

ISSN: 2547-8559 (Print)
ISSN: 2547-8567 (Online)

MEDITERRANEAN JOURNAL OF SOCIAL & BEHAVIORAL RESEARCH



VOLUME 6 – ISSUE 2

JUNE 2022

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Editor's Welcome Message

The publication of the Mediterranean Journal of Social & Behavioral Research (MJOSBR) is going to be an important contribution for social and behavioral sciences. This journal has emerged as a result of international collaboration among academic scholars throughout the world. The editorial board consists of different academics from many countries. We welcome submissions to bring international quality of MJOSBR. The strength of any good journal arises from interdisciplinary academic perspectives represented by the members of its editorial board. With the launching of our new publication, we invite readers to submit their manuscripts to the MJOSBR, and welcome all articles contributing to the improvement of social and behavioral sciences. We would like to thank to the editorial board of MJOSBR for their voluntary support. The Mediterranean Strategic Research Center is also a supporting association in collaboration with the journal which publishes books in the related fields. Please do not hesitate to send us your valuable comments and suggestions. The journal will publish refereed papers, book reviews and selected papers from conferences as well as special issues on up-to-date problematic topics. MJOSBR is a platform for exchanging views related to social, behavioral and educational research. We welcome authors with the warm senses of Mediterranean culture and share the common global ethical views of our academic world.

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Examining the Extended Advertising Value Model: A Case of TikTok Short Video Ads

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Citation: Dwinanda, B., Syaripuddin, F. A., Hudaifi, & Hendriana, E. (2022). Examining the Extended Advertising Value Model: A Case of TikTok Short Video Ads. *Mediterranean Journal of Social & Behavioral Research*, 6(2), 35-44. <https://doi.org/10.30935/mjosbr/11820>

ABSTRACT

Nowadays, TikTok social media has rapidly developed which creates an opportunity for marketers to grab customers' attention by displaying short video ads. For this reason, knowledge of the factors that can influence customer purchase intentions is needed so that marketing strategies can work effectively. This study aims to investigate the effects of the entertainment, informativeness, credibility, irritation, personalization, and interactivity elements of TikTok short video ads on purchase intention through advertising value and attitude toward advertising. A survey was conducted by collecting response from 486 TikTok active users in Indonesia which later analyzed by using PLS-SEM. The results showed that all elements of video advertising on TikTok, except irritation and informativeness, affected purchase intention through perceived advertising value and attitude toward advertising. Among the significant elements of advertising value, personalization had the greatest positive influence on purchase intention through advertising value and attitude toward advertising on brands that advertised in TikTok.

Keywords: advertising value, purchase intention, short video ads, SOR theory, TikTok

Received: 2 Nov. 2021 ♦ Accepted: 30 Dec. 2021

INTRODUCTION

Video marketing is currently the best marketing strategy as people nowadays prefer watching videos rather than reading. A survey by Wyzowl (2020) showed that the average person spends 1.5 hours per day watching videos, and the number of organizations using video as a marketing tool also has increased from 61% to 85% since 2016. TikTok as one of the social media platforms has rapidly developed and is predicted to beat the popularity of Instagram. TikTok has become the second most downloaded application in the world with 740 million times on Apple Store and Google Play Store in 2019 (Burhan, 2020). This creates an opportunity for marketers to promote their products via TikTok. For instance, Guess launched #InMyDenim challenge on TikTok which got 10.5 million views, 14.3% engagement rate, more than 5,550 user participation videos and 12,000 new followers on Guess's official account during six-day campaign (TikTok for Business, 2020).

Despite the rapid development of digital and social media marketing, studies on advertising value's effect on purchase intention are still limited. Most studies only investigate how the advertising value shapes consumers' attitudes toward advertising (Arya & Kerti, 2020; Brackett & Carr, 2001; Ducoffe, 1996; Haghirian & Madlberger, 2005; Liu et al., 2012; Murillo et al., 2016). In contrast, Morwitz (2012) argued

that attitude alone is not adequate to predict sales. Marketers should at least measure purchase intentions as one of the main instruments for predicting sales. Hence, marketers should figure out advertising elements that can influence consumers' purchase intention.

Promoting through social media has several advantages which is expected to improve customers' purchase intentions. Dehghani et al. (2016) examined the effects of entertainment, informativeness, customization, and irritation on purchase intention on YouTube ads mediated by advertising value and brand awareness. Jain et al. (2018) investigated the effects of information, entertainment, and invasiveness on purchase intention in online advertisements through advertising value and attitude. Meanwhile, Martins et al. (2019) tested the mediating role of advertising value and flow experience in the relationships among irritability, informativeness, credibility, entertainment, incentives, and purchase intention of smartphone advertising.

The advantage of TikTok compared to other social media is an algorithm that can present relevant content according to user's interests and their frequently watched videos (Aruman, 2020). TikTok also allows marketers to interact with consumers in a more interesting and interactive way (Anugerah, 2020). In today's digital era, both personalization and the ability to build interactions are likely to increase the advertising value. However, there are relatively few studies that measure the influence of personalization and interactivity on

consumers' purchase intention. Panniello et al. (2016) found that the relevance of an online recommendation has a positive influence on consumers' purchasing behavior, which is supported by Alalwan (2018), Dehghani et al. (2016), and Kim and Han (2014). Meanwhile, Abdullah et al. (2016) proposed a model of a relationship between perceived interactivity and a customer's intention to return to hotel websites. Several studies found that interactivity can predict purchase intention significantly (Alalwan, 2018; Yin et al., 2019).

Based on the discussion above, research on the effectiveness of advertising elements that influence consumers' purchase intentions on social media is relatively limited in numbers. There are also many variations in variables used to predict purchase intention. These include advertising value (Dehghani et al., 2016; Jain et al., 2018; Kim & Han, 2014; Martins et al., 2019), brand awareness (Dehghani et al., 2016), attitude (Jain et al., 2018), flow experience (Kim & Han, 2014; Martins et al., 2019), performance expectancy, and hedonic motivation (Alalwan, 2018). Although advertising value has been frequently studied, most of previous studies had not include the dimensions of personalization and interactivity as advertising value's factors in the context of social media advertising. Therefore, this study seeks to close the gap from previous research by investigating how entertainment, informativeness, credibility, irritation, personalization, and interactivity affecting purchase intention through advertising value and attitude toward advertising.

LITERATURE REVIEW

Theoretical Framework

An advertisement is a stimulus that is expected to attract the consumer's attention, generate favorable attitudes, and trigger purchase intention. This study uses a Stimulus-Organism-Response (SOR) approach as the underpinning theory and combines it with the Advertising Value Model refined by Brackett and Carr (2001). Based on the SOR theory proposed by Mehrabian and Russell (1974), an environment contains a stimulus (S) that can affect the organism (O) to produce a response behavior (R) to approach or avoid the stimulus. A stimulus is a factor that can affect an individual's internal condition. Organisms are internal processes and structures that act as mediators between a stimulus and an individual's final action, reaction, or response. A response is an individual's final outcome such as intention and behavior (Chang et al., 2011). Guided by the SOR model, this study investigates how the perceived advertising value stimulus together with personalization and interactivity of TikTok short video advertisements affects a customer's attitude toward advertising (organism) which ultimately affects purchase intention as a response.

An advertising value can be interpreted as a subjective evaluation of the relative value or usefulness of advertising for consumers (Ducoffe, 1996). Ducoffe (1996) stated that informativeness, entertainment, and irritation are antecedents of advertising value and attitude toward web advertising. Brackett and Carr (2001) then introduced credibility as the fourth antecedent of advertising value in the context of cyberspace advertising.

The ability to display ads that are relevant to the users and facilitate a high level of interactivity is the uniqueness of advertising on social media. These variables can boost ad's value, which is expected to improve customers' attitudes and purchase intentions. Research on the relationship between personalization and perceived advertising value

shows inconsistent results (Fatima & Abbas, 2016; Gaber et al., 2019; Kim & Han, 2014; Wu & Hsiao, 2017). Meanwhile, research regarding the effects of interactivity on advertising value has not focused on the context of social media ads. Thus, this study includes personalization and interactivity factors as additional antecedents that affect advertising value.

Antecedents of Perceived Social Media Advertising Value

Referring to Ducoffe's (1996), an advertisement may contain entertainment, informativeness, and irritation values. McQuail (1983, cited from Ducoffe, 1996, p. 23) defines entertainment as the ability to meet consumer needs for escape, diversion, aesthetic pleasure, or emotional pleasure. The ability of advertising to entertain is one of the main factors that can create an emotional connection between the brand and consumers (Wang & Sun, 2010). According to Ducoffe (1996), consumers are more likely to give positive ratings for entertaining advertisements. If the content is less entertaining, the marketing effect will be much reduced (Xiao et al., 2019).

Martins et al. (2019) reported that the perceived entertainment of smartphone advertisements has a positive relationship with advertising value. A similar finding was found by Jain et al. (2018) on online video advertising. Arya and Kerti (2020) argued that millennial consumers view Instagram story ads as entertaining, which results in a positive perceived advertising value. A witty or funny image or video will have a positive impact on the advertising value for all audiences. This study tests the following hypothesis:

H1: Entertainment from short video advertisements has a positive influence on perceived advertising value.

Informativeness acts as an important predictor of an advertisement's value. Consumers will always look for informative advertisements to help them choose the best product that produces the greatest satisfaction (Ducoffe, 1996). Advertisements should consist of interesting and tailored information that meets their references to get a positive attitude (Reyck & Degraeve, 2003), so that customers finally decide to make a purchase (Tsang et al., 2004).

Dehghani et al. (2016) and Murillo et al. (2016) revealed that consumers' perceived informativeness on advertising affects advertising value positively in social media platforms. Similarly, Arya and Kerti (2020) found that millennial users are interested in the informative ads displayed on their Instagram stories, which generate a positive effect on perceived advertising value. The relationship is shown through the following hypothesis:

H2: The informativeness of short video ads has a positive effect on the perceived advertising value.

According to Aaker et al. (1985), an advertisement may cause a disturbance, dissatisfaction, and even brief intolerance that refers to the irritation of advertisement value. The source of irritation comes from advertising strategies that are disruptive, offensive, or manipulative (Ducoffe, 1996) as well as an excessive amount of ads (Kim & Sundar, 2010) and displaying information that is irrelevant or unwanted by customers (Lin & Bautista, 2020). Irritation can make consumers feel displeased and react negatively to the advertisement (Aydogan et al., 2016).

Haghirian and Madlberger (2005) reported that the perceived irritation felt by consumers towards mobile ads decreased the advertising value. Tsang et al. (2004) also found that irritation negatively affects advertising value for consumers. Disastra et al. (2018)

concluded that pop-up advertisements and irregular placement of advertisements on layouts can cause a high level of irritation to customers. Aydogan et al. (2016) suggested that non-irritating content in online advertising results in higher web advertising value. Based on these arguments, this study examines the following hypothesis:

H3: Irritation from short video ads has a negative effect on perceived advertising value.

Brackett and Carr (2001) integrated credibility into Ducoffe's (1996) model to explain the web advertising value. Advertisement credibility is the extent to which consumers perceive claims made about a brand in advertisements to be honest and trustworthy (MacKenzie & Lutz, 1989). When customers believe that the message conveyed in the advertisement can be trusted, they will pay more attention to the advertisement (Kim & Han, 2014). On the other hand, customers will avoid or not respond to an advertisement if they feel that the advertisement can not be trusted (Yang et al., 2013). This will negatively affect the customer's purchase intention for the product or service offered in the advertisement.

Credibility has the strongest positive impact on user ratings of advertising value (Arya & Kerti, 2020). Martins et al. (2019) revealed that perceived credibility in mobile advertising has a positive relationship with perceived advertising value. Likewise, Murillo et al. (2016) found that credibility has a significant positive effect on advertising value on Twitter ads for Mexican millennials. Aydogan et al. (2016) argued that credibility in an online advertising resulted in a higher increase in web advertising value. This study examines the relationship between these variables through the following hypothesis:

H4: Credibility of short video ads has a positive effect on perceived advertising value.

The ability of the social media algorithm system allows users to only be exposed to ads that are personal to their needs and characteristics, so that they will like the ads. Advertising personalization refers to the delivery of advertising messages based on demographic factors, preferences, context, and content (Xu, 2016). In the context of mobile services, customers expect advertising content to be tailored to their interests (Robins, 2003). Ho and Kwok (2003) stated that personalization can reduce the number of irrelevant advertisements content sent to a customer. Marketers can collect information about consumers' preferences and create customized messages so that they can build relationships that are more personal with their customers (Feng et al., 2016). The personalization effect will create its own uniqueness, so that it can increase the value of social media ads (Kim & Han, 2014; Segijn & Ooijen, 2020).

Research on the relationship between personalization and perceived advertising value shows inconsistent results. Fatima and Abbas (2016) and Wu and Hsiao (2017) found that personalization plays an important role in determining advertising value. Different from that, Gaber et al. (2019) and Kim and Han (2014) concluded that personalization has an insignificant effect on advertising value. Therefore, it still needs further testing in a various context. This study tests the following hypothesis:

H5: Personalization of short video ads on TikTok has a positive effect on perceived advertising value.

Interactivity is a communication condition in which simultaneous and continuous exchange takes place, and this exchange carries the strength of social bonds (Rafaeli & Sudweeks, 1997). Social media

provides interactive two-way communication between the seller/brand and customers (Kaplan & Haenlein, 2010). The ability of sender to convey information to the audience and the ability of receivers to give direct responses and share the information to others makes social media advertisements become more interactive. Social media can motivate customers to use text, images, videos, and links as interactive content that can be used as a strategy to monitor and promote new products or services to customers (Yaakop et al., 2013). Most customers who experience interactions with social media advertising will find the ad more useful and entertaining to follow, and they will be motivated to buy the product or service shown in the ad (Alalwan, 2018).

Interactivity can increase the value of advertising on social media (Logan et al., 2012; Shim et al., 2013). However, only few studies have looked at how interactivity affects advertising value, especially on social media advertising. Shim et al. (2013) found an indirect effect of interactivity on attitudes toward advertising through advertising value in the context of IPTV advertising. Likewise, Wu and Hsiao (2017) reported that interactivity increased advertising value for the context of mobile advertising. For this reason, the following hypothesis is proposed:

H6: Interactivity of short video ads has a positive effect on perceived advertising value.

Consequences of the Perceived Social Media Advertising Value

According to Ducoffe (1996), advertising value is defined as a subjective evaluation of the relative value or usefulness of advertising to consumers. This evaluation is understood as a cognitive assessment of the extent to which advertising gives consumers what they want (Ducoffe, 1996). In this study, perceived advertising value can be explained by the extent to which potential users believe that they will benefit from advertisements displayed on TikTok by evaluating several antecedent factors that have been discussed earlier.

Research by Liu et al. (2012) showed that consumers who have favorable attitudes toward mobile advertising are characterized by their high perception of the advertising value. Conversely, a negative attitude toward advertising might be triggered by advertising that lacks value (Ducoffe, 1996). A study by Murillo et al. (2016) on Mexican millennials found that advertising value had a positive effect on attitudes toward Twitter advertising. Kim and Han (2014) argued that the advertising value is the main predictor of purchase intention in the context of mobile advertising. Consumers have a favorable perception when they feel that the advertisements are a good source of receiving product information, credible, and enjoyable. The hypotheses to be tested are:

H7: The perceived advertising value of short video ads has a positive influence on attitudes toward advertising.

H8: The perceived advertising value of short video ads has a positive influence on purchase intention.

Attitude is an individual's positive or negative feelings toward the achievement of an objective (Fishbein & Ajzen, 1975). Attitude is the consumer's liking, endorsement, or preference for product attributes, as a criterion used by consumers to make product purchase decisions (Xu, 2016). Behavioral intention is defined as a person's subjective possibility to take certain actions, while intention is a prominent factor in determining behavior (Davis, 1989). In this study, purchase intention is defined as the user's intention to buy a product in the future after watching a video that is shown on TikTok where the product is described or reviewed.

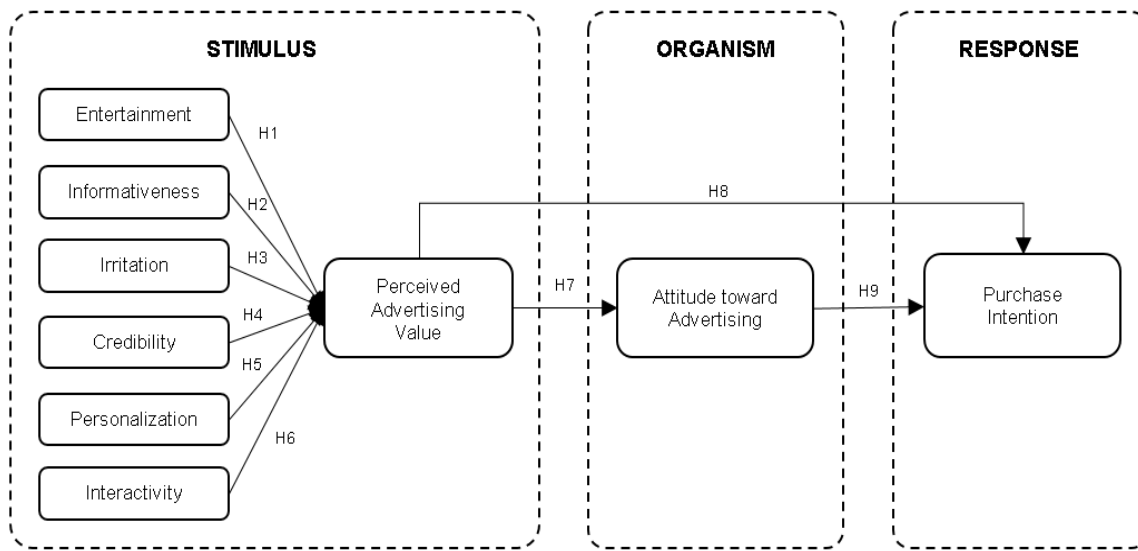


Figure 1. Research model

Zhao and Wang (2020) found that users who have positive attitudes on health-related short video ads are more likely to make product purchases. Jain et al. (2018) also found that attitude towards online video advertisements had a high influence on purchase intention among Indian youths. Xu’s (2016) research on mobile advertising in China concluded that attitude is an important aspect in purchasing decisions that can be used to predict online purchase transactions. The relationship is stated as follows:

H9: Attitude toward advertising from short video ads has a positive influence on purchase intention.

The relationships between these variables are shown in **Figure 1**.

METHODOLOGY

Research Design

An online survey was conducted to obtain data from TikTok users in Indonesia who were active in the last three months and watched short video ad content at least three times a month. Links to participate in the survey were distributed via email, chat applications, and social media to cover a wide geographical area.

Measures and Data Analysis

This study investigated the effects of general short video ads on TikTok on customer purchase intentions rather than focusing on specific formats. The short video ads here include in-feed videos, brand takeovers, hashtag challenges, branded AR content, and custom influencer packages. The measurement items of each variable were sourced from various literature (Alalwan, 2018; Deraz, 2015; Ducoffe, 1996; Jain et al. 2018; Martins et al., 2019; Zhao & Wang, 2020). Each latent variable was measured by four indicators, except for perceived advertising value that was only measured by three indicators. These items were measured using a 5-point Likert scale. The data was analyzed using PLS-SEM because this study extended the theory of advertising value, so that it aimed to maximize the predictive power of the social media advertising value in explaining purchase intention.

Table 1. Sample characteristics

Demographic variable		Freq.	%
Gender	Male	104	21.4
	Female	382	78.6
Age	<15 years old	2	0.4
	15-25 years	165	34.0
	26-35 years old	240	49.4
	36-45 years old	70	14.4
	>45 years old	9	1.9
Last education	High school	193	39.7
	Undergraduate	259	53.3
	Postgraduate	34	7.0
	Student	100	20.6
Profession	Army/policeman	18	3.7
	Public servant	59	12.1
	Private employee	132	27.2
	Entrepreneur	93	19.1
	Housewife	48	9.9
	Other	36	7.4

RESULTS AND DISCUSSION

The survey was carried out on January 2021 and was filled by 586 respondents. Of the total, only 486 respondents could meet the characteristics specified in this study. The majority of the respondents were women (78.6%), aged 26-35 years (49.4%), a diploma or bachelor’s degree (53.3%), and a private employee (27.2%). The details of the characteristics of the respondents can be seen in **Table 1**.

Measurement Model

One irritation indicator (Irr1) was eliminated because its outer loading was less than 0.70. The remaining indicators had an outer loading above 0.70 with the smallest value of 0.732 as shown in **Table 2**. The Fornell-Larcker criterion analysis showed that all square roots of AVE were greater than the correlation of the construct with other constructs (**Table 3**) that indicated the discriminant validity was met.

Table 2. Construct reliability and convergent validity assessment

Variables & indicators	Mean	SD	OL	AVE	CR	CA
Entertainment (Ent)						
Ent1	0.858	0.015	0.858	0.800	0.941	0.917
Ent2	0.904	0.013	0.905			
Ent3	0.921	0.009	0.921			
Ent4	0.893	0.011	0.893			
Informativeness (Inf)						
Inf1	0.846	0.020	0.847	0.735	0.917	0.880
Inf2	0.865	0.016	0.865			
Inf3	0.852	0.018	0.852			
Inf4	0.864	0.018	0.864			
Irritation (Irr)						
Irr2	0.885	0.039	0.886	0.668	0.857	0.774
Irr3	0.715	0.080	0.732			
Irr4	0.820	0.045	0.827			
Credibility (Cre)						
Cre1	0.873	0.019	0.872	0.707	0.906	0.861
Cre2	0.877	0.016	0.877			
Cre3	0.762	0.028	0.762			
Cre4	0.846	0.025	0.847			
Personalization (Per)						
Per1	0.852	0.016	0.852	0.737	0.918	0.881
Per2	0.836	0.028	0.837			
Per3	0.897	0.011	0.897			
Per4	0.847	0.016	0.847			
Interactivity (Int)						
Int1	0.870	0.019	0.871	0.775	0.932	0.903
Int2	0.891	0.014	0.891			
Int3	0.891	0.013	0.892			
Int4	0.867	0.017	0.867			
Perceived ads value (Adv)						
Adv1	0.896	0.011	0.896	0.822	0.933	0.892
Adv2	0.914	0.013	0.914			
Adv3	0.910	0.014	0.909			
Attitude toward ads (ATA)						
ATA1	0.858	0.022	0.859	0.703	0.904	0.858
ATA2	0.852	0.018	0.852			
ATA3	0.862	0.015	0.861			
ATA4	0.778	0.032	0.779			
Purchase intention (PI)						
PI1	0.897	0.017	0.896	0.799	0.941	0.916
PI2	0.915	0.014	0.915			
PI3	0.905	0.012	0.905			
PI4	0.859	0.015	0.859			

OL: Outer loading; CR: Composite reliability; CA: Cronbach's alpha

Table 3. Results of discriminant validity

	ATA	Cre	Ent	Inf	Int	Irr	Adv	Per	PI
ATA	0.838								
Cre	0.706	0.841							
Ent	0.584	0.497	0.895						
Inf	0.609	0.582	0.641	0.857					
Int	0.614	0.542	0.529	0.560	0.880				
Irr	-0.281	-0.257	-0.245	-0.276	-0.229	0.818			
Adv	0.765	0.644	0.615	0.573	0.653	-0.240	0.907		
Per	0.734	0.684	0.642	0.606	0.621	-0.235	0.737	0.859	
PI	0.675	0.591	0.478	0.544	0.526	-0.188	0.645	0.674	0.894

Structural Model

The testing of each relationship between the latent variables was carried out using the output *bootstrapping* to the sample to minimize the problem of abnormal research data. The results of the hypothesis

testing (*bootstrapping* into 5,000 samples) are presented in **Figure 2** and **Table 4**.

The six elements of social media advertising value explained the perceived advertising value by 64.1 percent. Among variables that make

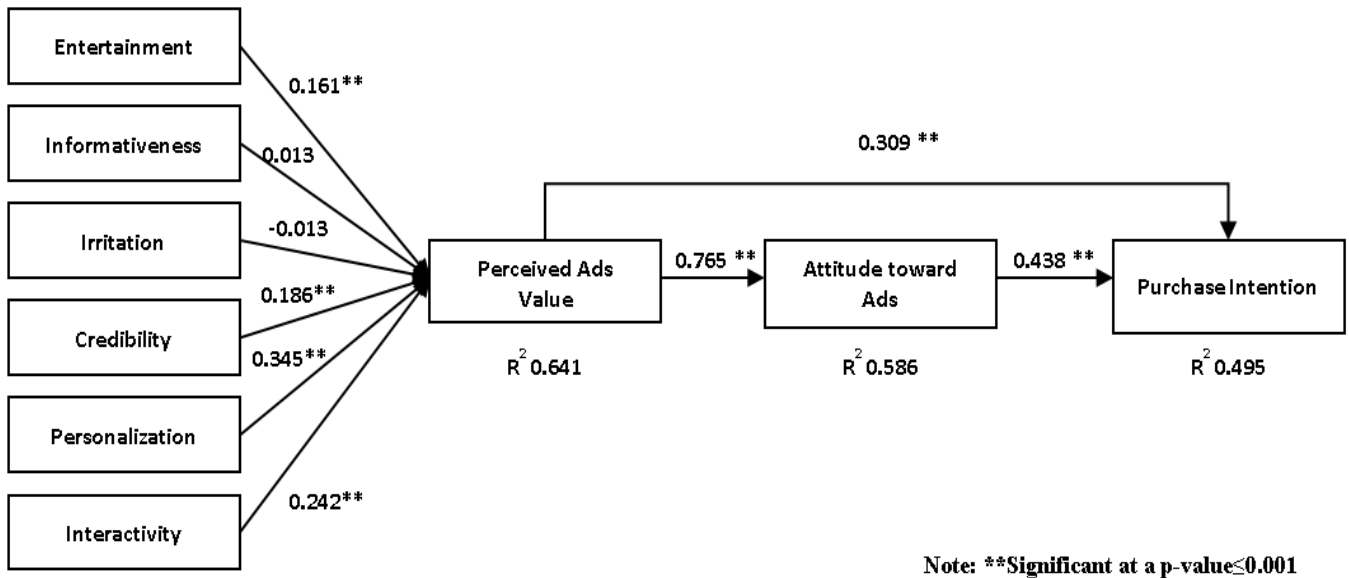


Figure 2. Path diagram

Table 4. Path coefficient test results

Path	PC	SE	t-value	p-value
H1: Ent→Adv	0.161	0.050	3.203	0.001
H2: Inf→Adv	0.013	0.057	0.234	0.408
H3: Irr→Adv	-0.013	0.027	0.471	0.319
H4: Cre→Adv	0.186	0.046	4.052	0.000
H5: Per→Adv	0.345	0.056	6.180	0.000
H6: Int→Adv	0.242	0.050	4.888	0.000
H7: Adv→ATA	0.765	0.020	38.119	0.000
H8: Adv→PI	0.309	0.054	5.760	0.000
H9: ATA→PI	0.438	0.053	8.237	0.000
Coefficient of determination, R²				
Adv	0.641			
ATA	0.586			
PI	0.495			

PC: Path coefficient

up the perceived advertising value, personalization had the strongest effect ($\beta=0.345, p<0.01$), followed by interactivity ($\beta=0.242, p<0.01$), credibility ($\beta=0.186, p<0.01$), and entertainment ($\beta=0.161, p<0.01$). Thus, hypotheses **H1**, **H4**, **H5**, and **H6** were supported. Whilst **H2** and **H3** were rejected since informativeness ($\beta=0.013, p=0.408$) and irritation ($\beta=-0.013, p=0.319$) had no significant effect.

The perceived advertising value positively influenced attitude toward the advertising ($\beta=0.765, p<0.01$) that supported **H7**. About 58.6 percent of the variability of attitude towards the advertising could be explained by the perceived advertising value. Both perceived advertising value and attitude toward advertising explained the variability of purchase intention by 49.5 percent. The effect of perceived advertising value on purchase intention ($\beta=0.309, p<0.01$) was lower than attitude toward the advertising effect on purchase intention ($\beta=0.438, p<0.01$). As both relationships were significant, then **H8** and **H9** were supported.

DISCUSSION

The majority of the respondents were Millennial and Gen-Z which very familiar with the development of digital technology and use social

media to find product information (Loeb, 2020). They liked music, movies, and gaming as their top five interests (Dooley, 2019) and valued relevance, experiences, innovation, trust, transparency, and simplicity (AUTUMNFAIR, 2019; Woo, 2018). All of these characteristics are reflected in the findings of this study.

We found that personalization and interactivity play the most dominant role in the formation of advertising value, followed by credibility and entertainment. Millennial and Gen-Z prefer social media advertisements that can meet their preferences and relevant to their needs. The ability of social media algorithms to filter ads according to user preferences and characteristics make it possible to deliver more individualized ads (Robins, 2003; Unal et al. 2011). This ability is proven to play the biggest role in shaping the perceived advertising value which is in line with Segijn and Ooijen (2020). These findings are also consistent with the results of research by Fatima and Abbas (2016) and Wu and Hsiao (2017). Thus, personalization becomes a main consideration factor in designing TikTok video ads.

Interaction with consumers also supports the success of an advertisement. TikTok allows customers to actively participate in creating their own videos (user-generated content). TikTok also provides a polling survey feature that can further increase interactivity between brands and consumers. It makes customers feel that the seller/brand wants to listen to their opinions. The seller/brand can later customize the advertising content based on customers' feedbacks to increase their perceived advertising value. Similar findings were reported by Logan et al. (2012), Shim et al. (2013), and Wu and Hsiao (2017), where interactivity can increase the social media advertising value. Most customers will find an advertisement more useful and entertaining to follow if they can interact with it, and in the end they will be motivated to buy the product or service that is offered (Alalwan, 2018).

This study found a positive relationship between entertainment and the formation of perceived advertising value because the respondents felt entertained and enjoyed watching TikTok video ads. The content displayed on TikTok ads is generally funny or involves dancing, acting, and lip-syncing which meet the interests of Millennials and Gen-Z. This result is in line with the findings of Ducoffe (1996)

that entertainment has a positive effect on advertising value. Likewise, Jain et al. (2018) discovered that entertainment has a high influence on advertisement value and suggests that marketers can increase the entertainment element when designing their marketing videos to get more viewers. Murillo et al. (2016) stated that entertainment is one of the strongest predictors that significantly affects the perception of advertising value on Twitter and writing witty, funny, or entertaining promotional tweets positively affects user ratings of advertising.

The element of credibility also has a positive influence on the perceived advertising value. The respondents felt that TikTok video ads was trustworthy and came from a credible source. It supports Haghirian and Madlberger (2005) as well as Martins et al. (2019) in different contexts. Many brands today use influencers to promote their products on TikTok. Referring to Saima and Khan (2020), the influencer's credibility depends on his/her trustworthiness, information quality, and entertainment value of the content. Millennials and Gen-Z tend to highly trust influencers and 1.3 times more likely to buy products recommended by them than celebrities or television ads (Brooks, 2019). Customers also can view product review videos by influencers and other TikTok users. As many as 78% of Gen-Z tend to read other customer reviews of the products offered before deciding to buy the product (Brooks, 2019). When customers believe that the message conveyed in the advertisement can be trusted, they will pay more attention to the advertisement (Kim & Han, 2014).

Meanwhile, the informativeness element of TikTok video ads does not significantly affect the perceived advertising value. This finding is contrary to most research, which concluded that informativeness has a significant influence on advertising value (Arya & Kerti, 2020; Dehghani et al., 2016; Murillo et al. 2016). TikTok ads are generally short, only between 3 to 60 seconds. Some ads provide a link at the end of the short video, which can direct customers to the brand's page for more detailed information. Although most respondents felt that TikTok video ads were very entertaining, it might be the reason that they eventually became distracted by the entertainment elements itself and did not pay full attention to the product information being conveyed. Chowdhury et al. (2006) found that respondents in Bangladesh felt that advertising on mobile advertising was less informative since most users may not fully read and remember the information displayed in the ads. Therefore, advertising videos on TikTok should only contain important points related to the product, and it would be even better if the information could be conveyed entirely through the video in order to immediately attract customers' interest.

The irritation element of short video ads on TikTok also has an insignificant effect on the perceived advertising value. Based on the results of this study, the respondents felt that the advertisements displayed on TikTok met their interests, interactive, credible, and entertaining, so that the irritation element becomes insignificant. This finding is in line with Kim and Han (2014), where personalization, credibility, and entertainment can reduce irritation levels that can increase the advertising value. Customers tend to have a good perception of advertising if the advertisement is credible, fun, and brings economic benefits, even though at the same time they feel disturbed. Haghirian and Madlberger (2005) argued that negative perceptions of irritation can be minimized if the message conveyed in the advertisement is relevant and provides value for the recipient.

Finally, this study found that the perceived advertising value has a significant positive effect on attitudes toward advertising and both perceived advertising value and attitude toward advertising affect customers' purchase intention in TikTok ads. We also found that the influence of attitude toward advertising on purchase intention is stronger than the perceived advertising value. The respondents felt that the short video ads on TikTok are personalized, interactive, entertaining, and credible for them, which play an important role in forming a high perception of advertising value that will stimulate their positive attitudes toward the ads and later produce their intention to make a product purchase. Jain et al. (2018) found that attitude towards online video advertisements had a high influence on purchase intention among Indian Youth. Xu (2016) concluded that attitude towards mobile advertising in China was the key element in predicting online purchase transactions as attitude is significantly correlated with intention.

IMPLICATIONS & SUGGESTIONS

Theoretical Implications

The theory of advertising value originally developed by Ducoffe (1996) and later refined by Brackett and Carr (2001) has been widely discussed in website and social media advertising research. However, only a few studies have taken into account personalization and interactivity as unique factors that can boost the value of an advertisement (Alalwan, 2018; Fatima & Abbas, 2016; Wu & Hsiao, 2017; Yaakop et al., 2013). Through this research, we confirm that personalization and interactivity play the most dominant role in the formation of advertising value. The presence of these two elements, along with the entertainment element, is able to minimize the effect of irritation and informativeness to an insignificant level. A strong advertising value will make ads more favorable for consumer and they are more likely to purchase the product or service.

Managerial Implications

Before utilizing TikTok as promotional media, marketers need to understand the factors that can influence customers' purchase intentions in order to formulate effective strategies to increase sales. The key is to implement a customer-centric strategy by understanding their customers' needs and behavior.

Based on the results of this study, personalization and interactivity should be considered when creating advertising content on TikTok. Personalization can minimize the irritation felt by TikTok users while interactive advertising allows marketers to interact directly with users. By doing so, marketers can establish an emotional connection with users to create a more personal relationship between the brand and its customers. Other factors which should also be considered are credibility and entertainment. Marketers should pay attention to factors that can increase brand credibility and build entertaining content in which advertising messages are immersed. However, they should balance between entertainment and informativeness factors so it does not distract the customers' focus.

The four elements above play an important role in forming considerably high advertising value attitudes which foster positive attitudes and stimulate purchase intention. Thus, our research can be an insight for marketers to focus on efforts in designing effective advertising content by considering personalization, interactivity, credibility, and entertainment factors.

Limitations and Suggestions for Further Research

This study found the six elements of video advertising on TikTok accounted for 64.1% of variance in perceived advertising value, and advertising value can only explain 58.6% of variance in attitude toward advertising. Hence, there is still a gap for future research to improve the predictive ability of these elements. Further research can enrich the research model by adding other variables that have not been accommodated in this study, such as trialability and incentive effects on the advertising value and the advertising value impact on brand awareness which in turn can also affect purchase intention.

This study also examined the effects of short video ads on TikTok in general rather than focusing on specific ads format and specific age groups. Future research can focus the subjects on Gen-Z, since based on a survey conducted by Globalwebindex (2019), as quoted by Mohsin (2021), 41% of TikTok users are aged between 16-24 years and this number will continue to grow. Research can also focus on more specific TikTok ads format such as hashtag challenges and branded AR content where research on this subject is still relatively rare.

Author contributions: All authors were involved in concept, design, collection of data, interpretation, writing, and critically revising the article. All authors approve final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

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Communications Approach and Perceptual Response in Health Information

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Citation: Demissie, A. M. (2022). Communications Approach and Perceptual Response in Health Information. *Mediterranean Journal of Social & Behavioral Research*, 6(2), 45-52. <https://doi.org/10.30935/mjosbr/11821>

ABSTRACT

Having informed the surpassing morbidity rate of HIV/AIDS in Gambella than other part of Ethiopia, the researcher motivated seeing communication structure applied in Gambella. Hence, this study came to exist entitled “Communications Approach and Perceptual Response in Health Information”. Specifically, beneath the study, contents, communication approach, health information practice, public interpretation, and contents have been assessed. Methodologically the study designed qualitatively descriptive and case study and the approach was qualitative. Three qualitative instruments of data collection namely key informant in depth interview with concerned ones of GHAPCO, FGD with residents of Gambella through convenient-snowball technique and document analysis have been used. The data was analyzed thematically sequential in line with objectives of the study. The study discovered, language, socio-culture, and educational background of the audiences would not have been praised satisfactorily; and these led to miscommunication between two actors of communication. Moreover, the poorly administered, materials and communication channels used for HIV/AIDS communication in Gambella could not bring the intended effect. Hence, the study recommends possible direction in which better communications approach may come to exist. Accordingly, concerted communication environment which incorporates all vital components of message production, audience analysis, audience segmentation, contextualization, and so forth need to be assured.

Keywords: HIV/AIDS communication, HIV/AIDS message, GHAPCO, HAPCO, message, Gambella, Ethiopia

Received: 9 Nov. 2021 ♦ Accepted: 16 Feb. 2022

INTRODUCTION

Background

Gambella is located in the South-Western part of Ethiopia; it shares border with Oromia to the north and northeast and (South Nation Nationalities and Peoples Region) to the south and southeast. The region also shares an international boundary with South Sudan to the west. Human health services, including preventative health, health education, and public information about HIV/AIDS, are sparse and poorly equipped throughout the lowland pastoral areas, which are geographically, politically, and culturally marginalized from highland Ethiopia. Following this, in the previous two subsequent growths and transformation period, strategies have been made to strengthen the health and associated factors of the public, though unable to bring the intended achievement.

Following this, in the previous two subsequent growths and transformation period, strategies have been made to strengthen the health and associated factors of the public, though unable to bring the intended achievement. The effectiveness of communication campaigns depends on whether they lead people to adopt prevention methods and

behaviors (USAID, 2018). Furthermore, as per Annett et al. (2006) communication interventions are carried out over the long term continuity over time in order to increase the chance of behavior change.

Statement of the Problem

Gambella Regional State is the leading state having 6.4% HIV/AIDS prevalence rate as studies revealed Country/Regional Operational Plan (COP/ROP, 2017), though the government and concerned national as well as international organizations like President’s Emergency Plan for AIDS Relief (PEPFAR) are playing their indispensable role. Health communication programs that focus on prevention have historically relied on a top-down information transmission-based model (Hasler, 2013).

The lack of effective communication creates an environment where there is no voice to address the cause of infection among the most affected groups, including those who are vulnerable (Odine, 2015).

According to Converse et al. (2009), the levels of comprehensive knowledge on HIV/AIDS remain under the expectation. Gulilat (2006) probes on *Afar* traditional communication *Dagu* and its potential for HIV/AIDS prevention. And his finding depicts that the community could not understand the message encoded by the health bureau, rather

the communities' interpretation was far from the intended. In Kenya, although HIV/AIDS awareness is prevalent, Muturi (2007) regrets that a majority of the population do not understand the messages which are communicated. Moreover, Ali and Kassaye (2012) studied at Bahir Dar, and found lack of clear HIV/AIDS communication strategy makes the objectives fail. It is believed that societies who are culturally conservative would be less likely change the mind set status-quo they once sought unless progressive and continual induction is given. Thus, due to unprecedented exceptional prevalence of HIV/AIDS in the region, this study attempted its best looking in to what is underway in Gambella Ethiopia.

Objectives of the Study

General objective

The study is aimed at investigating communications approach and perceptual deviation on HIV/AIDS affiliated contents at HIV/AIDS Prevention and Control Office Gambella, Ethiopia.

Specific objectives

1. Auditing HIV/AIDS's affiliated contents production and
2. Unearth the public interpretation of HIV/AIDS associated messages.

Research Questions

1. How HIV/AIDS affiliated contents are produced?
2. Which perceptual deviation/resemblance on the intention and reception of messages?

LITERATURE REVIEW

Theoretical Frameworks

Behavior change communication theory

Behavior change communication (BCC) is a multi-level tool for promoting and sustaining risk-reducing behavior change in individuals and communities by distributing tailored health messages in a variety of communication channels family health international (FHI, 2002). This model reveals that individuals ought to be informed of fundamental facts and aspects, protective mechanisms proper facilities also be facilitated while behavior changes HIV/AIDS communication. The most important advantage of BCC is that it advances and merge several communication tools rather than availing a single communication tool to effectively reach the target society.

Cross-cultural and socio-culture context theory

In this postulation demographic and geographic profile, language consideration, messages or slogans, and campaign duration are chiefly important. Communication is also more effective when using local idioms that are more culturally proximate to the audience.

Socio-cultural and religious contexts must be considered for effective message construction. Similarly, the communicator must consider cross-cultural implications in the choice of certain symbols and colors for particular ethnic group. All one requires is the understanding of the language and the connotations to understand and communicate the message.

Health Communications

Health communication is one of the branches of development communication. It involves dissemination of information aimed at disease control, prevention, and health promotion (Mugira, 2007). Besides, for Zewdie et al. (2010), health communication is the art and technique of informing, influencing, and motivating individuals, institutions, and large public audiences about important health issues based on sound scientific and ethical consideration.

According to United States Department of Health and Human Services (USDHHS, 2005), to develop effective health communications, you must understand key aspects of the cultures influencing the intended audience and build that understanding into the communication strategy. Tailoring of health communication is a means to increase effectiveness of health information by providing more user centered information. It aims to increase the possibility that the information content is processed and accepted by the receiver (Enwald, 2013). Understanding target audiences and their information preferences as well as developing tailored health information and messages are priorities for all health promotion initiatives (Korda & Itani, 2013).

Taking this in consideration (Corcoran, 2013; Newson et al., 2013), people with lower education may have difficulties in learning and understanding new facts or complex messages as well as difficulties using different kind of technology.

According to McNeilly (2011), effective health communication is something you, as a speech-language pathologist (SLP) and audiologist, should know about as an expert in human communication and its disorders who works in a health-related field.

Health Message

There are qualities while developing health message labeled Ws:

1. Why do we need to communicate? For whom do we need to communicate?
2. Where is the place?
3. When is the time we communicate?
4. What strategies are to be addressed?

Such questions need consideration. Suggs et al. (2015) use language, visuals, and ideas those are easy to process quickly. USDHHS (2005) posited the important of message in disseminating information and communication for the intended audience and the material also be considered while pretesting the message since that matters on effective communication. That is why, ambiguous messages in terms of connotation, syntax, and expressions may perhaps act as an obstruction to communicate for the reason that the recipient may not be able to capture the actual meaning of the message.

Media as a Tool for HIV/AIDS Communication

The aim of mass media is to raise public awareness on issues (Green et al., 2015). Via mass media information can spread quickly and widely (Bandura, 2001). Audio-visual, printed, and electronic media have different ways to distribute behavior change message such as documentaries, soap-operas, education entertainment, announcements, cartoons, stories, reports, and various social media channels (Corcoran, 2013; Sood et al., 2014).

If the aim of the message is in behavior change and not that it is just remembered, the message has to be repeated for a long period (Green et al., 2015; Newson et al., 2013). In this regard, according to Lettenmaier et al. (2014), an effective communication campaign requires a definite structure, usually expressed in these nine elements: (1) situation analysis, (2) goal/objectives, (3) target audience, (4) strategy, (5) tactics, (6) media of choice, (7) calendar/timeline, (8) budget, and (9) evaluation.

DESIGN AND METHODOLOGY

Design of the Study

Qualitatively descriptive and case study designs have been employed. As a result, considering the title and the instrument in which data would be extracted, the researcher used qualitative approach.

Sample Size and Sampling Technique

For manageability of data, the researcher forced employ limited study areas per the selected area. As a result, the researcher utilized two kebeles, one and three, from the entire three kebeles through systematic sampling technique under the umbrella of probability sampling genre. The rationale for systematic sampling is that, relatively it minimizes bias.

Study Informants

To achieve the objectives there were four FGD, although in average six participants per a group utilized. Therefore, the study employed total 24 participants for FGD session. And the technique in which participants were sampled was snowball and convenient sampling procedures. Additionally, concerned authority who is intended to recruit for in depth interview or key informant. In essence, public relations of HAPCO has been served as key interviewee.

Sampling Technique

There were above mentioned two concerned individuals on the area; as a result, they were selected through the purposive sampling. FGD would be through the help of health extension personnel in each kebele and representatives of kebeles. Thus, the procedure was convenient sampling technique. In this regard, health extension workers played a vital role in serving the researcher administering discussion of FGD, since they are familiar than the researcher.

Instrument of Data Collection

The researcher employed interview, FGD, and document analysis as follows.

Method of Data Analysis

The data that gained from key informant in form of in-depth interview and FGD broadly qualitative data presented, analyzed and interpreted thematically sequential in light with the objectives and methodology.

Ethical Considerations

In the whole session of the research beginning from the final submission even after there are ethical and legal issues that must be kept strictly and the researcher gave due attention for those ethical and legal issues such as: credible to the participants, privacy, not plagiarizing, confidentiality, and informed consent kept responsibly.

RESULTS AND DISCUSSION

The Essence and Production of HIV/AIDS Messages

The public relation and plan program coordinator of HAPCO admitted the importance of properly produced message; and he was concerned in Gambella mentioning challenges they face that is the refusal of messages by the community.

“... If the death comes it is believed to be natural death. They say God decided already.”

He added

“Talking about sexual intercourse it is embarrassing.”
(Interview date: October 29, 2018)

Thus, this response is directly parallel with the postulation of Suggs et al. (2015). The considerable factors such as language, visual aid, and ideas are easy to process quickly and make it intuitive that people.

HIV/AIDS Message/Spot/Producer

He responded

“OK! The message is from the people who come from Federal. FHAPCO is main message developer but rarely regional HAPCO. There are some experts at Federal they produce for us because here Gambella we do not have such important professionals to produce.” (Interview date: October 29, 2018)

It is possible concluding GHAPCO is not necessarily producing messages independently unless the support of partners and FHAPCO. In essence, the interviewee (PR) expressed what he known as federal HAPCO is the responsible in providing those messages then they merely consumer of the message:

“As I said messages are primarily produced in federal level then reach to here regional HAPCO.” (Interview date: October 29, 2018)

In fact, the researcher observed some materials prepared by FHAPCO and other partners particularly transnational partners. And this strengthens the response of the interviewee.

Strategic Audience of HIV/AIDS Message

Strategic audiences are public who believed to be the focus of the intended effect or the spotlight of the project.

“May be there are two classes. First highly exposed part of community particularly sex workers, truck drivers, student of higher education/ tertiary, since they are sexually active. The remain category of audience while message development is clinical and non clinical parts like pregnant, prenatal, throughout birth and postnatal check up, introducing them with why they have to get test their blood, when they have to test blood in order to prevent mother to child transmission.”
(October 29, 2018)

In the interview which presented formerly, it is possible to understand that a much prioritized strategic audiences are those of highly exposed groups of people. But there are several classes of audience based on their status quo and social contexts.

For instance, tertiary educational institution students, cross country or long drivers, and ladies who work in hotels and streets. In other word, though, vulnerable populations are the mainly considered strategic decoder of message while producing messages; there are collective audiences that perceived as strategic public.

Moreover, message is not all identical in HIV/AIDS cases. There are prevention messages, controlling message also message intended to reach the audience like elders, youths and the like age category or variety of social groups. Important to mention that the other spectrum of message production is measured or based on the anticipated impact on the community; therefore, behavior change messages, social development messages, and we have also information and education messages and the other tenet of messages. Saying behavior change messages, it is projected on letting the strategic public live accordingly or letting them practice in line with the message they brought.

Message Production Frequency and Community Participation

According to WHO accredited timing,

almost all messages need to be repeated frequently for people to remember them. If a campaign's goal is to change behavior, communicators must plan timing and sequencing of messages along a continuum from awareness to action.

"no fixed time and the frequency often three times per a year; If they plan to develop two times per a year it is also up to them (HAPCO)." (October 29, 2018)

The interviewee remarks that no defined period to produce messages to the public. Against the information sought, communication especially in HIV/AIDS cases, because of its severity, communication ought to be repeated now and then and impose on the mind of the audience. The more frequent the messages produced the more impact it brings.

"Generally, the community is the receiver of the message; they are not producer of message. No part given to public participate while message development program. But I think it is better participating community members." (October 29, 2018)

Letting the community part of message developer makes the message direct and effective. The messages the community produced are the reflection of the mass community. Again, the finding seems contrary with UNAIDS (2001).

Label community participation as reference group refers to a group which a person aspires to associate himself with, therefore, it is a very effective technique to convey message by giving representation to that particular group or a person belonging to that group. So, here national bureau for HIV/AIDS at the same time UN for AIDS clearly stated how valuable community participation plays in challenging HIV/AIDS; more specifically making community one pillar of message producer.

Communications Form and Its Application

From the forms of communication verbal, non-verbal, and symbolic; and they all have their proper situation to practice. Theories and models adopted that match with the strategic audience, and intended effect and the content to be delivered. For instance, the theory like—diffusion of innovation can be preferable for HIV/AIDS communication through verbal communication.

"Here the frequently used form of communication is verbal because almost people in Gambella are uneducated. So we use verbal to reach them."

He added,

"materials which come from federal are peer to peer education material; we effectively avail these peer to peer education materials; what is more mini-media, we utilize mini-media. Rarely frequency modulation/FM/ radio availed to reach the public, but it is not accessible all the time." (October 29, 2018)

A group of people, who are barely educated, prefer communication process via verbal. Since people in Gambella are less literate, verbal communication is preferable for such population. Advocacy materials mainly comes from federal produced focusing verbal nature of communication; and as mentioned by informant peer to peer education given to people as possible mechanism of communication.

Again, the important clues brought from the finding is, since verbal nature of communication chiefly used in Gambella, better seeing in line with diffusion of innovation theory. To this effect, all five segment of groups in which diffusion of innovation theory is comprised ought to be structured. And it can underpin the effectiveness of messages.

Available HIV/AIDS Communications Medium

WHO label it saying

"communicators need reliable channels for reaching decision-makers, disseminating messages and distributing materials. ...communicators should analyze the audience's access to different channels and its preference's."

So, it is unarguable the more multiple the channel the more effective the intended impact. Audience who do not have radio needs to get information through poster and the like.

"Banner, leaflet, and brochures are from the most important communication platforms we use frequently." (October 29, 2018)

These findings confirmed the office particularly uses printed media rather than other platforms. It has a certain contrary features with postulation of world health organizations. WHO suggests as much as possible using optimum capacity, communicators need to meet the desired audience using several medium options. Contrary to the finding of Ali and Kassaye (2012), the current one shows there would not have been appreciable usage broadcast media. Of course print media has own plenty importance especially in the area which traditional media and social media have been hardly accessed. Surprisingly the researcher was unable found at least community radio which dedicates in HIV/AIDS communication through indigenous language.

Whilst BCC theoretically conveys, it is a must using variety of platforms, because people need to get information in media which they trust, want and access; the nature of BCC suppose making people adopt the desired behavior.

To this effect, multiplicity of medium for BCC matters highly not only attitudinal change rather behavior change. Hence, better conclude BCC theoretical formulation is not in right way to apply in Gambella principally because of lack of multiple communication medium; since multiplicity of platform considered as one important element of BCC.



Figure 1. Amharic Orthography and translated as “condom promotion and having safer sex”

Medium of Communication vs. Community's Preference

“Messaging is most effective when it aligns with target audience preferences. Communicators should consider: how the target audience prefers to receive messages, what communications, channels the target audience uses, what messengers the target audience trusts, and any preferences the target audience has for product format and design” (WHO, 2017).

The data posited above implies no materials are carefully developed in light with the population in the region. Though, several drawbacks radio is most preferred media of communication. But notably, even no permanent radio broadcasting services available in Gambella, unless through satellite television. Rarely one radio station reaches to Gambella. So, this finding depicts as the region is isolated than the other part of the country. As the extracted data, the office in collaboration with the rarely accessed media produces programs focusing on HIV/AIDS, but still the medium of transmission is not indigenous language rather Amharic language.

Audience Reception and Implications of HIV/AIDS Communications via Poster

Poster is one from the several HIV/AIDS communication products used by GHAPCO and partners in the region. As aforementioned, poster supposed to be the most important medium of communication.

FG discussants were participated for poster reflection after observing. Inherently, message or content may be interpreted against the desired interpretation of the encoder. Particularly, the more the subject used as a medium of communication is pictorial, the more difficult interpreting the same way. Since pictorial description contains a full of abstract rather than concrete description. So far, informants participated in FGD assert the poster in Figure 1 accordingly.

Here, this description particularly the caption or headline intended to assert having safe sex may serve as one of prevention mechanism. However, informants attach meaning based on their understanding, background, exposure and other related factors.

As a result, according to the finding extracted from focus group discussants, there are various interpretations worth and contrary to the

desired meaning. Since discussants were almost in the same socio economic and academic background, they shared meaning almost alike. What the finding suggests is the woman is laughing and giving him something packed.

On the other hand, the man is warning her pointing his finger; as it shows she committed something which annoys him. And of course they seem husband and wife. Additionally, the captions bellow the picture; but this poster may intend to state that wives respect to their husband. Except very few informants almost all discussants were unable reading Amharic, as a result, difficult to understand what the caption is saying. The data shows there are no offensive elements rather it might help us to have peaceful coexistence with husbands and wives. Some of the discussants perceived the lady is showing him a packed condom, but greater number of informants could not understand as it was condom.

According to Scannell (2007), the success of a communication message occurs when the receiver correctly interprets the sent message. Contrarily, the finding suggests the intended effect carried out in the medium and the interpretation varies. Thus, better conclude communication effectiveness in GHAPCO and its partners with their public is endangered.

The pictorial presentation is almost abstract. The finding extracted from focus group discussants also strengthens the former sentence. Possible providing the picture for those who can identify abstracts easily because of their ability of understanding especially literate. From the informants' one, some were able identifying the picture and the intended message partially. Even though, for literate the picture seems to claim familiarize them being addictive or drug user may expose people to HIV/AIDS.

Figure 2 posited red cross hugely to say no to drug and informants surprisingly could not understand as the desired meaning. Implicit to the red cross: there are drinks, cigarette, chat, and the like. But according to the finding informants could not get understand what the subject intend to convey. But some informant of the study found the subject telling them not to drink and unfortunately one informant was able to read the caption so he reasonably justifies what the material intend to say.

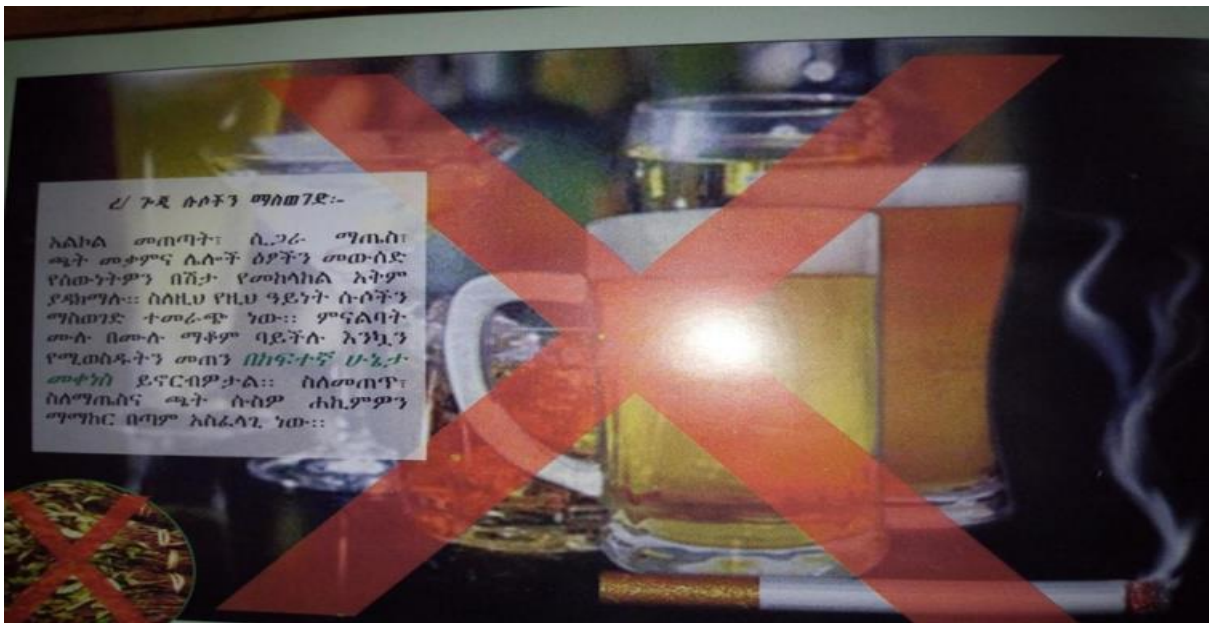


Figure 2. Harmful HIV/AIDS intensifier (beer)



Figure 3. Amharic Orthography and advocates the use of HIV/AIDS voluntary counseling and testing

Therefore, this finding alleges the material are not in the proper line of addressing messages because of leaving the different background of the potential public. In addition to this, the finding implies the weakness of GHAPCO in monitoring and evaluation of communication. And lack of pretesting HIV/AIDS communication spots whether functional or dysfunctional and understandable or not.

The researcher allies the finding with previous discoveries of Corcoran (2013) and Newson et al. (2013):

People with lower education may have difficulties in learning and understanding new facts or complex messages as well as difficulties using different kind of technology.

Following, some spots produced beyond the cognitive understanding of the people.

Figure 3 basically produced to tell the people about voluntary counseling and testing /VCT/ and it's benefit for being proactively prevent HIV/AIDS with marriage partner. However, informants understood partially instead of understanding completely. In essence, discussants were able to mention and perceive the message in the poster as it is medical examination; the doctor is giving the man and his wife medical treatment. As well as, almost all agreed as the poster is teaching them getting medical examination, but very little discussants claim as the poster is claiming the people to get HIV/AIDS blood test.

According to the discussants agreement the poster would be better understood if the material were produced in line with the potential audience background such as if the people existed get dressed like them and if the people seen in the poster like the people of intended audience. The image which resembles patient's /VCT/ seems to be the social philosophy the other ethnic group.

Visuals description when HIV/AIDS and associated communication better preferred than the other because of its positive characteristics; such as the ability to attract, the ability to motivate, understandably, proximity, and so forth.

Audience Reception and Implications of HIV/AIDS Audio Communications

Here the researcher made discussant listen to audio production which was originally prepared in written package produced by HAPCO and Ministry of Health. And this material was directly received by Gambella people through health extension workers. These extension workers are dedicated teach the people as it is. And here the researcher administered these workers read in front of the discussant twice and gets the response following reading.

Principally, the audio read by health extension workers focuses on HIV/AIDS prevention, transmission, and antiretroviral therapy (ART) and associated concepts. More than half of focus group discussants listen and understand what the audio intend to deliver saying—*this message is designed to protect ourselves from HIV/AIDS.*

The discussant all perceived the audio spot prepared to make the people proactively protect themselves. Almost all discussant was not able understand abstinence version of Amharic *metakeb* but conceptually some informants understood fair. Additionally, informants particularly women state one method of protection which label *be faith full*, it is good and husbands are not respecting this method.

As the reflection of respondents the culture of Gambella people allows polygamy for husbands, as a result spouses get married here and there and they come with AIDS. The finding shows behavior change communication still encountering challenges due to rigid cultural assumption of Gambella people. These challenges of behavior change communication led the effectiveness of communication endanger. That is why health communication and in general communication scholars argue prominent and influential person can communicate effectively other than ordinary once; for people inherently follow the prominent.

Surprisingly, HAPCO (2008) itself asserts seven Cs that need to be considered while developing messages; it starts from command attention till call for action. When seeing the finding with the HAPCO (2008), more than half of seven Cs left irresponsibly in Gambella.

The other finding raised from discussants were the language which GHAPCO mainly used to address is not centered by audience, the language has to be considered as possible. But also there were few discussants who argue people know basic information of HIV/AIDS however, what challenging is behavior change. Based on this argument the researcher suggests behavior change message still needs credit. And participate renowned community member work with them in behavior change communication as possible. What is more, the finding suggests, BCC is the one and important model of HIV/AIDS communication.

CONCLUSIONS

The production of message that aims to reach the public expected comprising valuable elements like concerting messages for specific segmented audience, community participation, and audience's socio-cultural makeup. Even though, GHAPCO and its partners are not necessarily taking into account. Furthermore, the interpretation HIV/AIDS messages understood by the discussants were not as desired by the producer.

GHAPCO failed using communication medium which appraised for behavior change HIV/AIDS communication. Communication approach which means strategic, planned and multiplicity of communication platforms hardly practiced. Communication medium especially abstract description which attached in the poster and brochure would not brought equal understanding between the audiences. Per a single message discussants tended understand differently.

Research and evaluation were unimaginable in GHAPCO; and though in rule of thumb, public information model of public relations communication often practiced. The scientific know-how of the public relations practitioner at GHAPCO has been hardly sufficient.

In GHAPCO the practice and model of public relations communication inevitably shares some features from all four types such as press agency, public information, asymmetric and symmetric but unintentionally. Research and evaluation were unthinkable in GHAPCO and more specifically, public information model of public relations communication often applicable. The scientific know-how of the public relations practitioners at GHAPCO is extremely inadequate.

Author notes: Author approves final version of the article.

Funding: The author received no financial support for the research and/or authorship of this article.

Declaration of interest: Author declares no competing interest.

Data availability: Data generated or analyzed during this study are available from the author on request.

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A Systematic Review of Reporting of Psychometric Properties in Educational Research

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Citation: Ntumi, S., & Twum Antwi-Agyakwa, K. (2022). A Systematic Review of Reporting of Psychometric Properties in Educational Research. *Mediterranean Journal of Social & Behavioral Research*, 6(2), 53-59. <https://doi.org/10.30935/mjosbr/11912>

ABSTRACT

Background: The validity and reliability of research outputs are important elements of the research trail. They drive accuracy, transparency, and minimize researcher biases, contributing to rigor and dependability. This paper reviews the frequency of published articles reporting the psychometric properties of the scales/subscales employed in educational research.

Methods: We conducted a systematic review of psychometric properties in educational research papers published between 2010 and 2020 from 15 education-related journals. In our search, we included quantitative studies with primary data. The methodological quality assessment was performed using trained reviewers. The search was conducted using PRISMA 2020 to identify, screen eligible papers for inclusion. The extracted was analyzed using SPSS v25 while reported and interpreted in descriptive statistics.

Findings: We extracted 763 papers published between 2010 and 2020 from 15 education-related journals. More than half of the articles reviewed did not report either validity (n=456 out of 763, 59.8%) or reliability (n=400, out of 763, 52.4%) statistic. For those reporting either validity or reliability, the alpha coefficient was the most widely used statistic to establish reliability (n=185, 50.9%) and correlation coefficient was frequently reported (n=219, 71.3%) for validity.

Conclusions: The paper concluded that to produce dependable conclusions and recommendations in educational research, it is imperative for researchers to pursue psychometric properties to ground their findings and take-home learning.

Keywords: validity, reliability, educational research, psychometric properties

Received: 31 Jan. 2022 ♦ Accepted: 18 Mar. 2022

INTRODUCTION

Educational measurement using validity and reliability plays a crucial role in the social sciences (Barry et al., 2014; Mohajan, 2017). Specifically, educational researchers and practitioners often develop, adapt, or adopt surveys/scales to quantify and measure pertinent participant characteristics (e.g., cognitive, behavioral, emotional, classroom factors, assessment issues, and psychological factors). It is therefore vital for one to note that the integrity of these measurements is critical to the derivation of sound research conclusions (Barry et al., 2014; Bull et al., 2019). Nevertheless, in order to draw accurate conclusions based on survey data or scale, there is the need for a certain level of expertise. Two issues, in particular, are intrinsically tied to interpreting measurement results from surveys: validity and reliability (Corbett et al., 2015; Hogan & Agnello, 2004).

In educational research and allied field (e.g like psychology, nursing, and counselling), it is asserted that validity and reliability are the two

most important and fundamental features in the evaluation of any measurement instrument or tool for quality research (Kimberlin & Winterstein, 2008). In essence, the evidence of validity and reliability are rudiments to assure the integrity and quality of a measuring instrument (Flake et al., 2017; Kimberlin & Winterstein, 2008). Forza (2002) adds that without assessing reliability and validity of research instrument, it will be difficult to describe the extent of measurement errors and ascertain any theoretical relationships among the concepts being studied.

Validity is generally described as the extent to which an instrument measures what it asserts to measure (Blumberg et al., 2005; Plake & Wise, 2014). Put differently, validity is the degree to which the results are 'truthful'. Validity allows us to establish whether the results obtained meet all of the requirements of the scientific research method. Indeed, some scholars view validity as a "compulsory" requirement of the scientific endeavour (Oliver, 2010). These descriptions more mimics the validation process in quantitative studies. In qualitative research, validity is seen as trustworthiness, utility, and dependability (Liang et

al., 2014; Zohrabi, 2013). In this context, validity connotes scrupulous compliance to a particular research paradigm (e.g., grounded theory and phenomenology) during the process of generating research findings.

On the other hand, reliability can be explained as a measurement that supplies consistent results in several occasions (Blumberg et al., 2005; Twycross & Shields, 2004). Reliability measures consistency, precision, repeatability, and trustworthiness of a research (Campos et al., 2017; Chakrabarty, 2013; Squires et al., 2011; Yarnold, 2014). It indicates the extent to which it is without bias (error free); and hence, insures consistent measurement across time and the items in an instrument (the observed scores). Some qualitative researchers use the term 'dependability' instead of reliability.

Considering the multidimensionality nature of research and its implications, it is important that issues of how psychometric properties in educational research are reported in studies should be given the needed attention. In this regard, a study to reveal the significant of psychometric properties in studies appears very relevant and needed to measure the accuracy of research findings. To this end, it becomes necessary to conduct a systematic review for evaluating the psychometric properties of scales/instruments that measure the accuracy, transparency and dependability of research findings published on research journals. Specifically, the study rides on finding out the frequency of validity and reliability reporting practices by author in the selected publication houses, also the study sought to assessed the most frequently reported types of validity and associated statistics in studies and finally, the study examined the frequency of reported types of reliability and associated statistics in educational related studies.

METHODS

Study Selection (Inclusion & Exclusion Criteria)

The Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) 2020 statement guided the methodology and reporting of this systematic review. 15 journals in educational research from five publishing houses were sampled: SAGE Publications, Springer, Elsevier, Multidisciplinary Digital Publishing Institute (MDPI) Journals, and Francis & Taylor. The data were extracted from published articles only from the five selected publication houses. We searched the method sections of the accessed papers that guided the inclusion criteria. The inclusion criteria were based on quantitative study, collected primary data, and published between 2010 and 2020. Mixed method studies were included, but only the quantitative portion was examined for this investigation. However, we excluded letters to editor, commentaries, and conceptual and/or theoretical studies. Each of the author independently reviewed the papers that were included in the final sample.

The selected studies involved human subjects, and collected primary data on experience, perpetration, or response to educational issues across the globe. Furthermore, we included observational studies (e.g., cross-sectional studies, cohort studies, and case-control studies). We were guided by how validity and reliability are used as a psychometric property in reporting. We assessed relevance based on title and abstract. Secondary reviewers randomly conducted relevancy check for 10% of studies we (primary reviewers) considered "cannot determine". The discrepancies on relevancy of the articles between primary and secondary reviewer were noted and discussed by the entire team and consensus agreement was reached.

Data Extraction, Quality Assessment & Data Analysis Procedure

To extract the data, the eligible articles went through a standardized data extraction and quality assessment process. The data extraction form was refined during the extraction of the first few articles to ensure that the forms were comprehensive. We extracted descriptive characteristics of the sample from each quantitative. Extracted data from eligible studies were compiled using the guidelines of PRISMA. To ascertain this, each reviewer assessed to find out if articles provided validity and reliability statistics in the analysis or methodology or in the literature. Again, the reviewers checked if the statistics or the psychometric properties were from a previous administration of the instrument or the current sample. Again, we assessed the authenticity of the validity and reliability statistic and how they were reported or estimated by authors in various studies. Consequently, the third reviewer compiled results by importing data into the Statistical Package for Social Sciences (SPSS) v25 and conducted data validation for data entry and coding errors. This was done by recording all the string variables and verifying accuracy of all the entered data. How the data were extracted from the publications house is represented in the PRISMA flow chat in **Figure 1**. **Figure 1** presents the PRISMA flow chat of how the data was extracted from the journals database.

These quality assessment methods by collective reviewers helped in ensuring the reduction of bias by gaining some level of accuracy and transparency. The results reported in this study are based on a final sample (n=763) published articles from 15 journals from five publication houses. This sample is a comprehensive representation of the articles that are related to educational research, straddling a total of 25 volumes across 10 distinct years (2010-2020). The obtained data were cleaned and processed using the SPSS v25 and analyzed using descriptive statistics (frequencies and percentages).

FINDINGS

The analysis of the paper of the was based on 763 published articles gathered from five major publication houses (this included: SAGE Publications, Springer, Elsevier, MDPI, and Francis & Taylor). **Table 1** presents the results of number of articles (n=763) and validity and reliability reporting by the selected publication companies. The results present the analysis under three themes. The reviewers looked at the number of articles and validity and reliability reporting by the selected journals (**Table 1**). As presented in **Table 1**, generally, the results suggest that most of the articles published in the five (n=5) selected publications houses were not reporting either validity (n=456, 59.8%) or reliability (n=400, 52.4%). For example, for studies published in SAGE, the results show that, most of the articles were not reporting validity (n=95, 60.1% out of a sample 158). Those who reported validity were few (n=63, 39.9% out of a sample of 158). On reliability, it was evident that, majority of the articles were not placing much emphasis reliability in their studies (n=83, 52.5%, out of a sample of 158).

Similarly, from the Springer, it was found that more than half of the articles were not validity in their studies (n=110, 58.2%, out of a sample of 189). On reliability, contrary evidences were recounted as it was found that mores half (n=105, 55.6%, out of a sample of 189) of the papers published in the Springer reported reliability in their study. Ultimately, this percentage recorded in Springer articles did not have any significant impact when all the papers are reviewed holistically.

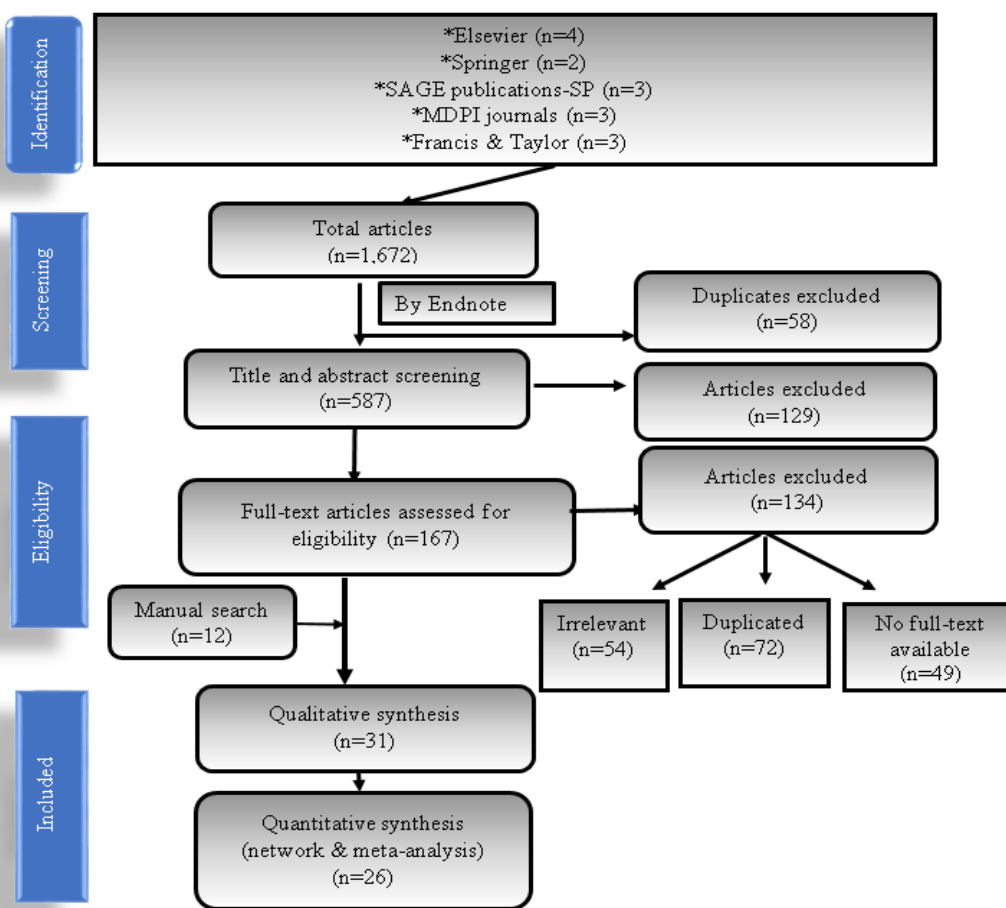


Figure 1. PRISMA 2020 detailed flow diagram guideline for systematic review steps

Table 1. Frequency of validity & reliability reporting practices by authors in the selected publication houses

Publications houses	Total sample (n, %)	Validity (v)		Reliability (r)	
		Reported (n, %)	Not reported (n, %)	Reported (n, %)	Not reported (n, %)
SAGE publications	(n=158, 20.7%)	(n=63, 39.9%, <50)	(n=95, 60.1%, >50)	(n=75, 47.5%, <50)	(n=83, 52.5%, >50)
Springer	(n=189, 24.8%)	(n=79, 41.7%, <50)	(n=110, 58.2%, >50)	(n=105, 55.6%, >50)	(n=84, 44.4%, <50)
Elsevier	(n=132, 17.3%)	(n=46, 34.8%, <50)	(n=86, 65.1%, >50)	(n=62, 46.9%, <50)	(n=70, 53.1%, >50)
MDPI journals	(n=149, 19.5%)	(n=58, 38.9%, <50)	(n=91, 61.1%, >50)	(n=57, 38.1%, <50)	(n=92, 61.7%, >50)
Francis & Taylor	(n=135, 17.7%)	(n=61, 45.2%, <50)	(n=74, 54.8%, >50)	(n=64, 47.4%, <50)	(n=71, 52.6%, >50)
Total	763	(n=307, 40.2%)	(n=456, 59.8%)	(n=363, 47.6%)	(n=400, 52.4%)

Note. Analysis of extracted data from publication house database, Key-n=sample, %-percentage

With respect to studies published in Elsevier, it was found that majority of the reviewed articles did not report on validity (n=86, 65.1%, out of a sample of 132). Similar findings were accrued in respect to the review on reliability as it was found that more than half of the papers (n=70, 53.1%, out of a sample of 132) from Elsevier did not report reliability in their study. For studies published in MDPI, it was found that majority of the papers (n=74, 54.8%, out of a sample of 149) were silent on validity. Comparable results were recounted on the issues of reliability as most of the papers from MDPI journals failed to report on reliability (n=92, 61.7%, out of a sample of 149). Finally, it was found that most of the authors publishing in Francis & Taylor failed to report on validity in their studies (n=74, 54.8%, out of a sample of 135). On reliability, similar evidence was established on reliability as more than half of the papers were stillness on reliability (n=71, 52.6%, out of a sample of 135).

Table 2 depicts the type of validity components reported in the selected articles. The components were categorized under content construct, face, predictive, criterion, and multiple types of validity.

From Table 2, the results suggest that most of the most of the articles were falling on pilot testing to report the validity results (n=124, 40.4% out of 307 articles). Among all the sub-components under content validity. Cognitive interviews were least reported (n=37, 12.1% out of 307 articles). Dwelling on the construct validity, it was found that most of the papers focused on correlation coefficient to report their validity results (n=159, 51.0% out of 307 articles). Chi-square test as a means to report validity was the least (n=53, 17.3% out of 307 articles).

For those works that reported on face validity, it was found that more than half of the articles were using expert panel assessment to validate their instruments (n=209, 68.1% out of 307 articles). Those which used factor analysis were the slightest (n=48, 15.6% out of 307 articles). We again reviewed on predictive validity and the results showed that most of the articles were concentrating on correlation coefficient to report their predictive validity (n=219, 71.3% out of 307 articles). Logistic regression was less used in the articles to report on predictive validity (n=90, 29.3% out of 307 articles).

Table 2. Most frequently reported validity types & associated statistics

Validity components	n	%	Rank order
Content validity			
Expert panel assessment	58	18.9	3 rd
Pilot testing	124	40.4	1 st
Literature review	88	28.7	2 nd
Cognitive interviews	37	12.1	4 th
Construct validity			
Factor analysis	95	31.0	2 nd
Correlation coefficient	159	51.0	1 st
Chi square	53	17.3	3 rd
Face validity			
Correlation coefficient	50	16.3	2 nd
Expert panel assessment	209	68.1	1 st
Factor analysis	48	15.6	3 rd
Predictive validity			
Correlation coefficient	219	71.3	1 st
Logistic regression	90	29.3	2 nd
Criterion validity			
Correlation coefficient	199	64.8	1 st
Factor analysis	108	35.2	2 nd
Multiple types of validity reported			
Content & face validity	102	33.2	1 st
Expert panel assessment & literature	98	31.9	2 nd
Content & construct validity	57	18.6	3 rd
Factor analysis & logistics	50	16.3	4 th

Note. n=307 (307 is based on the confirmed reported validity results in Table 1)

The next component that was assessed and reviewed is criterion validity. In this component, it was found that correlation coefficient was highly used to report on validity results in the articles (n=199, 64.8% out of 307 articles). Generally, factor analysis is least reported in almost all the articles (n=108, 35.2% out of 307 articles). In looking at the combine effects (multiple types of validity reported), it was appreciated that most of the authors used or combine content and face validity in their report (n=102, 33.2% out of 307 articles). Factor analysis and logistics was least reported in all reviewed articles (n=50, 16.3% out of 307 articles).

Finally, the most frequently reported types of reliability and associated statistic is reported in Table 3. In Table 3, the reviewed was guided by five associated statistics for obtaining reliability. These are internal consistency, interobserver/interrater, test-retest, parallel form of reliability and multiple (combination) types of reliability reported. Reviewing on internal consistency, it was found that most of the articles were reporting on Alpha coefficient to establish their reliability (n=185, 50.9%, out of a sample of 363). Kappa coefficient was least reported (n=24, 6.61%, out of a sample of 363).

Mirroring to how interobserver/interrater was reported in studies, it was found that Alpha coefficient was highly reported (n=298, 81.5%, out of a sample of 363). Kappa coefficient (n=65, 17.9%, out of a sample of 363) was least reported. In relation to test-retest, it was revealed that alpha coefficient was dominating in all the articles 763 across the five (5) selected publication houses (n=196, 53.9%, out of a sample of 363). In terms of test-retest, kappa coefficient was least reported in the studies (n=53, 14.6%, out of a sample of 363).

In assessing the parallel form of reliability, it was found that most of the articles were reporting Alpha coefficient when the authors want to establish parallel form of reliability (n=223, 61.4%, out of a sample of 363). In furtherance to the above, it was found that correlation coefficient was least reported in the articles (n=140, 38.6%, out of a

Table 3. Most frequently reported reliability types & associated statistics

Reported reliability type	n	%	Rank order
Internal consistency			
Alpha coefficient	185	50.9	1 st
Correlation coefficient	154	42.2	2 nd
Kappa coefficient	24	6.61	3 rd
Interobserver/interrater			
Kappa coefficient	65	17.9	2 nd
Alpha coefficient	298	81.5	1 st
Test/re-test			
Alpha coefficient	196	53.9	1 st
Correlation coefficient	114	31.4	2 nd
Kappa coefficient	53	14.6	3 rd
Parallel form of reliability			
Alpha coefficient	223	61.4	1 st
Correlation coefficient	140	38.6	2 nd
Multiple (combination) types of reliability reported			
Correlation & alpha coefficient	313	86.2	1 st
Kappa & correlation coefficient	21	5.79	3 rd
Alpha coefficient & Kappa coefficient	29	7.99	2 nd

Note. n=363 (363 is based on the confirmed reported validity results in Table 1)

sample of 363). In the combination of the associated statistics, it was found that most of the authors syndicate correlation coefficient and Alpha coefficient to estimated their reliability (n=313, 86.2%, out of a sample of 363). Very few of them were merging Alpha coefficient and kappa coefficient to estimate or determine their reliability statistic (n=29, 7.99%, out of a sample of 363).

DISCUSSION

The study reviewed psychometric properties reporting practices among published studies in educational related fields. Riding on the work of Bannigan and Watson (2009), it was opined that at one level, the concepts of reliability and validity are relatively easy to understand nevertheless, when it comes to translating this into the reality of psychometrics in research, where concepts are not tangible and standards are scarce then it becomes less easy to understand and, in fact, quite complex. Based on the postulation from Bannigan and Watson (2009), the study tried to determine the frequency with which published articles appearing in high impact journals report the psychometric properties of the scales/subscales employed and also, to outline the methods or associated statistics to determine the reliability and validity estimate or statistic.

The study revealed that the most published article in education discipline appear not to give the needed attention to validity and reliability. Explicitly, it was evident that most scholarly articles are failing to report either validity (n=456 out of 763, 59.8%) or reliability (n=400, out of 763, 52.4%) statistics. Again, for those reporting either validity or reliability, the Alpha coefficient was the most widely used statistic to establish reliability (n=185, 50.9%) and correlation coefficient was frequently reported (n=219, 71.3%) for validity.

The evidences obtained from the study lend empirical support to related works on how psychometric properties are reported in studies. To be specific, in the work of Barry et al. (2011), they asserted that researchers have frequently noted the need of assessing and reporting measures of reliability and validity with each administration of a survey/scale. However, most researchers recurrently fail to acknowledge the psychometric properties of validity and reliability in

their studies. Again, the results from this study share similar findings with the study of Adams et al. (2014) and Singh (2014), which reported in their study that out of 967 published articles, spanning seven prominent health education and behavior journals between 2007 and 2010, an exceedingly high percentage failed to report either validity (ranging from 40% to 93%) or reliability (ranging from 35% to 80%) statistics in the selected studies.

In furtherance to the above, the results from this study concur with the work of Squires et al. (2011) who found in their study that reliability was least reported (33%) in many studies. They further asserted that internal consistency (Cronbach's alpha) reliability was reported in 31 studies; values exceeded 0.70 in 29 studies. Their study further indicated that test-retest reliability was reported in three studies with Pearson's r coefficients >0.80 . No validity information was reported for 12 of the 60 measures. According to their study, the remaining 48 measures were classified into a three-level validity hierarchy according to the number of validity sources reported in 50% or more of the studies using the measure. Level one measures ($n=6$) reported evidence from any three (out of four possible) standards validity sources (which, in the case of single item measures, was all applicable validity sources). Level two measures ($n=16$) had evidence from any two validity sources, and level three measures ($n=26$) from only one validity source.

In some previous review like the work of Bolarinwa (2015), Estabrooks et al. (2003), and Tavakol and Dennick (2011), similar evidences were accrued. These studies were conducted within the same umbrella of finding out the authors report psychometric properties in their studies. Generally, these studies found that most studies lack significant psychometric assessment of used instruments. These studies further stated that over half of the studies in their review did not mention validity or reliability in their report.

Relatedly, we see that oversight (either internal or not internal) is very troubling and disturbing in research works. In essence, most researchers failing to report these important psychometric properties, suggest that most of the researchers might be making or reporting erroneous conclusions and recommendations. In other words, Barry et al. (2014) put it this way that by not ensuring the instruments employed in a given study were able to produce accurate and consistent scores, researchers cannot be certain they actually measured the behaviours and/or constructs reported. To this end, it is highly possible that researchers may be unknowingly measuring something entirely different construct than originally intended construct to be measured (Adams et al., 2014; Moana-Filho et al., 2017).

The results further corroborate with the work of Mahmood (2017). The purpose of Mahmood's (2017) was to present the results of a review of the evidence on psychometric properties of information literacy tests. The study found that the most commonly used psychometric analysis included content validity, discrimination validity and internal consistent reliability. Similar to the present study, it was found that Alpha coefficient was the most widely used statistic to establish reliability ($n=185$, 50.9%) and correlation coefficient was frequently reported ($n=219$, 71.3%) for validity.

Relatedly, our study shares common findings with the study of Bull et al. (2019). The main purpose of their study was to identify Patient-Reported Experience Measures (PREMs), assess the reporting nature of validity and reliability, and assess any bias in the study design of PREM validity and reliability testing. The study found that priority was given to some psychometric properties than other. For example, internal

consistency ($n=58$, 65.2%), structural validity ($n=49$, 55.1%), and content validity ($n=34$, 38.2%) were the most frequently reported validity and reliability tests in the sampled studies.

Inferring from the Standards for Educational and Psychological Testing (SEPT, 2014) for reporting validity and reliability in research, it is asserted that researchers should set forth clearly how instrument scores are intended to be interpreted and consequently used in their studies. The population (s) for which an instrument is intended should be delimited clearly, and the construct or constructs that the instrument is intended to assess should be described clearly to readers in studies. In reporting the psychometric in studies, the standard postulates that statements about validity should refer to particular interpretations and consequent uses. The work of Johnson et al. (2017) and Robson (2011) also gave credence to these characteristics of reporting validity and reliability in studies.

Although, in the study of Barry et al. (2014), it was argued that reporting validity measures is less essential when employing well-known scales that have been thoroughly tested with similar populations previously, they further counted the argument that it is always the best practice to report validity with newly created scales. The study of Adams et al. (2014), Barry et al. (2014), Hall et al. (1988), Hogan and Agnello (2004), Linn (2011), and Mohamad et al. (2015) reported similar findings in their reviews. Most of these studies asserted that consistently, many authors fail to give priority to psychometric properties in their studies. Common among the studies, it was concluded that even studies that report psychometric properties are only limiting themselves to Alpha coefficient/internal consistency reliability and correlation coefficient for validity.

Another striking and revealing findings of this study was when we noticed the disproportionate reporting practices between validity and reliability statistics in the reviewed articles. In the studies where psychometric properties were reported, there was disparities among the twice concepts. Interestingly, most of the articles appeared to have exhibited a tendency to report reliability over validity. This finding strongly supports a by study of Adams et al. (2014) who averred that a vast majority of the 967 articles exhibited a propensity to report reliability over validity.

Limitations

In this study, although, rigorous and comprehensive methods were used for the review, there are some study limitations that need to be reported. In the first place, while we reviewed articles, we did not search all grey literature sources and this might have accrued to some elements of bias. Also, our decision to exclude articles that are not related to education may be responsible for the limited number of articles sampling reporting validity and reliability. Again, studies published in other languages other than English were excluded from the review. Consequently, there may have been some relevant findings regarding the reporting practices of psychometric properties that are not captured in this review.

Finally, authors of included studies were not contacted therefore some information regarding psychometric properties of their studies may have been overlooked. To this end, a future review examining the psychometric properties of self-report measures that covers many discipline and languages would therefore be a fruitful avenue of inquiry.

CONCLUSIONS

Guided by literature, we must emphasize that a systematic review involves a critical and reproducible summary of the results of the available publications on a particular topic or clinical question. In all, the accumulated findings from the review suggest that most authors even though publishing in high profile journals appears to be relegating validity and reliability to the background. This gives the impression that current practices of not reporting validity and reliability does not mirror recommended testing practices in education research. From the review, we could infer that practice of reporting psychometric properties (validity and reliability) is currently underrepresented in the literature. In this regard, our findings point to the need for reporting of psychometric properties to be explicitly outlined as a requirement for publications. This will ensure that the practice becomes conventional for educational researchers publishing works that are related to educational measurement. To this end, it is essential to note that for researchers in education to maximize the utility and applicability of their findings for theory and practice, they must appraise and estimate the psychometric properties of their instrument employed. The neglect to this advice on psychometric properties of validity and reliability suggest that it is possible that the overall efforts of many researchers will be in vain. This is to mean that limited funds may be unnecessarily wasted on studies that are not valid and for that matter not reliable, and in essence, policies and decisions may be informed by inaccurate data and recommendations.

Author contributions: All authors were involved in concept, design, collection of data, interpretation, writing, and critically revising the article. All authors approve final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Acknowledgements: The authors would like to thank to anonymous reviewer for the intellectual encouragement and constructive comments throughout the manuscript. The authors would like to thank to the research assistants for their dedication during data extraction and screening process.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analysed during this study are available from the authors on request.

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The Expectations and Reality of E-Learning

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Citation: Aliakbari, M., & Hassen, Q. K. (2022). The Expectations and Reality of E-Learning. *Mediterranean Journal of Social & Behavioral Research*, 6(2), 61-66. <https://doi.org/10.30935/mjosbr/11926>

ABSTRACT

Following the historical and technological shifts that led to the wide emergence of transformative educational methods, this study offers a developmental perspective to the reality of E-learning. The study further discusses the development of E-learning applications and assess the availability and appropriateness of the educational curriculum and related pedagogical constructs in an Internet networked learning environment. In addition, there is an attempt to address the theoretical foundations of E-learning environments and the educational implications and affordance in the contexts of E-learning. The study, meanwhile, focuses on the effectiveness of E-learning, its advantages and disadvantages and explores how virtual learning is enhanced by merging its principles with the use of new technologies in education, how virtual learning may be improved by integrating educational principles with the use of modern technologies in the classroom, and how modern social practices influence the roles of both instructors and students.

Keywords: e-learning, computer networks, computer-mediated learning, digital curriculum, multimedia

Received: 3 Feb. 2022 ♦ Accepted: 18 Mar. 2022

INTRODUCTION

E-learning can be defined as a method of education using modern communication mechanisms such as computers, networks, multimedia, and the Internet to deliver educational materials to learners in the fastest time and at the lowest cost in a way that enables the management of the educational process to control, measure and evaluate the performance of learners (Shatnawi, 2019). According to OECD (2016) the origins of e-learning date back to the early mechanisms of curricula that extend beyond the confine of the traditional classroom, this resource further maintains that distance learning was already applied and widely used so that it has become more dependable, from an academic perspective, and developed as a more robust and systematic alternative educational option in the second half of the twentieth century. This is mainly due to the rapid development of new technologies and the increased demand for higher education. Rami and Al-Tameemi (2021) point out that “virtual reality technology appearance in the educational fields was in the nineties of the last century when its actual use began on the educational application in various academic institutions for both learners and teachers, starting from the elementary stages and ending by the university stages, and for the various academic subjects” (p. 3899). While Wang et al. (2010) argued that “e-learning refers to the use of computer network technology through the Internet, to deliver information and instructions to individuals” (p. 167), e-learning is one of the methods of education that sends information to the learner in modern

communication mechanisms by using computers, smart devices and networks, different multimedia, graphics, electronic libraries, and so on. E-learning can be used from a distance or in the classroom. Stated otherwise, e-learning aims to pass the information to the learner with less effort and the greatest benefit (Kratochvílová & Kratochvíl, 2017). According to Kong (2019), “e-learning encompasses not only the use of technology for learning and teaching, but also pedagogical issues such as how to support learning effectively, promote interaction, and facilitate pedagogical decision making through the use of digital resources, digital communication tools, and data collection” (p. 28).

E-learning enables the learner’s particular needs to be met. “This includes, but is not limited to, determining the type of media to be employed. It could be text, audio, videos, pictures, presentation with images, etc. In addition, more flexibility can be provided in the scope and arrangement of educational materials during the learning process by adding so-called learning paths to the standard navigation” (Lecon & Hermann, 2020, p. 35-36). It is right to say that E-learning is technology-based learning and many terms are used as its synonyms. The list may include virtual learning, computer-based learning, and distance learning via electronic channels, but the term e-learning is more commonly used than the other terms. As for the options open to the users, in the e-learning environment, the learner uses multimodal tools and contributes to the educational content widely existing and available to him/her on the Internet. The learner can plan, build, and customize the existing content according to his/her knowledge needs that differ from one learner to another. Whether created by individuals

or institutions, the educational content reflects a feature of the modern learners, which is the feature of cognitive power resulting from the abundance and diversity of information.

The era of population and knowledge explosion imposed new requirements to enable learners to assimilate learning, including its media, means, skills, and appropriate use and employ it. Teaching scientific content by traditional methods is no longer the norm for 21st century teachers. Rather, they must keep up with global advancements in teaching approaches. Taking advantage of world progress in the means of communication via computer networks, faculty members build their own homepage, as well as the scientific material for each subject they teach and train students to develop and circulate the content of scientific materials from the homepages. Accordingly, OECD (2016) maintains that "An open and accessible Internet, with high fixed and mobile bandwidth, is essential for innovation in the 21st century" (p. 36). The Internet has provided many opportunities for professional development for teaching scientific content through educational cooperation between teachers nationally and internationally. Furthermore, numerous studies have proven that e-learning helps unify the bonds of collaboration between faculty members and colleagues with common interests by sharing ideas, curriculum materials and other resources through e-training and online lectures. As one of the study cases in Kong's (2019) research showed that "partnership schools share common goals, objectives, and expectations in e-learning collaborate for mutual benefit on technical, resource and pedagogical supports for e-learning implementation" (p. 42).

Research indicates for tracking the characteristics and qualities of quick and successive transitions and difficulties in the field. Despite the fast rise of modern educational technology, its application and efficacy in education are still intangible. As a result, educational institutions must take the lead in directing their programs to take advantage of e-learning. Various research works have already mentioned some e-learning concerns, such as weak learners' familiarity with e-learning software abilities and poor learners' knowledge of the significance of e-learning in the teaching and learning processes. As Mesfin et al. (2018) points out, "the majority of e-learning initiatives in developing countries do not fulfil their potential because of low ICT literacy rates among the student community" (p. 160).

LITERATURE REVIEW

There is a wealth of literature on the effectiveness and importance of e-learning, its impact and its role in changing teaching methods. The current research relies on the following literature and research as primary sources:

1. "Web 2.0-based e-learning: Applying social informatics for tertiary teaching" by Mark J. W. Lee and Catherine McLoughlin (Lee & McLoughlin, 2010). The authors discuss the utilization of Web 2.0 tools and their impact on our life.
2. "Multimodality and literacy in school classrooms" by Carey Jewitt (Jewitt, 2008). In this article, the author analyzed three views: new literacies studies, multiliteracies, and multimodality. The author discussed the extent to which the landscape of communication is shifting in deep ways, extending to schools and other commonplace aspects of daily life and discusses classroom multimodality and literacy and what these shifts signify for literacy in the 21st century. His primary point

is that literacy cannot be thought of purely as a linguistic achievement and that the time for the habitual association of language, print literacy, and learning is over. He highlighted the main definitions in an expanded approach to modern literacies and understood them in the present study literature.

3. "Role of computer-mediated communication in solving collaborative learning empowerment problems in higher education: A case study of Oman" by Habib Ullah Khan (Khan, 2006). In this article, the author refers to the concept of cooperative work and its acceptance in all disciplines and in all areas of scientific and practical life these days. He argues that students benefit from teamwork in cooperation with their colleagues, faculty, and the community, through immediate educational and social benefits, critical thinking benefits and long-term professional benefits. He confirms that these benefits are difficult to achieve through face-to-face interaction in Arab societies due to inherited traditions, religious and cultural factors, especially concerning females' participation in exchanging information with their male colleagues. He discussed the gender problems in collaborative work in developing states. The author suggests that the best solution to overcome these challenges is through computer-mediated communication (CMC). According to the author, information technology could be used to empower group members in collaborative projects.
4. "Digital literacy in academic language learning contexts: Developing information-seeking competence" by Janel Pettes Guikema and Lawrence Williams (Eds.) (Guikema & Williams, 2014). In the first part of the study, the authors focus on using digital technologies in searching for information in one's first language and a second language and how social communication has changed and impacted the four skills of learning, reading, writing, speaking, and listening, which dominate the media of communication. In the second part of the study, the authors point out the increasing public awareness in searching for information. Furthermore, they examine the usage of sources, keywords, search methods, and how the efficiency of the information-finding was developed as part of digital literacy in an academic setting.
5. "Distance learning in an extraordinary circumstance (COVID-19): An initial assessment of student experience and coping in a trinational study programme" by Jörg Christian Wombacher (Wombacher, 2020). The study aimed at evaluating students' experience and adapting to e-learning in light of the COVID-19 pandemic, in a joint program between three French, German, and Swiss universities, on a sample consisting of 157 individuals from the three universities, statistical comparisons, and indicators were used. The study results showed that students believed that professors were highly committed to adapting to e-learning curriculum and were working to facilitate and make it easier for students to move to e-learning in a short period. Yet, it is unclear what teachers expect of students, as some professors need to change their lesson plans. Before they can integrate further into e-learning education, the students live in a state of pressure as a result of dealing with the new situation due to the heavy burden they bear from the lack of coordination between subjects in the required tasks. The

tools used for learning include Moodle, Email, and Webex and the appropriate infrastructure, while the students prefer presentations accompanied by audio with sometimes direct sessions for discussion and clarification of tasks, and the students see that sessions of more than two hours are ineffective. Many factors affect e-learning, some of which support the need for it, and some of them make it compatible with other traditional methods of education. Having the above-mentioned issues in mind, in the sections that follow the advantages of e-learning, the motives of interest in e-learning education, the barriers to e-learning, e-learning curriculum, and developmental stages of e-learning are elaborated and discussed.

THE MERITS OF E- LEARNING

The Internet is one of the most important technological achievements in the current era, as it serves humanity with its rapid spread and efficiency in providing information. The importance of education is growing due to its potential to provide a rich learning environment, particularly since e-learning began to assume its position in academic institutions to assist with explanation and clarification. The concept of e-learning is a learning technique based on formalized teaching, but that uses a range of electronic resources. E-learning can take place both inside and outside the classroom by offering courses and educational programs using computers that are completely reliant on the Internet.

E-learning is made possible by creating, designing, and implementing educational materials, programs, and learning experiences that are offered to people for them to achieve certain educational outcomes. It allows the learner the freedom to choose courses, learning methods, and teaching materials that suit the learner's needs and desires, and thus this system is characterized by the learner's self-control in the learning process. E-learning is also based on a variety of educational methods, the most important of which is individualized education, which focuses on the student and makes him/her the center of the educational process, as e-learning is primarily based on interactive computer technology that can be programmed to meet the student's needs and to learn in a speedy mode. The learner depends on the multiplicity of educational materials instead of the lecture or lesson in the educational institution. OECD (2005) stressed on the need to prepare educational content to achieve the following requirements: (i) flexibility allows the learner to be free and self-paced; (ii) interactivity with educational content and materials or programs reinforcement during the learning process; and (iii) support during the learning process through an assessment.

E-learning promotes teacher collaboration, resulting in more effective educational collaboration. It also makes it easier for local and foreign professionals to collaborate, particularly at the postgraduate level, inside and outside the country borders. It facilitates communication and feedback between the teacher and the students, hence improving the efficiency of the teaching and learning process. It also allows learners plenty of time to ponder and contemplate before responding or expressing an opinion. In some types of teaching, non-print media is required, as it cannot be taught in an effective manner that meets the requirements without using the modern audio-visual media provided by e-learning.

E-learning supports cooperative learning and teamwork by connecting learners, even if they are geographically separated. It also encourages public seminars and the exchange of opinions between individuals and those with common interests. It also helps to raise the interests and desires of learners by providing an educational environment rich in diverse knowledge and experiences, allowing each learner to pursue his/her interests. It also contributes to developing higher-order thinking talents through problem-solving and concept organization through creative scientific thinking. It benefits in achieving education's purpose of establishing new trends and changing behavior. It provides privacy in the educational process where individuals differ in their absorptive abilities, and learning takes place in isolation and allows trial and error without any feeling of embarrassment. It provides curricula throughout the day and on all days of the week to give flexibility and smoothness in the educational process, allowing community members to learn despite special circumstances and family responsibilities. Because of the tremendous development in the e-learning methodology, there is ease and multiplicity in assessing the learner's stage in the e-learning system, as it provides tools that analyze grades, results, tests, and quarterly work. Finally, it enabled maximum benefit from information and research, as technology gave the learner immediate access to information in the appropriate place and time.

MOTIVES OF INTEREST IN E-LEARNING EDUCATION

The following are some of the reasons why people are becoming more interested in e-learning:

1. Increased demand for institutions and universities and its inability to accommodate the students.
2. Increasing demand for education, training, continuous development and lifelong learning.
3. Increased demand for knowledge-based labor in the knowledge society.
4. The necessity of renewal and development in higher education institutions.
5. The need to reduce training costs.
6. Increasing awareness of the significance of e-learning and the features it provides.
7. Assisting learners in learning and becoming self-sufficient and developing a generation of learners responsible for their education.
8. Raising the return on investment by reducing the cost of education.
9. Breaking down the psychological barriers between the teacher and the student.
10. Create a clear mechanism to deal with the increased amount of information available to learners due to technology advancements and innovations.
11. Satisfy the needs and requirements of the learner (Zakariaha et al., 2011).
12. E-learning is environmentally friendly process. The more we rely on e-learning, the more we reduce the environmental

pollution resulting from the manufacture of paper books, which come from nature and thus help mitigate global warming indirectly. A study conducted by the Open University in Britain found that producing and providing e-learning courses reduces the equivalent of 90% of energy consumption and 85% of CO₂ emissions for each student receiving face-to-face education (Roy et al., 2005).

BARRIERS TO E-LEARNING

Interest in e-learning is universally acknowledged as a must lies approach which is technology-oriented. Accordingly, e-learning has spread through the international information network, "the Internet", and many websites have appeared that take this type of education as their basis. The number of these websites are ever increasing, examples of these websites are Coursera, Khan Academy, Open Culture, Academic Earth, Massive Online Open Courses, and many more, which aim to provide an interactive learning environment for learners from all over the world through continuous scientific development of educational curricula and focus on skills related to information technology. Moreover, there are many websites for reliable resources such as Academia, Google books, Google scholars, ResreachGate etc. However, some argue that the use of network applications in education by faculty members is less than expected and is progressing very slowly due to a lack of awareness of the importance of this technology or inability to use it. The rapid development of international standards requires many modifications and updates in electronic courses (Crossley & McNamara, 2017).

There are some considerations about e-learning which limited its acceptance by those in charge of the educational process in some countries. Some of these limitations include, the high economic costs of e-learning compared to classroom attendance, the high dropout rate among e-learning students, limiting the role of the teacher in preparing and developing the academic curriculum, priority of commercial goals than educational ones and weak infrastructure for e-learning, especially in rural areas, where electronic devices and modern communication networks are not available.

One of the drawbacks of e-learning is its reliance on technologies that are still unreliable. For example, the Internet is still ineffective or of low quality in many places in the world. Also, using it effectively requires the student to be familiar with the use of technology well. According to a study conducted by Al-Araibi et al. (2019), "45% of e-learning projects in developing nations are utter failures, and only 15% of them are succeeding, citing technology challenges as the key criterion for e-learning system success. (Almaiah et al., 2020, p. 5265).

E-LEARNING CURRICULUM

Educational software is an application that uses a computer to teach a learner certain educational content. Electronic educational courses are classes that are similar to traditional courses in terms of the presence of the teacher and students. However, they are held on the global network (GN), where they are not restricted by time or location and in which virtual learning environments are created so that learners can engage easily through networks to participate in collaborative learning situations using asynchronous tools and techniques. The educational

material between the teacher and the learner is indirect and not governed by a specific time, such as browsing the academic lessons, messaging between the learner and the teacher, transferring files and documents, and messaging via e-mail, simultaneous tools and techniques. The teacher is linked with the learner in a real educational environment, the teacher communicates with the learner directly, such as text and audio conversations between learners and their teacher. E-learning increases the possibility of academic cooperation between learners through communication and discussion boards, e-mail, and dialogue rooms to facilitate contact between various parties in multiple directions, increasing opportunities for discussion and exchanging views. It is easy to reach the teacher and academic advisor quickly and with less trouble, even outside official working hours, by e-mail. There is also a multiplicity of teaching methods to suit individual differences, as it is possible that scientific material can be delivered in a variety of ways that suit learners' different desires and interests. Some learners prefer the visual method, while others prefer the audio or reading method.

The digital curriculum helps the learners go deeper in learning and immersion in the digital curriculum. Teachers have to create digital curriculums and electronic books to interact with the students. Teachers might use videos lessons to increase the learning interrelate between the educational materials and the students. As some people think that the textbook curriculum is outdated and has become a very static resource for learning, digital curriculum is expected to create a more collaborative atmosphere between the teachers and students. Teachers can use text, images, media, audio, and interactive video.

There are many ideas for teaching scientific content in computer networks, including those related to preparing the lesson plan in different ways, and there are many sites that include lesson plans and ready-to-use lessons, and these provide teaching ideas for teachers that can be implemented immediately in the classroom. Computer network technology is used to serve the educational and teaching process and keep pace with what is happening in developed countries, good documentation of the content of teaching curricula, deepening concepts, and providing university graduates with the latest technologies of the age, which represents the optimal use of computer networks (Ghavifekr & Wan Rosdy, 2015).

DEVELOPMENTAL STAGES OF E-LEARNING

The development of the use of e-learning and computer networks in teaching scientific content has gone through several stages, which can be summarized, as follows:

- A. Exploration stage: It refers to the path of networks and their imposition on society after many experiments.
- B. The stage of keeping pace with computer technology and how to take advantage of display devices connected to the computer and the spread of its use and progress in printing methods using laser technology.
- C. Stage of maturity and expansion in the production and generalization of the use of hypermedia.
- D. Total dependence on computer networks in teaching scientific content.

CONCLUSIONS AND RECOMMENDATIONS

The idea of e-learning was built on the philosophy of education at any place and time, which means that the learner can obtain educational materials when he/she wants. E-learning also depends on the individual's participation in educational activities, which helps create an educational environment that allows the learner's interest in education and the desire to follow it continuously to acquire teaching skills. As the concept of sustainable education has become one of the necessities of modern life, educators believe that e-learning fills a significant gap in this field. It has several benefits that qualify it to remove barriers preventing all people from receiving an education. It is also distinguished by modernity, novelty, freedom and flexibility of time, education and assessment, and its proportionality with all learners and their psychological characteristics and needs, as it unleashes thinking, creativity and innovation. Consequently, the philosophy of e-learning is based on making education in general and university education in particular available to all, as long as their abilities and capabilities enable them to succeed in education, to work towards achieving the principle of equal educational opportunities for all teachers without distinction between gender, race, or language, and to reach students who are geographically distant or who live in remote areas and whose circumstances prevent them from travelling or moving to a traditional campus, as well as to provide educational opportunities to students who are unable or physically disabled, in particular students with special needs.

It can be claimed that activating the e-learning technology in the educational process of both teaching and learning, despite the challenges, allows the learner to obtain experience that is more real-world, interactive, and instructional, resulting in an increase in creativity in the learning and teaching process. The study discovered that e-learning technology allowed learners to participate in scientific experiments based on mobile observations and encouraged them to engage and immerse themselves in them. Learners were also encouraged to make a decision instantly and allow trial and error, allowing them to acquire experiences that would normally take years of professional and practical expertise.

Life is constantly developing in all areas. In light of the massive development in the field of technology and communications around the world, it is necessary to consider the development of education in all its forms and specializations. E-learning has become a reality imposed on all countries, especially after the COVID-19 pandemic. We see the world moving towards this process in learning and education. It still requires great attention and efforts to adopt it as a method recognized by all governments.

Author contributions: All authors were involved in concept, design, collection of data, interpretation, writing, and critically revising the article. All authors approve final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analyzed during this study are available from the authors on request.

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