Martin (2017) investigated gender differences in locus of control in an alcohol-dependent population. The Multidimensional Health Locus of Control form-C was administered to clients from alcohol-dependence treatment centres in the West of Scotland. Independent t-tests were carried out to assess gender differences in alcohol dependence severity and internal/external aspects of locus of control. One hundred and eighty-eight (53% females) participants were recruited from a variety of alcohol dependence treatment centres. The majority of participants (72%) came from Alcoholics Anonymous groups. Women revealed a greater internal locus of control compared with men. Women also had a greater 'significant locus of control score than men. Men were more reliant on 'chance' and 'doctors' than women. All these trends were not, however, statistically significant.

Krampe et al. (2021) investigated whether LoC I and LoC E moderated the relationship between COVID-19 stress and general mental distress in the general population during the early months of the COVID-19 pandemic. The researchers measured LoC with the Locus of Control-4 Scale (IE-4). LoC I served as a buffer ($p < .001$) and LoC E exacerbated ($p < .001$) the relation between COVID-19 stress and general mental distress. A person's views regarding how they act and how that action relates to how they are rewarded or punished are referred to as their locus of control. A person would have an internal locus of control if they believed that rewards were the results of their actions. On the other hand, it may be considered an external locus of control if one thinks that benefits come about as a result of another people's intervention.

Olanrewaju and Olabisi (2022) conducted research on Locus of Control and Self-Concept as determinants of Internet Addiction among Public University Undergraduates in Oyo State. 400 participants from the public Universities in Oyo state. Results showed that there was a significant relationship between locus of control and internet addiction, self-concept and internet addiction while locus of control does not statistically predict internet addiction. It was also revealed that Internet addiction was elaborated certainly by external academic locus

of control and negatively by social self-efficacy and internal academic locus of control. The researchers report that Individuals with an internal locus of control judge outcomes of events to be internally controllable. [Hassan et al. \(2023\)](#) investigated self-concept as a predictor of internet addiction among Undergraduates of Kwara State University, Malete, and Ilorin. Results revealed that there was a significant relationship between self-concept, gender and internet addiction which predict internet addiction and self-concept statistically predict internet addiction.

[Garcia and Santiago \(2017\)](#) reported that gender has no significance on the perception of self-concept and the state of an individual self-concept could determine his/her attitude. The researcher further said that the perception of an individual aid what he becomes in the nearest future. The aspect of self-concept is significant because it indicates that it can be modified or changed. If a person's self-concept involves a lack of self-control, they may display more forceful or delinquent actions, and if self-love is a middle part of their self-concept, they may not exhibit self-destructive behaviours.

[Marčič1 and Grum \(2011\)](#) scientifically examined the gender differences and similarities of self-concept and its components. The researchers examined the concept of gender differences on the instability and contingency of self-esteem. 339 participants, aged from 19 to 63 years, were examined: Adult Sources of Self-Esteem Inventory, Rosenberg Self-Esteem Scale, Instability of Self-Esteem Scale and Contingent Self-Esteem Scale. The results show that males and females do not differ in independent self-concept or self-esteem (level, stability, or contingency). Significant differences appeared mainly in the interdependent self-concept, which seems to show the effect of fundamental bio-socio-psychological influences. Other significant differences were in one aspect of independent self-concept and one aspect of contingent self-esteem.

3. METHOD

A descriptive research design of co-relational and regression types was adopted to determine the prediction of locus of control and self-concept on internet addiction. This study's population was comprised of all Al-Hikmah University undergraduate students. We ensure that all the faculties partook in the study and a convenient sampling method was used to select 550 undergraduate students were selected to participate in the study. Three instruments were adopted titled the Locus of control scale [15 items], the Self-concept scale [21 items] and the Internet addiction scale [20 items] on a five-point Likert scale. Descriptive statistics and inferential statistics were used to analyse the collected data. The demographic data of the participants were analysed using frequency counts, mean and percentage. The research hypotheses were tested, using Pearson Product Moment Correlation (PPMC) and multiple regressions at a 0.05 level of significance. Pearson Product Moment Correlation (PPMC) was used to test hypotheses 2, 3, and 4 while multiple regression analysis was used to test hypotheses 1 and 5.

4. RESULTS AND DISCUSSION

The Internet Addiction Scale total score is the sum of the ratings given by the examinee for the 20-item responses. Each item is rated on a 5-point scale ranging from 0 to 5. The maximum score is 100 points. The higher the score is, the higher the severity of your problem. Total scores that range from 0 to 30 points are considered to reflect a normal level of Internet usage; scores of 31 to 49 indicate the presence of a mild level of Internet addiction; 50 to 79

reflect the presence of a moderate level; and scores of 80 to 100 indicate a severe dependence upon the Internet.

Table 1 reveals that the correlation between self-concept and internet addiction levels is 0.473 with a coefficient of determination is 0.224. The regression weight is 0.344. This implies that the predictive power of the self-concept scale is 34.4 per cent. The table further reveals that the probability associated with the calculated value of t (8.413) is 0.05. The probability value of 0.000 is less than 0.05 level of significance and this means that self-concept significantly predicts internet addiction among undergraduate students of Al-Hikmah. The analysis further reveals that the correlation between gender and internet addiction among undergraduate students of Al-Hikmah is 0.547 with a coefficient of determination is 0.299. The regression weight is 0.669. This implies that the predictive control of the self-concept scale is 66.9 per cent. The table further reveals that the probability associated with the calculated value of t (7.230) is 0.05.

The probability value of 0.000 is less than 0.05 level of significance and this means that gender significantly predicts internet addiction among undergraduate students of Al-Hikmah. The analysis moreover reveals that the correlation between external locus of control and internet addiction is 0.373 with a coefficient of determination is 0.139. The regression weight is 0.444. This implies that the predictive control of external locus of control is 44.4 per cent. The table further reveals that the probability associated with the calculated value of t (9.013) is 0.05. The probability value of 0.000 is less than 0.05 level of significance and this means that the external locus of control significantly predicts internet addiction among undergraduate students of Al-Hikmah.

The analysis as well reveals that the correlation between internal locus of control and students' addiction levels is 0.747 with a coefficient of determination is 0.558. The regression weight is 0.569 which implies that the predictive power of the internal locus of control is 56.9 per cent. The table further reveals that the probability associated with the calculated value of t (6.210) is 0.05. The probability value of 0.000 is less than 0.05 level of significance and this means that the internal locus of control significantly predicts internet addiction. The analysis also reveals that the correlation between the combination of self-concept and locus of control on students' addiction to the internet is 0.773 with a coefficient of determination is 0.598. The regression weight is 0.644. This implies that the predictive power of the combination of self-concept and locus of control is 64.4 per cent.

Table 2 reveals that the calculated value of F (8.857) has an associated probability value of 0.000. Since the probability value of 0.000 is less than the 0.05 level of significance, it implies that the combination of self-concept and locus of control significantly predicts students' internet addiction among undergraduate students of Al-Hikmah.

Table 1. Summary of stepwise regression analysis of predictive self-concept and locus of control and gender on undergraduate students of Al-Hikmah University, Ilorin.

Variables	R	Regression Square (R^2)	B	β (Reg. Weight)	t	Sig.
Self-concept	0.473	0.224	0.366	0.344	8.413	0.000
Gender	0.547	0.229	0.570	0.669	7.230	0.000
External locus of control	0.373	0.139	0.346	0.444	9.013	0.000
Internal locus of control	0.747	0.558	0.372	0.569	6.210	0.000
Self-concept and locus of control	0.773	0.598	0.446	0.644		

Table 2. Analysis of variance of the combination of self-concept and locus of control on undergraduate students of Al-Hikmah University, Ilorin.

	Model	Sum of Square	df	Mean Square	F	Sig.
2	Regression	911.825	2	455.913		
	Residual	1253.188	548	2.287	8.857	0.000
	Total	1503.296	550			

4.1. Discussion

The study determined the predictive influence of self-concept, gender, internal locus of control, external locus of control and the combination of self-concept and locus of control on internet addiction among undergraduate students of Al-Hikmah using bivariate and multivariate approaches. The analysis of data revealed that both affective variables are relevant predictors of predicting internet addiction among undergraduate students of Al-Hikmah. Verity, the results of the regression analysis were statistically significant with the presence of affective variables as predictors in the models for all the variables, this confirms the initial assertion that predicts internet addiction is best predicted when using bivariate and multivariate approaches including affective variables.

The finding revealed that self-concept has moderate predictive power and significantly predicts internet addiction among undergraduate students of Al-Hikmah. This implies that self-concept is a determinant that predicts internet addiction. These findings hypothesize that if a person's self-concept involves a lack of self-control, they may display more vigorous or delinquent actions, and if self-love is a central part of their self-concept, they may not exhibit self-destructive behavior. The finding collaborates with that of [Karimi and Arasa \(2017\)](#) that posited that there is sig shortage of studies on the influence of self-concept and gender on overall self-concept among private Universities in Kenya. The finding negates the study of [Garcia and Santiago \(2017\)](#) who reported that the aspect of self-concept is significant because it indicates that it can be modified or changed.

Finding further revealed that gender has moderately predicted way of internet addiction among undergraduate students of Al-Hikmah and significantly predicts internet addiction. This implies that gender is a determinant of internet addiction among undergraduate students of Al-Hikmah University. The finding disagrees with [Hassan et al \(2023\)](#) who submitted that there was no significant relationship between gender and internet addiction ($r = .041$ $p < 0.05$) as gender does not directly predict internet addiction among undergraduate students of Kwara State University and Ilorin. The result also does not support the findings of [Garcia and Santiago \(2017\)](#) that submitted that gender has no significance on the perception of the individual.

The result also negates the findings of [Muthuri and Arasa \(2017\)](#) who revealed that males and females do not differ. However, [Kamran et al. \(2018\)](#) posited that high pervasiveness was found among male students and the habit of snacking while using the internet and as such makes males addicted to the use of the internet more than female students. It also supported the finding of [Callaghan and Papageorgiou \(2015\)](#) who revealed that female students demonstrated higher LOC in virtually all academic activities. Females were therefore found to have significantly higher levels of LOC.

There is no significant relationship between students' internet addiction, self-concept and locus of control. Despite these contrasting views, the present findings offer further support that students' internet addiction is on the high side and has been a recurring phenomenon among undergraduate students. The positive relationship and significant predictive effect

could be due to the negligence of students that engaged in such and or improper supervision by the school management. This finding is supported by the findings of [Olanrewaju and Olabisi \(2022\)](#) who revealed that Internet addiction was elaborated certainly by external academic locus of control and self-concept.

Finding again revealed that external locus of control has moderate predictive power and significantly predicts students' internet addiction. This implies that the external locus of control is a determinant of students' internet addiction. However, the finding disagrees with that of [Tus \(2020\)](#) who found a non-linear relationship between the two factors and concluded that students' studies are negatively affected by the excessive use of social media. It is also in line with the findings of [Olanrewaju and Olabisi \(2022\)](#) who posited that the external locus of control determines the level of internet addiction among undergraduate students of Oyo state. Finding once more revealed that internal locus of control has moderate predictive power and significantly predicts students' internet addiction. This implies that the internal locus of control is a determinant of students' internet addiction. The finding agrees with that of [Sondhi and Joshi \(2021\)](#) who reported that the use of Smartphones and tablets encouraged the use of wifi, internet browsing and visiting group networking sites and as such fostered internet addiction among undergraduate students. However internal locus of control moderately predicts internet addiction among undergraduate students.

Locus of control depends on the ability and change with uncertainty. It deals with the attitude of individuals who have less tolerance and resist changes. Locus of control is identified as the reaction of individuals according to their status. Internal locus of control is when students believe that they can manage or set situations according to their abilities while external locus of control students' belief is that all the situations are due to external factors. This belief is responsible for the significant predictive power of external as well as internal locus of control on students' internet addiction. Finding again revealed that the combination of self-concept and locus of control has moderately predicted the strength of students and significantly predicts students' internet addiction. This implies that the combination of self-concept and locus of control are determinants of students' internet addiction. The finding agrees with the study of [Olanrewaju and Olabisi \(2022\)](#) on self-concept and Locus of Control as Predictors of Internet Addiction among undergraduate students who revealed that there was a significant relationship in the combination of locus of control, self-concept, internet addiction and gender among undergraduate students of Ibadan.

The robust interplay between the combination of students' self-concept and locus of control observed in the level of internet addiction among undergraduate students in this study raises important issues that merit further consideration. Perhaps locus of control would prove advantageous from an individualistic point of view but that does not automatically render an internal orientation to a universal conclusion. As the current results showed that students' self-concept and locus of control are determinants of internet addiction and can facilitate rather than inhibit progress.

Any linkage of locus of control with high-ability level students at best may misrepresent the role locus of control plays in learning. Self-concept and locus of control as a determinant of internet addiction within the focus groups point to several areas of students. Self-concept and locus of control need further clarification. Self-concept and locus of control may require greater refinement as psychological constructs, especially regarding the nature of self-concept as well as internal and external locus of control. Based on how students manage the relationship between self-concept and locus of control when faced with the challenge of adapting varieties of learning, the study concludes that students' self-concept and locus of control have moderately influenced students' internet addiction.

5. CONCLUSION

Internet addiction has been observed as widespread among students. Students' self-concept as well as the locus of control is a determinant of students' internet addiction. Similarly, Students' internal as well as external locus of control is one of the determinants of students' internet addiction. The study concludes that the combination of students' self-concept and locus of control are determinants of internet addiction and affects achievement as a predictor of persistence in education. The combination of self-concept and locus of control significantly predicts students' internet addiction among undergraduate students of Al-Hikmah. The study recommends that

- (i) School counsellors should build self-reliance in external control-oriented students to strive harder even when anticipating that luck and fate could determine their Success.
- (ii) School counsellors should support internal control-oriented students on the need to develop self-efficacy and competency and use opportunities to facilitate them to attain their desired goals.
- (iii) The school management should enlighten their students on how to use their efforts in the use of the internet and advocate how to avoid being addicted to it.
- (iv) School counsellors should also counsel students on how they could set achievable goals about the efforts they make. Students should be made to realize where, when and how to use the internet wisely.

6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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