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July 2017

# Psychological Factors and the Use of E-Library Resource among Undergraduates in South-West Nigeria

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Omosebi, Fehintoluwa E. Mrs. and Okhakhu, David O. Mr., "Psychological Factors and the Use of E-Library Resource among Undergraduates in South-West Nigeria" (2017). *Library Philosophy and Practice (e-journal)*. 1542.

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# **PSYCHOLOGICAL FACTORS AND THE USE OF E-LIBRARY RESOURCE AMONG UNDERGRADUATES IN SOUTH-WEST NIGERIA**

## **Introduction**

Libraries hold enormous store of information that users (such as students) need to access for academic excellence. According to David and Felix (2006), the dynamics of globalization, plus the introduction of information and communication technologies (ICT) resulted in its deployment in sectoral and national development. To this end, libraries now have both printed document as well as electronic information resources in their collection. Studies such as Borgman, Smat, Milwood and Finley (2005); Talja, Vakkari, Fry and Wouters (2007); Vakkari (2008); and Nov and Ye (2009) affirmed that electronic libraries have become an increasingly important way in providing library services to users. Users which in this study are conceptualized as students need information to satisfy their needs, and also to promote and enhance their academic pursuit during their course of study in the university. The mandate of the university library is therefore to provide adequate and relevant information resources both in print and online for users. The print information resources includes journals, textbooks, magazines, newspapers and reference materials and non-print includes CD-ROM, audio-visual materials, microfilms, micro fiches, databases and online resources. These are needed to support class work, assignments, research/project work, term papers, seminar presentation by providing relevant information and services for effective and efficient achievement of academic pursuit.

However, Sullivan-Windle (1993) noted that, students sometimes have difficulty using their university library and that libraries are seen as daunting and intimidating places especially in the era of the deployment and use of ICT for library services which is termed electronic library (e-library). Drabenstott (1994) cited by Koohang (2004) defined e-library as include: the digital library is not a single entity; the digital library requires technology to link the resources of many; the linkages between the many digital libraries and information services are transparent to the end users; universal access to digital libraries and information services is a goal; and digital library collections are not limited to document surrogates: they extend to digital artifacts that cannot be represented or distributed in printed formats.

Although, according to Liu (2008) and Ahmad et al., (2011) cited by Sivathaasan, Murugathas and Chandrasekar (2014), users are often restricted from the use of electronic resources in the library. However, Brennan, Hurd, Blečić and Weller (2002) affirmed that e-library users make fewer visits to the library and read more e-journals than the print era. Adoption of e-resources has made changes in the trend of information behavior of university users. To encourage users to accept and continually use digital libraries, library designers and managers need good understanding of the factors that influence users' adoption. Hong, Wong, Thong and Tam(2002); Venkatesh (2000) and Nov and Ye (2009) state that the use of e-library are determined by a

variety of factors including user perceptions of system characteristics, computer-related personal traits, and general personalities.

Different approaches have been deployed to measure personality differences of individuals such as the big Five personality factors, Myer-Briggs Type Indicator (MBTI); Holland personality assessment; among others. In this study, the big five personality trait is deployed. This is because the big five personality factors area global accepted and commonly used personality traits. The foundational work of the five trait theory of personalities primarily comes from the work of Allport and Odbert (1936), Norman (1963), Cattell (1945), Fiske(1949); Barick and Mount(1991); Saucier and Goldberg (1998), among others. In addition, there is a claim that nearly all models of personality can be classified among the five major dimensions. These dimensions are as follows openness; conscientiousness; extraversion; agreeableness; and neuroticism. On a general note, openness to experience are individuals who show appreciation for art, adventure, new ideas, and imagination. Conscientiousness individuals have the tendency to show self-discipline and aim for achievement. Extraversion individuals possess social energy and the desire to seek the company of others. Agreeableness individuals have the tendency to be compassionate and cooperative toward others. Also, neuroticism individuals are those who have the tendency to easily experience negative feelings such as anger, anxiety, or depression.

Studies have shown that there exist a relationship between personality traits and e-library use. Behrenbruch, Söllner, Leimeister and Schmidt (2013) revealed that personality traits of individual users such as students could pose a significant effect on the use of e-library. Although, these studies provided an existence relationship between personality differences of users and the use of e-library nevertheless, it is expedient to understand the pattern and extent of their relationship- this is a major gap this study seeks to fill. Also, attitude towards the use of computer is another important variable in this study as factor affecting e-library use among users. Radjagopal and Chinnasamy (2013) defined attitude as a mental state of readiness exerting directive or dynamic influence upon individual's response to all objects and situations with which it is related. With respect to this study, individual response conceptualised as e-library use. Attitudes regarding use of electronic information resources vary among people (Sivathaasan et al., 2014). Earlier study showed that a positive attitude towards a behavior could influence actual behavior (Walberg and Tsai, 1985; Davis, Bagozzi and Warshaw 1989).

According to Ray and Day (1998), students graduate from the universities without necessary skills to cope within the information based society especially in this era of ICT. In addition, Liew (2000) opined that reading an e journal is not the same as reading a printed issue, as many users which include students have come to acknowledge that electronic resources offer users advanced features and novelforms of functionality beyond those in the printed form. Necessary factors and characteristics that may be deemed important in the use of e-library may not come to play in the use of the traditional library. Furthermore, Rajagopal and Chinnasamy (2013) affirmed that, in

the era of ICT and its deployment in library services, there is a growing interest in electronic information resources among users which include students. Thus, Okiki(2012) confirmed that it is important to understand the attitude towards the use of e-library and thus actual use of e-library. To this end, this study tends to investigate the psychological factors influencing the use of e-library resource among undergraduates in south-west Nigeria. The study would provide answers to the following research questions:

- i. Do undergraduate students have a high level of attitude towards the use of computer?
- ii. What is the level of e-library use among undergraduate students?

Also, the following hypotheses would be subjected to test at 0.05 level of significance:

Ho<sub>1</sub>: There is no significant relationship between the elements of personality traits and e-library use among undergraduates in south-west Nigeria

Ho<sub>2</sub>: There is no significant relationship between the computer attitude and e-library use among undergraduates in south-west Nigeria

Ho<sub>3</sub>: There is no significant difference in the use of e-library among students' demographic characteristics

### **Personality types and use of e-library**

The concept of personality is very broad and many theorists have attempted to quantify it and apply various forms of taxonomy (Engler, 2006 cited by Jackson, 2008). According to Wagner (2008), personality is made up of the characteristic patterns of thoughts, feelings and behaviors that make a person unique. It arises from within the individual and may remain fairly consistent throughout life however, at other times, it has been consistently argued and concluded that it can also be a result of interaction between the individual and the environment. According to Holland (2010), personality differences make people to prefer some environment to others. According to Phares (1991), personality is an inborn temperament and features arising in different situations and a combination of the characteristics of a person which separate him/her from other people. Also, personality is the unique features of every human being; exhibition of characteristic adaptations; unique identifications towards life and a set of cultural differences (Hogan, Hogan & Roberts, 1996; McAdams & Pals, 2006).

As can be understood from the definitions, personality is discussed in terms of specific traits and factors. The personality traits which were put forward by Eysenck and Eysenck (1975) on the basis of biological stimuli are classified as follows: extraversion, neuroticism, and psychosis. Accordingly, a relationship between personality and other factors such as attention, learning and the arousal levels of memory has been discovered. Furthermore, it has also been discovered that these stimuli have focused on a variety of factors (Daderman, 1999; Erdheim, Wang & Zickar, 2006). Although there is no complete agreement on the definition of personality traits, by taking into account of certain factors, there seems to be a broad consensus over five universal factors

which determine personality traits (McCrae and Costa, 1987; Digman, 1990; Costa and McCrae, 1992).

Most models of personality usually employ four or five broad dimensions. Although many researchers and personality theorists use different names for these dimensions, the language descriptions of these dimensions tend to hold constant which allows for a general taxonomy of personality to be applied (John and Srivastava, 2001). The most common taxonomy of personality is known as the Big Five. The Big Five factor is based on the works of Digman (1990); Barick and Mount (1991); Costa and McCrae (1992); Barrick and Mount (1993); Barrick, Mount, and Piotrowski (2002), and Gupta (2008). These personality traits can be classified among these five major dimensions. These dimensions are as follows:

1. Openness – appreciation for art, adventure, new ideas, and imagination
2. Conscientiousness – tendency to show self-discipline and aim for achievement
3. Extraversion – social energy and the desire to seek the company of others
4. Agreeableness – tendency to be compassionate and cooperative toward others
5. Neuroticism – tendency to easily experience negative feelings such as anger, anxiety, or depression (Digman, 1997).

Although closely related to the Big Five, other personality theorists have developed four-dimensional models. Jung's (1957) work laid the foundation for the development of the Myer-Briggs Type Indicator (MBTI) in 1944. McCrae and Costa (1989) correlated the MBTI to the Big Five model and found a high level of correlation with the exception of the Neuroticism factor which is absent from the MBTI. Similarly, the DiSC instrument used in this study is based on Marston's work and has a strong connection to the Big Five model with the absence of the Openness and Neuroticism factors (Inscape Publishing, 1996). DiSC is an acronym for four dimensions of Marston's personality theory - dominance, influence, steadiness, and conscientiousness (The small "i" in DiSC is a trademark symbol of Inscape Publishing). These four dimensions are determined by the possible combinations of perceived power and favorability in the environment..

Dominance reflects how one shapes the environment by overcoming opposition to accomplish results in an organization. The tendencies of person to be strong in this dimension include getting immediate results, causing action, accepting challenges, making quick decisions, questioning the status quo, and taking authority (John, 1990). There is a strong correlation between this dimension and the Extraversion factor of the Big Five. Influence is also correlated with the Extraversion factor, but is separated in Marston's theory. This dimension emphasizes a person's tendency to shape the environment by influencing or persuading others through making favorable impressions, being articulate, motivating others, generating enthusiasm, entertaining people, and seeking participation in the decision-making process (Inscape Publishing, 1996 and 2001).

Steadiness reflects the level at which a person cooperates with others within the current environment to carry out a task. People that score high in this dimension perform tasks in a predictable manner, demonstrate patience, develop specialized skills, help others, show loyalty, calm excited people, and create a stable work environment. This dimension is nearly directly correlated to agreeableness in the Big Five. Finally, conscientiousness emphasizes a person's ability to work carefully within existing circumstances to ensure quality and accuracy. These set of people adhere to standards and policies, concentrate on details, think analytically, are diplomatic with other people, use an indirect approach to conflict, check for accuracy, and are systematic in their approach. It also correlates to the conscientiousness factor of the Big Five (Inscape Publishing, 1996 and 2001).

According to McCrae (2002) as cited in Simoncic (2012) the big fivefactor model of personality explains that openness, conscientiousness, extraversion, agreeableness, and neuroticism are all components of personality that vary from person to person. Also, Behrenbruch, Söllner, Leimeister and Schmidt (2013) have shown that personality traits of users such as students which include openness, conscientiousness, extraversion, agreeableness, and neuroticism can affect their use of e-library. Although Behrenbruch, Söllner, Leimeister and Schmidt (2013) revealed an established relationship between personality trait factors and the use of e-library, it only provide a basis for this study however, they have failed to provide the extent to which this relationship can be explained- this is a major gap this study seeks to fill.

### **Computer attitudes and use of e-library**

From time, the concept of attitude has attracted scholars however, it has been approached in different ways with respect to its conceptualization and field of experience. For example, a motivational preacher stated that attitude is everything (Harrell, 2005). According to Radjagopal and Chinnasamy (2013), attitude is defined as a mental state of readiness exerting directive or dynamic influence upon individual's response to all objects and situations with which it is related. Individual response could also be conceptualised as e-library use. Earlier study showed that a positive attitude towards a behavior could influence actual behavior (Walberg and Tsai, 1985; Davis, Bagozzi and Warshaw 1989). Some studies have found that attitude does not actually influence actual behavior. For example, Omiunu (2015), have found that attitude does not affect actual behavior such as use. In addition, attitudes, in regards to the use of electronic information resources vary among people (Sivathaasan et al., 2014). For example, Sivathaasan, Murugathas and Chandrase (2014) found that readers' type such as academic staff and students, the year of study of the students and user category such as include lecturer, senior lecturer, professor and students have shown significant mean difference towards the attitude of usage of electronic information resources. However,genderwhich include male and female readers and age group have roughly same level ofopinion, which is insignificant (Sivathaasan, Murugathas

and Chandrase, 2014). Thus, one can affirm the place of demographic characteristics in the relationship between attitude of users and use of electronic resources such as e-library. According to Rajagopal and Chinnasamy (2013), users' attitudes is significantly important in this era of growing interest in electronic information resources among students in universities. However, according to Okiki (2012) in the study of electronic information resources such as e-library, awareness, attitude, and use by academic staff members of Universities in Nigeria are low. However, Enakrire and John (2012) have found that undergraduate students in Nigerian universities have positive attitudes towards the use of e-resources such as e-journals. When one considers the works of Okiki (2012) and Enakrire and John (2012), the results are somewhat confusing. As the low state of attitude could hamper e-library use so also, these confused results could hamper the drive and development of e-library use in Nigeria. To solve this and ameliorate this low or rather confusing state, the present study seeks to investigate computer attitude and e-library use among undergraduate students in Universities in South western Nigeria.

### Research Framework

#### Psychological factors (personality factors and computer attitude) and the use of E-library resource

The study would adapt the Technology Acceptance Model (TAM) of Davis, Bagozzi and Warshaw (1989). From TAM, selected variables for this present study are external variables, attitude, and actual system use.

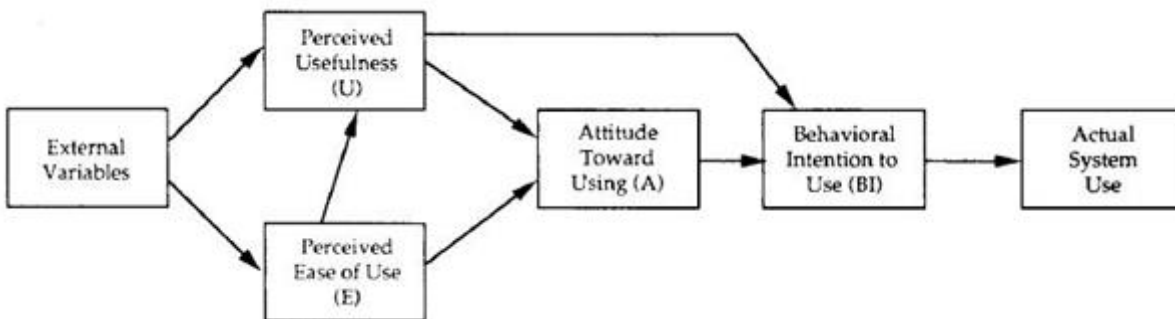


Figure 1: Technology Acceptance Model (TAM) (Davis, Bagozzi and Warshaw, 1989)

The external variables used in this study are the demographic characteristics of respondents, and psychological factors deployed. Demographic characteristics of respondents to be deployed and use include gender, age and institutions of students. Psychological factors deployed include the personality traits and computer attitudes of students.

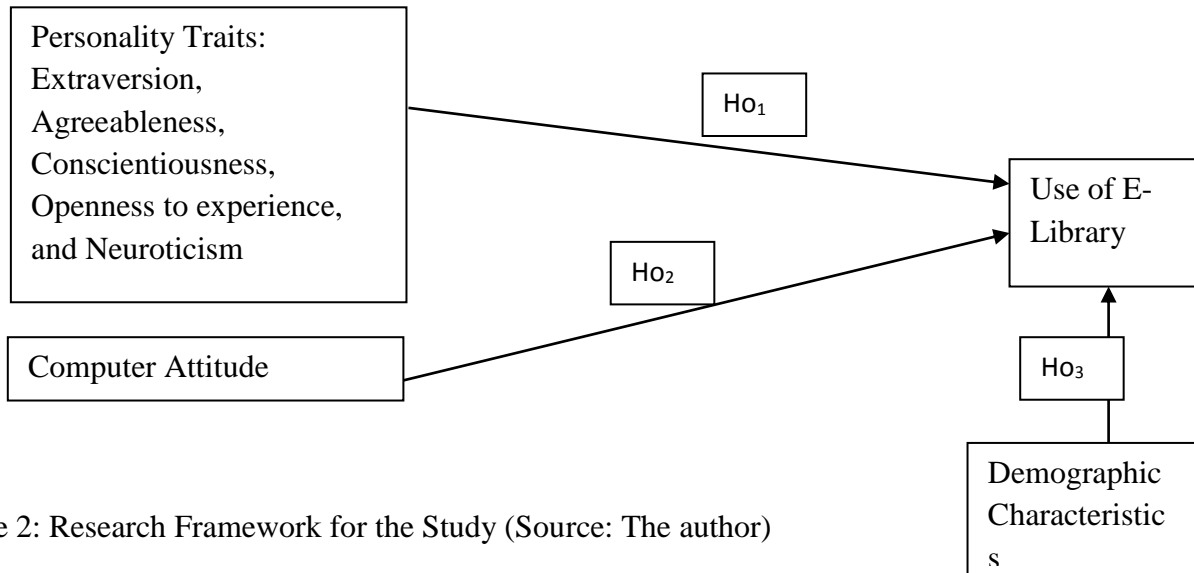


Figure 2: Research Framework for the Study (Source: The author)

A major variable in this proposed study is personality traits. To this end, the study adapts the big five factors of Digman (1990). The big five factors model includes personality variables which are extraversion, agreeableness, conscientiousness, openness to experience, and neuroticism. According to Costa and McCrae (1992) and Barrick, Mount, and Piotrowski (2002), extraversion is an indicator of one's assertiveness and confidence and individuals with high level of extraversion are known to be sociable, assertive, active, bold, energetic, adventuresome, and expressive. In addition, they are self confident, talkative, gregarious, and spontaneous. Also, individuals who have low level of extraversion seem to be timid, submissive, silent, and inhibited (Gupta, 2008). In addition, agreeableness personality dimension is denoted by individual characteristics such as being helpful, generous, and courteous and is primarily a dimension of interpersonal tendencies. Agreeable individuals are warm, likable, emotionally supportive, and nurturing (Gupta, 2008). Also, Barrick and Mount (1993) noted that conscientiousness are individual who have attributes which include being neat, punctual, careful, self-disciplined, and reliable. Openness to experience is another personality factor that includes being imaginative, creative, cultured, original, broadminded, intelligent, and artistically sensitive. Neuroticisms are individuals who tend to be self-conscious and highly self-monitors.

The study tends to establish a relationship between personality traits and e-library use. It also tends to establish a relationship between computer attitude and e-library use among undergraduates in south-west Nigeria. Furthermore, it is also hypothesized that there could be significant difference in the use of e-library among demographic characteristics.



## Research Methodology

The study adopted a correlational survey research design and a sample size of 900 respondents was used. The target population for the study comprised the undergraduate students in private universities in Southwest Nigeria. These universities to be considered were private universities in Ekiti, Lagos, Ondo, Osun, Ogun and Oyo states. There are a total of sixteen private universities in the southwest of Nigeria as at 2015. The simple random sampling technique was adopted for the purpose of this study. The sampled respondents for this study were drawn from the total population of 18,000 undergraduate students from private universities in southwest Nigeria. Twenty-eight percent (28%) of the population from each university was used as the sample size for this study. With this, the sample size for the study was 900 respondents, which spreads across 16 private universities in south-west.

Questionnaire was the main instrument used for the data collection and was divided into four sections namely demographic characteristics, personality traits, computer attitudes, and use of e-library among students in the private universities in Nigeria. Also, the validity and reliability of the instrument was determined. To ensure validity, content and construct validity was done with respect to the research objectives, questions and hypotheses of the study. To ensure reliability, twenty respondents were administered questionnaire in the university of Ibadan and subjected to Cronbach alpha test, and yielded results of 0.71 for personality traits, 0.78 for computer attitudes, and 0.82 for the use of e-library. Information obtained from the field survey were subjected to analysis using descriptive (frequency and percentage) and inferential (regression analysis and t-test and ANOVA) statistics.

## Results and Discussions of Study

The demographic characteristics of the students are presented in table 1.

**Table 1: Demographic characteristics of the students**

Demographic characteristics	Frequency	Percentage
Gender		
Male	398	49.8
Female	402	50.3
Total	800	100.0
Age of students	61	7.6
No response	438	54.8
16-20 years	263	32.9
21-25 years	32	4.0
26-30 years	3	.4
31-35 years	2	.3
36-40 years	1	.1
Above 41 years	800	100.0
Total		

The finding in table 1 reveals the selected demographic characteristics of students. The result shows that males and the females are approximately the same in their use in this study. The result also reveals that respondents between the age brackets 16-20 years were higher (approx 55%) than other age groups, while those above 41 years have the least percentage (.1%).

### Research questions of the Study

Research Question One: Do undergraduate students have a high level of attitude towards the use of computer

The distribution of computer attitude of students is presented in table 2.

**Table 2: Computer attitude of students**

S\N	Computer attitudes	SD	D	A	SA	Mean	S.D
1	Computers do not scare me at all	33 (4.1%)	84 (10.5%)	310 (38.8%)	373 (46.6%)	3.28	.81
2	I think working with computers would be enjoyable and stimulating	45 (5.6%)	71 (8.9%)	347 (43.4%)	337 (42.1%)	3.22	.83
3	I would like working with computers	47 (5.9%)	73 (9.1%)	373 (46.6%)	307 (38.4%)	3.18	.82
4	Knowing how to work with computers will increase my job possibilities	33 (4.1%)	84 (10.5%)	387 (48.4%)	296 (37.0%)	3.18	.78
5	Learning about computers is worthwhile	48 (6.0%)	84 (10.5%)	363 (45.4%)	305 (38.1%)	3.16	.84
6	I have a lot of self confidence when it comes to working with computers	42 (5.3%)	104 (13.0%)	368 (46.0%)	286 (35.8%)	3.12	.83
7	I would feel ok about trying a new problem on the computer	56 (7.0%)	98 (12.3%)	346 (43.3%)	300 (37.5%)	3.11	.88

The result in table 2 reveals the computer attitudes of students. The result shows that 86% stated that they think working with computers would be enjoyable and stimulating; 85% of the students are not scared of the computer; 85% stated that they would like working with computers; 85% stated that knowing how to work with computers will increase their job possibilities; 83% stated that learning about computers is worthwhile; 81% stated that they have a lot of self confidence when it comes to working with computers; 81% stated that they would feel ok about trying a new problem on the computer. This implies that students in this study have positive attitude towards the use of computer. The result of this study supported the work of Sivathaasan et al., (2014) that attitudes regarding use of electronic information resources vary among people.

Research Question Two: What is the level of e-library use among undergraduate students?

The level and type of e-library use is presented in table 3.

**Table 3: level and type of e-library use among students**

S\N	Electronic Resources	Never	Annually	Bi-annually	Quarterly	Monthly	Weekly	Daily	Mean	S.D
1	CD-ROM databases	85 (10.6%)	68 (8.5%)	38 (4.8%)	47 (5.9%)	76 (9.5%)	193 (24.1%)	293 (36.6%)	5.14	2.10
2	Computer and internet facilities	82 (10.3%)	59 (7.4%)	38 (4.8%)	71 (8.9%)	130 (16.3%)	125 (15.6%)	295 (36.9%)	5.08	2.05
3	Electronic books	70 (8.8%)	26 (3.3%)	81 (10.1%)	105 (13.1%)	140 (17.5%)	147 (18.4%)	231 (28.9%)	4.98	1.89
4	Online search engines	70 (8.8%)	29 (3.6%)	116 (14.5%)	87 (10.9%)	98 (12.3%)	140 (17.5%)	260 (32.5%)	4.97	1.97
5	Electronic databases	75 (9.4%)	27 (3.4%)	31 (3.9%)	118 (14.8%)	188 (23.5%)	195 (24.4%)	166 (20.8%)	4.96	1.78
6	Online newspapers and magazines	78 (9.8%)	36 (4.5%)	82 (10.3%)	87 (10.9%)	160 (20.0%)	113 (14.1%)	244 (30.5%)	4.91	1.96
7	E-journals	91 (11.4%)	23 (2.9%)	84 (10.5%)	56 (7.0%)	109 (13.6%)	302 (37.8%)	135 (16.9%)	4.89	1.90
8	Online encyclopedia (Britannica.com, Encarta, etc)	88 (11.0%)	36 (4.5%)	64 (8.0%)	144 (18.0%)	165 (20.6%)	147 (18.4%)	156 (19.5%)	4.66	1.88
9	Electronic indexes and abstracts	94 (11.8%)	48 (6.0%)	53 (6.6%)	132 (16.5%)	162 (20.3%)	171 (21.4%)	140 (17.5%)	4.62	1.90
10	E-reports	92 (11.5%)	53 (6.6%)	59 (7.4%)	106 (13.3%)	217 (27.1%)	127 (15.9%)	146 (18.3%)	4.59	1.89
11	Electronic newsletters\directories	99 (12.4%)	61 (7.6%)	61 (7.6%)	120 (15.0%)	141 (17.6%)	161 (20.1%)	157 (19.6%)	4.57	1.98
12	Online public access catalogue (OPAC)	81 (10.1%)	42 (5.3%)	95 (11.9%)	145 (18.1%)	172 (21.5%)	133 (16.6%)	132 (16.5%)	4.51	1.83
13	E-theses & dissertations	123 (15.4%)	43 (5.4%)	84 (10.5%)	109 (13.6%)	171 (21.4%)	177 (22.1%)	93 (11.6%)	4.33	1.93
14	Online conference proceedings	100 (12.5%)	82 (10.3%)	136 (17.0%)	104 (13.0%)	134 (16.8%)	124 (15.5%)	120 (15.0%)	4.18	1.95
15	Microforms	141 (17.6%)	95 (11.9%)	49 (6.1%)	90 (11.3%)	159 (19.9%)	150 (18.8%)	116 (14.5%)	4.18	2.09

The result in table 3 shows level and type of electronic resource used among students. From the table, CD-ROM databases is mostly used on a daily basis (36.6%) and weekly basis (24.1%) among the students from the selected private universities more than other electronic library resource however, only 11% never used it. Also, the result shows that 29% and 18.4% of the students use E- books on a daily and weekly basis respectively while only 9% never used it. Furthermore, e-theses and dissertations were the least used on a daily basis with only 16% and 22% using it on a daily and weekly basis respectively while 15% of the students never used it. This implies that, the use of e-library resources among students of in the selected private institutions in Nigeria is very high as for the CD-ROM databases, approximately 89%; 91% use the e- books; while 85% use e-theses and dissertations. Therefore, there is a high level of use of e-library resources among students.

This buttressed the studies of Borgman et al. (2005); Talja et al. (2007); Vakkari (2008); and Nov and Ye (2009) that electronic libraries have become an increasingly important way in providing library services to users. The result of this study contrasts the study of Sullivan-Windle

(1993) who noted that, students sometimes have difficulty using their university library and that libraries are seen as daunting and intimidating places especially in the era of the deployment and use of ICT for library services which is termed electronic library (e-library). This difference in the use of e-library between the study of Sullivan-Windle (1993) and this present study could be due to the fact that, from 1993 to present (2017), there could have been an increased development in the literacy level in the use of e-library among users which could not longer make it impossible for students to use e-library resources. The result of this study also contrasts the studies of Liu (2008); Ahmad et al., (2011); Sivathaasan, Murugathas and Chandrasekar (2014), that users are often restricted from the use of electronic resources in the library. It also contrast the work of Brennan et al., (2002) e-library users which in this present study are students of private universities in Nigeria make fewer visits to the library and read more e-journals than the print era.

### Research Hypotheses

The following hypotheses would be subjected to test at 0.05 level of significance:

Ho<sub>1</sub>: There is no significant relationship between the elements of personality traits and e-library use among undergraduates in south-west Nigeria

The regression analysis test of hypothesis one is given in table 4.

**Table 4: Regression analysis test of hypothesis one**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.679	6.339		5.313	.000
	Introvert	1.350	.221	.247	6.115	.000
	Extrovert	-.189	.200	-.038	-.947	.344

a. Dependent Variable: ELECTRONIC RESOURCES

The result of the regression result shows that only introvert individuals significantly use e-library resource ( $p < 0.05$ ), while extrovert students do not have significant influence on use of e-library ( $p > 0.05$ ). This shows that introvert personality traits have significant influence on use of e-library among students. This supported the works of Hong et al. (2002); Venkatesh (2000) and Nov and Ye (2009) that the use of e-library are determined by a variety of factors such as personal traits of users. In addition, the result of this study bolstered the work of Behrenbruch, Söllner, Leimeister and Schmidt (2013) that personality traits of individual users such as students posed a significant effect on the use of e-library. Also the result of this study supported the work of Holland (2010) who stated that personality differences make people to prefer some environment to others as individuals with introvert personality preferred using e-library

resources than the extroverts. In addition, this buttressed the works of Behrenbruch, Söllner, Leimeister and Schmidt (2013) that personality traits of users can affect their use of e-library.

Ho<sub>2</sub>: There is no significant relationship between the computer attitude and e-library use among undergraduates in south-west Nigeria

The regression analysis test of hypothesis two is given in table 5.

**Table 5: Regression analysis test of hypothesis two**

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.584	5.943		4.305	.000
	Computer attitude	.686	.092	.256	7.492	.000

A. Dependent variable: electronic resources

The result in table 5 shows that there is significant relationship between the computer attitude and e-library use among undergraduates in south-west Nigeria ( $p < 0.05$ ). This implies computer attitude of students from the selected private universities in Nigeria affect their use of e-library. This supported the works of Walberg and Tsai(1985); Davis, Bagozzi and Warshaw(1989) that positive attitude towards a behavior could influence actual behavior such as in the use of e-library among students. Also, this buttressed the study of Okiki (2012) that it is important to understand the attitude towards the use of e-library and thus actual use of e-library. However, the study contrasts the work of Omiunu (2015) that attitude does not affect actual behavior such as use.

Ho<sub>3</sub>: There is no significant difference in the use of e-library among students' demographic characteristics

The ANOVA table for hypothesis three testing is presented in table 6.

The result of table 6 shows that, age of students, degree in view and department of students were observed to have significant effect on e-library use among students. Also, there is also then interaction main of the demographic characteristics of students. For example, the interaction of age of students with the level of study of students has significant effect on students e-library use.

**Table 6: ANOVA table for hypothesis six**

Tests of Between-Subjects Effects					
Dependent Variable: Electronic Library Resources					
Source	Type III Sum of	df	Mean Square	F	Sig.

	Squares				
Corrected Model	199010.045 <sup>a</sup>	243	818.971	1.936	.000
Intercept	251248.673	1	251248.673	593.833	.000
Nameof Institution	3754.289	15	250.286	.592	.883
Ageof Students	6792.847	6	1132.141	2.676	.014
Degreeinview	9702.736	4	2425.684	5.733	.000
Levelofstudy	1990.844	3	663.615	1.568	.196
Department	7604.704	2	3802.352	8.987	.000
Nameofinstitution * Ageofstudents	18020.794	34	530.023	1.253	.157
Nameofinstitution * Degreeinview	4983.968	20	249.198	.589	.922
Nameofinstitution * Levelofstudy	19986.193	44	454.232	1.074	.349
Nameofinstitution * Department	8.319	2	4.160	.010	.990
Ageofstudents * Degreeinview	2252.698	4	563.174	1.331	.257
Ageofstudents * Levelofstudy	15839.590	7	2262.799	5.348	.000
Ageofstudents * Department	20061.289	3	6687.096	15.805	.000
Degreeinview * Levelofstudy	4351.657	4	1087.914	2.571	.037
Degreeinview * Department	13585.965	1	13585.965	32.111	.000
Levelofstudy * Department	.000	0	.	.	.
Nameofinstitution * Ageofstudents * Degreeinview	161.323	3	53.774	.127	.944
Nameofinstitution * Ageofstudents * Levelofstudy	24608.772	34	723.787	1.711	.008
Nameofinstitution * Ageofstudents * Department	155.141	2	77.571	.183	.833
Nameofinstitution * Degreeinview * Levelofstudy	210.715	8	26.339	.062	1.000
Nameofinstitution * Degreeinview * Department	129.754	1	129.754	.307	.580
Nameofinstitution * Levelofstudy * Department	.000	0	.	.	.
Ageofstudents * Degreeinview * Levelofstudy	.000	0	.	.	.
Ageofstudents * Degreeinview * Department	.000	0	.	.	.
Ageofstudents * Levelofstudy * Department	.000	0	.	.	.
Degreeinview * Levelofstudy * Department	.000	0	.	.	.
Nameofinstitution * Ageofstudents * Degreeinview * Levelofstudy	.000	0	.	.	.
Nameofinstitution * Ageofstudents * Degreeinview * Department	.000	0	.	.	.
Nameofinstitution * Ageofstudents * Levelofstudy * Department	.000	0	.	.	.
Nameofinstitution * Degreeinview * Levelofstudy * Department	.000	0	.	.	.
Ageofstudents * Degreeinview * Levelofstudy * Department	.000	0	.	.	.
Nameofinstitution * Ageofstudents * Degreeinview * Levelofstudy * Department	.000	0	.	.	.
Error	261050.515	617	423.096		
Total	4630938.000	861			
Corrected Total	460060.560	860			

a. R Squared = .433 (Adjusted R Squared = .209)

Also, the interaction of age of students and department of students has significant effect on students e-library use. Degree in view and level of study; and degree in view and department of students also have interactive significant effect on students e-library use. In addition, the institution students belong, age of students and the level of study of students also play a significant effect on e-library use among students ( $p < 0.05$ ). This implies that demographic characteristics of students play significant role in affecting use of e-library resources. This bolstered the work of Sivathaasan, Murugathas and Chandrase (2014) that users' demographic characteristics are important factors in affecting use of e-library.

## **Conclusion and Recommendations**

In conclusion, students' personality traits and computer attitude are important factors affecting the effective use of e-library resources among students. Also, students' demographic characteristics are also important to put into consideration in the use of e-library resource. To this end, the study recommends that:

- i. School authorities should endeavour set up counseling bodies within the school to help students geared their personality towards achieving a better academic activities and performances towards the use of e-library resources from the onset of their admission into the institutions.
- ii. Also, activities that would be geared towards ensuring positive attitude of students in the use of e-resources and use of computer should be introduced such as giving students assignments, and telling them to use the IT lab, etc. Also, lectures can be held in these IT labs where students would demonstrate and relate with ICT tools to fray away every fears and anxiety (if there are any) as this would assist them to be conversant with the systems and this could have impetus on their use e-library.
- iii. School authority should therefore also automate their library to ensure that e-resources are available to make sure students have access and are also motivated to use e-library resources.
- iv. School authorities should make the school environment conducive to use for e-library resource and thus putting a place various infrastructural designs and structures that would tend to facilitate the easy use of e-library among students.

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