



THEORY OF PLANNED BEHAVIOUR: MEASURING ADOLESCENTS MEDIA LITERACY AND ALCOHOL DRINKING EXPECTANCIES

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ABSTRACT

Despite the accumulating research on effects of alcohol advertising content on youths and the several studies that have explored media literacy intervention in different contexts, there is still a need to quantitatively model if media literacy significantly alters adolescents drinking expectancies and which component of media literacy significantly alters these drinking expectancies. To achieve this objective, the Solomon-four experimental research design was applied within the context of the theory of planned behaviour and the media literacy framework to examine the alcohol expectancies of media literate and illiterate adolescents. With a sample size of 860 adolescents in Lagos State, the paper hypothesized that there is no significant difference in the level of alteration caused by the various components of media literacy to the drinking expectancies of media literates and illiterates. The findings of the study revealed that there is a significant difference between media literacy treated and untreated adolescents; however, media literacy appears to exert a paradoxical effect on the drinking expectancies of adolescents. Based on this, the paper recommends that the operational media literacy framework as presented and used in Primark (2006) to be revisited and modified to avoid conflicting outcomes and that media literacy could be adopted as one of the ways to reduce alcohol drinking expectancy in youths.

KEY WORDS: Drinking expectancies, Media literacy, Adolescents, Alcohol advertising, Planned behaviour.

INTRODUCTION

A growing body of research indicates a positive association between alcohol advertising and susceptibility to alcohol use among

young people. For example, Grube and Waiters (2005) showed that greater recall of alcohol advertising is significantly related to more positive beliefs about alcohol use,

which in turn are associated with greater future intentions to drink alcohol among children and adolescents. Similarly, Unger, Schuster, Zogg, Dent and Stacy (2003) demonstrated a positive association between recall of alcohol brands and current alcohol consumption among adolescents. Further, exposure to alcohol advertising directly and positively predicts alcohol consumption for students of middle and high school ages (Collins, Schell, Ellickson & McCaffrey, 2007). In addition, affective responses to beer advertising are positively related to current and later alcohol use among children and adolescents (Austin & Knaus, 2000).

Kilbourne (2004) argues that advertising is essentially myth making. Rather than offering concrete information about a product, advertising establishes an image for the product. Most importantly, alcohol advertising spuriously links alcohol precisely with such attributes and qualities as happiness, wealth, prestige, sophistication, success, maturity, athletic ability, virility, creativity and sexual satisfaction that the misuse of alcohol usually diminishes and destroys. For instance, the Guinness Company organizes its advertisement around Michael Power. His voice is used in radio and television advertisements, and he is the star of short movies and playlets on TV and radio, respectively. In these performances, Michael Power

is the hero who saves young women from destruction by evil forces and the man on whose birthday friends organize a private party (Obanua and Ekeanyanwu, 2010). The popular slogan of the jingle is "Guinness brings out the power in you".

According to the theory of reasoned action and the theory of planned behaviour (Fishbein & Ajzen-Hansen, 1975), the most important determinant of a person's behaviour is behaviour intent. The individual's intention to perform an act is a combination of attitude toward performing the act and subjective norm. The individual's attitude toward the behaviour involves his/her behavioural belief, evaluations of behavioural outcome, subjective norm, normative beliefs, and the motivation to comply. If a person perceives that the outcome of performing an act is positive, he/she will have a positive attitude toward performing that act. The opposite is also conceivable if the act is thought to be negative.

In fact, research has linked the exposure to portrayals of alcohol use in the mass media with the development of positive drinking expectancies by children and adolescents (Austin & Knaus, 2000; Austin *et al.*, 2005). Thus alcohol advertising is one of the many factors that have the potential to encourage youth drinking. For young people who have not started to drink, expectancies are influenced by normative assumptions about teenage drinking as well as through

the observation of drinking by parents, peers and models in the mass media. Alcohol advertising appeals to young people through humour, animation, bright colours and music; it tends to reinforce the link between drinking and socialization and being accepted by peers, which are important concerns for adolescents. The use of sexual imagery and celebrity endorsers is thought to be a particularly effective technique for young audiences as one of the main challenges of adolescence is to define what it means to be a man or a woman.

Alcohol advertising portrays an entirely positive image of alcohol use and when taken cumulatively, this presents an unbalanced source of information for the developing young person. Alcohol advertising, especially in the broadcast media, represents a major source of alcohol education for consumers. Beer and wine advertisements depict alcohol products as the ultimate reward for a football game well played or a job well done; they associate the consumption of beer and wine with financial success and romance and, in some cases, explicitly encourage drinking as a habit. Most alcohol drinkers pick up the habit as adolescents, drawn to alcohol, in part, by advertisements featuring attractive models in playful poses, or cool movie characters whose mystique is enhanced by the fact that they drink (Kilbourne, 2004).

Not surprisingly, several studies explore if and how media

literacy programs can mitigate these negative effects (Cantor and Wilson, 2003; Scharrer, 2005, 2006; Byrne, 2009; Byrne, Linz, and Potter, 2009). These media literacy curricula include analytical viewing exercises, aspects of media production, lessons and critical discussions dealing with media violence, media effects, and the role that media play in young people's lives. Often, participants are encouraged not to identify with TV heroes who solve problems with force and violence or to develop sceptical attitudes toward media violence.

Numerous studies have also examined the link between media literacy and adolescents' tobacco and alcohol use. For instance, Gonzales, Glik, Davoudi, and Ang (2004) concluded that children and adolescents are overexposed to media advertising and media depiction with substance use-related content. Research also suggests that individuals build resistance to specific tobacco and alcohol advertising as they become aware of marketers' strategies and tactics, such as using image-based and affect-laden appeals. For example, Primack, Sidani, Carroll and Fine (2009) explore the association between media literacy and smoking. They found that media literacy is independently associated with lower odds of smoking in college populations. Thus, the purpose of media literacy education is to equip young people to analyze critically media messages. Typically, research

empirically evaluates changes in tobacco- or alcohol-related knowledge, attitudinal and/or behavioural outcome variables among students exposed to the curriculum (Gonzales *et al*, 2004; Austin and Johnson 1997a, 1997b; Austin *et al*. 2002; Austin, Pinkleton, and Funabiki 2007; Austin *et al*, 2005; Pinkleton *et al*, 2007; Banerjee and Greene 2006; Banerjee and Greene 2007).

In sum, health related media literacy programs mostly try to raise awareness by involving children and adolescents in a critical examination of media messages that promote risky behaviours.

OBJECTIVES AND HYPOTHESES

In spite of the accumulating research on the effects of alcohol advertising on youths and the numerous findings that focussed on the influence of media literacy on decision making towards extant behaviours among adolescents, there is a need to quantitatively explore and model if media literacy significantly alters adolescents drinking expectancies. There is also the need to establish the component of media literacy that significantly alters these drinking expectancies of youths and young people generally.

Therefore, the study, which this paper draws from, aims to determine the strengths and direction of each media literacy component with drinking expectancies of adolescents of same and different

ages. That is, the paper hopes to use the theory of triadic influence and that of planned behaviour to ascertain empirically the strength and direction of each media literacy component as it relates with adolescents' drinking expectancies.

This paper therefore hypothesized that there is no significant relationship between media literacy components and adolescents drinking expectancies and second, there is no significant difference in the level of alteration caused by the various components of media literacy to the drinking expectancies of media literates and illiterates of same and different ages.

METHOD

The study was conducted in four distinct phases, in which the authors rigorously developed a battery of potential Alcohol Drinking Media Literacy (ADML) scale items and collected empirical cross-sectional data from adolescents in Lagos State. These data sets were refined, its reliability and validity assessed, and subsequently treated via an experiment using the randomized Solomon four-group design.

This research design involves two experimental groups, *E1* and *E2*, and two control groups, *C1* and *C2*. All four groups complete post-test measures, but only groups *E1* and *C1* complete pre-test measures in order to allow for better control of pre-testing effects. In general, the Solomon four-group RD enhances both internal and external validity.

This design, unlike other pre-test-post-test RDs, also allows the researcher to evaluate separately the magnitudes of effects due to treatment, maturation, history, and pre-testing. Let D_1 , D_2 , D_3 , and D_4 denote the gain scores for groups E_1 , C_1 , E_2 , and C_2 , respectively. These gain scores are affected by several factors (given in parentheses) as follows: D_1 (pre-testing, treatment, maturation, history), D_2 (pre-testing, maturation, history), D_3 (treatment, maturation, history), and D_4 (maturation, history). With this, the difference (D_3-D_4) evaluates the effect of treatment alone, D_2-D_4 the effect of pre-testing alone, and $D_1-D_2-D_3$ the effect of interaction of pre-testing and treatment (Isaac and Michael, 1981).

The population of the study comprises of public and private secondary school adolescents between ages 13 and 18 years in Lagos State. The choice of adolescents in Lagos State is because Lagos State has the most developed, vibrant and dynamic media industry in Africa (African Media Directory, 1996 cited in Ekeanyanwu, 2010) and that the majority of Nigerian media organizations based in Lagos are noted for alcohol advertising, which is the thrust of this study. The paper employed the Multi-staged sampling technique to select the subjects for the experiments. First, the cluster/area sampling was applied. The cluster sampling technique was used to group the population (Lagos State) into the

constitutionally recognized Local Government Areas (LGAs), Enumeration areas. The random sampling technique was employed in the selection of the specific LGA, Enumeration areas namely Ikorodu LGA, Etiosa LGA and Lagos Island LGA. Subsequently, four (4) secondary schools were selected from each of these LGAs. In each school, at least 24 students (male and female) were randomly selected from classes SS1 to SS3 giving 72 students per school, using the sampling frame provided by the schools. In each of the randomly selected secondary schools, the selected 72 adolescents constituted the corpus for the Solomon four-group experiments. Quota sampling was used to select male and female adolescents at random until the specified quota was reached for each gender. This helped to control for gender balance in the experiment.

Since the study was experimental and demanded a lot of time, resources in sourcing and gathering respondents, as well as for the actual experimentation, only 860 randomly selected adolescents in Lagos State secondary schools constitute the sample size. It was assumed that this number of participants would be able to show the variances, if any, between media literate and illiterate adolescents in their drinking expectancies. Respondents' expectancies for alcohol, beliefs of positive outcomes associated with drinking, were measured by a six-item index

(Austin & Johnson, 1997b; Austin & Meili, 1994), i.e. “Drinking beer helps you to appear more grown up, helps you have a fun, helps to make you happy, helps you to make friends, helps you to make sports activities fun, and helps you to win.

The instruments for data collection were the refined Alcohol Drinking Media Literacy Scale, the

treatment that refers to media literacy intervention, which captures the construct of Media Literacy Theoretical Framework as stated by Primack (2006). The treatment examines the manipulative construction of beer industry messages and the salient omissions of those messages.

RESULTS

Table 1: Showing Differences in the Media Literacy of Adolescents across Four Groups

Groups	n	Mean	SD
Pretest treatment posttest (E_1)	205	15.5268	1.73078
Pretest no treatment posttest (C_1)	205	7.1122	1.53140
Treatment posttest (E_2)	205	15.5122	1.74224
Post test only (C_2)	206	6.9854	1.50601
Total	821	11.2789	4.54022

Source: Authors Field work

It is important to note that as prescribed by the Solomon four-group research design, all four groups completed post-test measures, but only groups E_1 and C_1 completed pre-test measures in order to allow for better control of pretesting effects. In addition, E_1 and E_2 were the only groups exposed to the treatment. Four groups were identified; two of them were exposed to treatment (pre-test-treatment-post-test group and treatment-post-test

group pre-test-no treatment-post-test group, and pre-test-treatment-post test only group and the remaining two were not exposed to (treatment) media literacy lectures. The means of the four groups reveal that pre-test-treatment-post-test group had 15.5268 and treatment-post-test group had 15.5122 while the two other groups, pre-test-no treatment-post-test group had 7.1122 and post test only group had 6.9854.

Table 2: Statistics of Adolescents’ Drinking Expectancies

MEDIA LITERATES							MEDIA ILLITERATES						
Drinking alcohol helps you fit	Drinking alcohol makes you happy	Makes kids seem more grown-up	Drinking alcohol helps you have fun	Drinking alcohol helps make sports activities fun and helps you win	Drinking alcohol helps you make friends	Drinking alcohol helps you fit in	Drinking alcohol helps you fit	Drinking alcohol makes you happy	Makes kids seem more grown-up	Drinking alcohol helps you have fun	Drinking alcohol helps make sports activities fun and helps you win	Drinking alcohol helps you make friends	Drinking alcohol helps you fit in

Yes	9.7	5.2	13.1	6.8	5.5	6.3	4.2	8.0	5.5	15.7	8.5	8.5	9.5	7.7
Always	1.6	1.6	1.8	1.2	0.5	0.5	1.0	1.7	5.0	5.0	5.2	2.7	3.5	2.0
S.Times	7.7	5.7	6.0	8.6	8.4	11.4	6.8	18.5	15.7	14.4	21.3	14.0	21.9	16.1
No	53.5	56.7	49.3	52.0	51.1	52.5	59.3	32.9	31.0	31.1	29.9	36.9	30.8	35.2
Never	27.5	30.8	29.8	31.4	34.5	29.3	28.7	38.9	42.8	33.8	35.1	37.9	34.3	39.0
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	n=410							n=411						

Source: Authors’ field work

Respondents’ expectancies for alcohol, that is beliefs of positive outcomes associated with drinking, were measured by a six-item index. The finding indicates that a larger percentage of the media literates compared to media illiterates had negative beliefs about the supposed positive outcomes associated with drinking. However, it is interesting to note that almost the same percentage of literates with illiterates gave a ‘yes’ response to these positive outcomes. That means that the treatment only enhanced an already existing trait among the media literate participants. Response to the option ‘yes’ from both sides implies that the respondent expects to take up alcohol drinking in future. This is because research has also linked exposure to portrayals of alcohol use in the mass media with the development of positive drinking

expectancies by children and adolescents. This also suggests that alcohol advertising spuriously links alcohol with precisely such desirable attributes and qualities as happiness, wealth, prestige, sophistication, success, maturity, athletic ability, virility, creativity and sexual satisfaction that the misuse of alcohol usually diminishes and destroys.

This is supported by the earlier example, which played Michael Power as the hero who saves young women from destruction by evil forces and the man whose friends organize a private party on his birthday. More recently, adolescents are exposed to adverts portraying celebrity football stars like J. J. Okocha drinking beer products before and after a football game. This makes such habits likeable to the vulnerable adolescents.

Table 3: Regression Analysis Showing the Association of Media Literacy Core Component and Drinking Expectancy Measure

Variables	Authors and Audience (AA)		Messages and Meaning (MM)		Representations and Reality (RR)	
	Coefficient value	P. value $P > t $	Coefficient value	P. value $P > t $	Coefficient value	P. value $P > t $
	[95% Conf. level]					
Drinking expectancies	.0121652	0.815	.0022552	0.944	-.0173011	0.440

Media literacy comprises three main components namely

1. The authors and Audience - which exposes that authors create messages for profit or influence and that authors target specific audience.
2. The messages and meanings - which exposes that messages affects attitude and behaviour, that multiple

production techniques are used, that different people interpret messages differently and that messages contain values and specific points of view.

3. The representation and reality - which states that messages omit information and messages filter reality

(An excerpt from the media literacy framework).

Source: Authors Field work

The Regression Table reveals the association of the three components of media literacy with the dependent variable. It also shows the direction of the relationship. We see that drinking expectancies is not significantly associated with the three components of the media literacy frame work i.e. authors and audience (AA), messages and meanings (MM) and representation and reality (RR) with a coefficient of .0121652, .0022552, -.0173011 and P value 0.815, 0.944, 0.440 respectively. The negative coefficient value of drinking expectancies indicates an opposite direction relationship with representation and reality. Meaning that as that as adolescents’ awareness of how alcohol advert authors omit information and filter reality increases, his or her expectations of what drinking alcohol does not help to achieve decreases. However, there

is a switch in the association of the two other media literacy components with drinking expectancies. It shows positive coefficient values. The positive coefficient value reveals the relationship between drinking expectancies AA and MM as moving in the same direction. This on one hand indicates that when there is an increase in the knowledge of how authors create messages for profit or influence and how authors target specific audience, their expectation of what drinking alcohol helps to achieve increases. On the other hand, the lower the knowledge of how authors create messages for profit/influence and how authors target specific audience, the lower their expectation of what drinking alcohol helps to achieve. This also applies to the messages and meaning component of media literacy. The first null hypothesis is sustained.

Table 4: Summary of Independent-T Test Showing Alcohol Desirability and Expectancies of Media Literate and Illiterate Adolescents towards Alcohol Consumption

Variations		N	Mean	Std. Deviation	Df	t-cal	sig
Expectancy	Media literate	410	4.4683	1.81011	819	-26.425	.000
	Media Illiterate	411	11.7226	5.25644			

Source: Authors Field work

Table 4 indicates a significant difference in the media literacy of

adolescents because of exposure to treatment. This finding necessitated a

further probe into the difference between the groups of adolescents, hence the second hypothesis to find out if there is a significant difference between drinking expectancies of media literate and illiterate adolescents of same and different ages. The independent t-test was used. The t value is the estimated number of standard errors between the two means (media literate and illiterate adolescents). The p value is the probability of being wrong if one rejects the null hypothesis that there is no difference. The probability is

set as small as possible, because of the risk of being wrong. However, a conventional cut-off of 5% was used for this study, thus allowing a p value of 0.05, but not higher. The results summarized on Table 4 suggest a significant difference. The finding implies that there is a significant difference in the drinking expectancies of media literate and illiterate adolescents towards alcohol consumption at $p < 0.05$.

The second null hypothesis is therefore rejected.

Table 5: Summary of ANOVA Showing Difference between the Expectancies of Adolescents of Different Ages

		Sum of Squares	Df	Mean Square	F	Sig.
Expectancy	Between Groups	177.813	5	35.563	1.444	.206
	Within Groups	20070.533	815	24.626		
	Total	20248.346	820			

Source: Authors Field work

This table implies that there is no significant difference in the expectancies of media literate and illiterate adolescents of same and different ages.

CONCLUSION

Existing literatures does not attempt to measure the strengths and direction of each media literacy component with various alcohol drinking intention variables. Thus, this paper sought to ascertain empirically using the TTI and TPB, the strength and direction of each media literacy component as they

relate to adolescents drinking expectancies. Following the findings of this study, the conclusion therefore is that though a significant difference exists between media literacy treated and untreated adolescents; however, media literacy appears to exert a paradoxical effect on the drinking expectancies of adolescents. This accentuates the need to revisit and modify the operational media literacy framework as presented and used in Primark (2006). Further studies, we suggest, could explore the reasons for this paradoxical effect.

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