Assessing the Influence of Perceived Behavioural Control and Knowledge on Polytechnic Students' Intention to Adopt Workshop Safety Habit

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Abstract
This paper reports on the study conducted to explore the influence of Perceived Behavioural Control and Knowledge on Polytechnic Students' intention to adopt workshop safety behavior for sustainable working environment. The study utilized the Theory of Planned Behaviour (TPB) to analyze students' intention to perform behaviour related to workshop safety and sustainability. Two hundred and sixty (260) Engineering Technology students were randomly selected from a public Polytechnic in Nigerian and assessed through a Likerts' type scale structured questionnaire about their Perceived Behavioural Control and Knowledge toward intention to adopt workshop safety behaviour. Standard multiple regression was used to assess the students' intention to adopt the behaviour. The result shows that both Perceived Behavioural Control and Knowledge are practically important in predicting individual's intention to safety habit in school workshop. A model of practical important that explained 47% variance emerged with all the two predictors (perceived behavioural control and knowledge) found to be significant predictors of the polytechnic students' intention to adopt workshop safety habit.

Keywords: Perceived behavioural control, Knowledge, Intention, Safety habit, predictors

1. Introduction

Workshop safety awareness is fundamental to sustainable working habit in school workshop environment. Engineering technology students who are daily users of workshop must be taught on how to identify and recognize hazards in their workplace, and be able to assess and control those hazards they might have come across in their working place. This can only be achieve through inculcating the workshop safety habit as part of the necessary attitude, (Ontario, 2001). It is the responsibility of the instructors and everyone working in the workshop to safeguard the lives and safety of students working in the workshop, but the most important aspect is for the students to born the safety habit in their mind. Workshop safety campaign can also be mounted by instructors to increase student awareness, and to develop basic workshop safety habits which they can readily remember in any challenging situations students may find themselves.

Owing to the nature of today's current students' placements, most students begin with limited background and skills to deal with difficult safety circumstances. Many students enrolled into technical and engineering courses without the necessary knowledge and training regarding safety issues as they relate to workshop based practice. The issue of potential danger in the workshop is one that should deliberately bring to daily awareness as one begin the journey as a student or instructor to the workshop.

Therefore, it is in the best interest of every workshop user to be vigilant about the workshop surroundings and to have a planat all times should there be any danger while working in the workshop. Knowledge of the workshop safety requirements and students' perceived behavioral control are expected to play vital role in determining students' likelihood of avoiding workshop hazards. This is in addition to learning a set of achievable interventions aimed at recognizing, managing, and avoiding dangerous situations at all times when working in the workshop (Fernandez, 1995). It is important that students are well aware of the universal practices in workshop safety precautions as well as considers becoming immunized to protection from exposure to potential health hazards.

2. Conceptual Framework

Previous research identified that knowledge can influence behaviour toward decision making (Blackwell, Minard& Engel, 2001).It was revealed that an individual's behavior may be

influenced by his/her awareness knowledge of the risks and benefits associated with executing a particular behavior (Brucks, 1985; Rogers, 2003; Dwived, 2005). Therefore an individual's intention to adopt workshop safety habit may be associated with his awareness knowledge of the consequences associated with its adoption that will assist him to assess, interpret and react to a stimulus. Knowledge refers to what a person actually and correctly knows about a phenomena, and stores in one's memory so that he can retrieve or recall exactly what he/she know about that phenomena (Bello, Ahmad & Sahari, 2013).

This study therefore, decided to include knowledge as a predictive variable on students' intention to adopt workshop safety habit. The study use the theory of Planned Behavior (TPB) being one of the most significant and robust models in explaining a person's behavior (Ajzen, 1985, 1991; Mathieson, 1991). A variety of models derived from TPB was used to make accurate predictions of human behavior in diverse situations. It is based on the recommendation of Ajzen for improvement of the theory in other ways possible that, this study extended the theory with another variable *"knowledge",* which previous studies (such as Brucks, 1985; Rogers, 2003; Dwived, 2005) suggested that knowledge is an important predictor of human behaviour. Therefore, by this, the study incorporated *knowledge* into Ajzen's TPB and came up with a conceptual framework.

In this framework, *knowledge* was expected to influence students' behavioural intention to workshop safety habit in a positive way along with *perceived behavioural control*. This means that the study expected that each construct or dimension would demonstrate statistically significant influence on polytechnic students' intention to adopt workshop safety habit.

3. Statement of Problem

Considering the importance of workshop safety in sustaining a safe working environment, it is important to assess what students understand about workshop safety and whether they intend to adopt safety working habit in the workshop environment. Their intention to adopt the safety working habit in the workshop is critical to ensuring a safe working environment. Yet research efforts in assessing and understanding this intention is acutely lacking. There were basically no research found that directly examine students' intention to adopt workshop safety habits especially in Nigerian tertiary institutions. Only a few others have looked at the awareness aspects of workshop safety, explaining the value and need for safety precaution in the workshop

(Abdullahi, 2016) with no attempt to assess students' intention to such safety habits. This study was prompted by the acute lack of research in workshop safety habit among students, particularly Nigerian Polytechnics students who are daily users of workshops. It was premised upon the idea thatstudents'safetyin the workshop is an important foundation of the hazard free workshop practices and to the acquisition of the right frame of mind for safe working environment. Therefore research should be directed into assessingstudents' intention to workshop safety habit among polytechnic students in workshop working environment, as the findings may provide useful data for drawing up workshop safety initiatives in Nigerian polytechnics and other tertiary institutions.

4. Research Objectives

The primary objective of this study is to investigate the utilization of the theory of planned behaviour (TPB) Ajzen, (1991) in analyzing students' workshop safety habit and to investigate the predictive strength of possible relevant additional variable. In pursuance to the objective of the study, the following research questions were formulated thus:

R1, *Does students' knowledge about workshop safety influence their intention to adopt sustainable workshop safety habit?*

R2, *Does students' perceived behavioural control toward workshop safety influence their intention to adopt sustainable workshop safety habit?*

5. Methodology

This study is quantitative in nature, in which questionnaire was used to collect data from the respondents of the study. The research questions covered both the dependent and predicting variables of the study on students' intention to workshop safety habit.

5.1 Measurement of Perceived Behavioural Control

According to Ajzen, (1991), perceived behavioural control it refers to the individual's belief in the ease to execute a behaviour. The stronger the individual feels his/her ability to execute the behaviour, the more the resources and opportunities the individual possesses to execute the behaviour, the higher the perceived behavioural control. In this study, it refers polytechnic students' beliefs that they have total control on their intention whether or not to adoptworkshop safety habit. Therefore this study isan assessment of whether students' perceived behavioural

control onworkshop safety influenced polytechnic students' intention to adopt sustainable behavior on workshop safety rules and regulations, which was assessed through 5-points Likert scale items that required students to agree or disagree with the workshop safety rules and regulations.

5.2 ***Measurement of Knowledge***

Knowledge is defined as the amount of information held in the memory that affects the way individuals assess, interpret and react to the stimuli around them (Blackwell et al, 2001). Brucks (1985) provided a categorization of knowledge by breaking it down to subjective and objective types. Subjective knowledge is an individual's perception or self-assessment of what and how much he or she knows about a subject. Objective knowledge refers to accurate factual information stored in the memory. In brief, perceived or subjective knowledge reflects what individuals think they know about a subject, while objective knowledge is a measure of what they actually know about it (Bello, Ahmad &Sahari, 2013).

This study, is an attempt to assess whether students' knowledge on workshop safety rules and regulations influenced their intention to adopt sustainable behavior on workshop safety habit, which was assessed through 5-points Likert scale items that required students to agree or disagree with the workshop safety behaviour.

5.3 Population and Sample

Two hundred and sixty (260) Engineering technology students from a Nigerian public polytechnic were randomly sampled from five colleges of the polytechnic, which comprised of both males (n =170) and females (n =90). All the engineering technology students were targeted to participate in the survey as they are the school workshop users; therefore every engineering technology student had equal and likely chance of participating in the survey. Two hundred and fifty six (256) questionnaire were returned and after screening the responses to the questions, four questionnaires were discarded due to poor responses of either omission of item or multiple choices, living 252 (96.9%) of the original number of questionnaires distributed which were used for the analysis.

5.4 Instrument

The study utilized an adopted and modified questionnaire to suit the workshop safetyrules and regulations with two sections. Section "A" contained demographic items requesting details about gender, department, level and field of specialization. Section "B" contained ten (12) Likert-type items (six for each construct) that requested students to rate their level of agreement or disagreement on the adoption of sustainable workshop safety habit. The response categories used were *"Strongly agree", "Agree", "Undecided", "Disagree"* and *"Strongly disagree."* The items were validated by a number of experts on workshop safety behaviour content and psychometric properties. The internal consistency of the data of the twelve items was assessed utilizing a reliability test (i.e. Cronbach's α), and was found fit with α = 0.87, which is very good for an exploratory study (Straub, Boudreau, &Gefen, 2004; Golafshani, 2003; Kirk & Miller, 1986).

5.5 Data Collection and Analysis

Data for the study were collected through two different means. First the instructors in the department and colleges'workshop were approached to help and administer the questionnaires in the workshop, which they gave to students while they are in the workshop, to fill them out on the spot and returned them before they leave. This method had ensured hundred percent response rate. Second, the researcher gives the questionnaire to students randomly identified by departments and colleges, which was done with the help of some class representatives. This gives a bit short of return. Analysis of the data involved a combination of descriptive statistics (i.e. percentages and frequency counts) for the demographic data of the respondent, and multiple regression analysis to address the research objectives respectively.

6. Result of the Study

From the analysis, a model of practical important emerged (F (2, 252) = 126.354, p<0.000) (see Table 2). The model explained a 47% variance, with all the variables found to be significant predictors of the polytechnic students' intention to adopt workshop safety habit (Table 1). The two predictor variables *"Knowledge and Perceived Behavioural Control"*were of significant importancein predicting students' intention (see Table 3), knowledge (β = 0.402. p = 0.000), and perceived behavioural control (β = 0.391, p = 000). However, in the result, it can be observed in

the model that knowledge has the highest impact (β = .402) in the prediction of students' intention to adopt sustainable workshop safety habit when compared to the variance explained by perceived behavioural control (β = 0.391).

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
1	.686	.470	.469	4.29

Predictor: (Constant), Total Know, Total PBC.

Dependent Variable: Total Intention

Table 2 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6826.826	2	3413.413	126.354	.000
	Residual	7808.658	250	31.235		
	Total	14635.484	252			

Predictors: (Constant), Total Know, Total PBC

Dependent Variable: Total Intention

Table 3 Regression Analysis: Coefficients

	Unstd Coefficients		Std Coefficients		
Model	B	Std Error	Beta	t	Sig
(Constants)	4.263	.782		34.146	.000
Total Know	.298	.059	.402	8.582	.000
Total PBC	.242	.034	.391	7.826	.000

Dependent Variable: Total Intention

7. Conclusion

In general, knowledge was observed to be the most consistent predictor of variance in behavioural intention to workshop safety habit, whilst both knowledge and perceived behavioural control significantly predicted the intention to sustainable workshop safety habit. Therefore, based on the finding of this study, recommending the inclusion of knowledge in Ajzen's TPB can be considered as particularly important, since it is a very good predictor of individual's behavioural intention. This study further confirmed the consistency of knowledge as a predictor of students' behaviour, particularly among Nigerian polytechnic students as the findings is consistent with previous study conducted on students' behaviour (Abdullahi, 2017).However, more studies need to be conducted in order to generalize the predictive power of knowledgeon other social group and on the intention to different phenomena.

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