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Celebrity Endorsement and Covid-19 Vaccine Hesitancy in Rivers State

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Abstract: The covid-19 pandemic took the world by storm in 2020 leaving so many deaths and dislocation of global economic activities in its wake. Scientists across the globe rallied to provide vaccines to tackle the spread of the dreaded disease but the refusal of people to take available vaccine is already a growing concern. This study investigated the impact of celebrity endorsement on covid-19 hesitancy in Rivers state. Three hypotheses were formulated while the study population is made up of all citizens of the state given at five million, one hundred and ninety-eight thousand seven hundred (400) while primary data for the study was generated through research questionnaire developed on a five point Likert scale. Multiple regression was used to test hypothesis with the aid of SPSS version 21.0. The findings reveal that celebrity endorsement strongly and positively relates with covid-19 vaccine hesitancy and recommend that government of Rivers state should engage the services of celebrities in her bid to get more people vaccinated against covid-19.

Keywords: Celebrity Endorsement, Covid-19 Vaccine, Vaccine Hesitancy.

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1 Introduction

The novel corona virus disease (Covid-19) pandemic is a health harzard which the entire globe had to grapple with. The pandemic aside its health implication, has disrupted economic activities and dislocated the social life of people across the world.

On January 30, 2020, the World Health Organization (WHO) declared covid-19 a public health emergency of international concern. By 3rd Jan, 2022, there has been 244,120 confirmed cases of covid-19 infection in Nigeria with 3,045 related deaths (NCDC, 2021). Available statistics

indicates that Rivers State is the third most infected state in the country and ranked only behind Lagos and the Federal Capital Territory (FCT) with 14,871 confirmed cases as at January 3rd 2022 according to the National Centre for Disease Control (NCDC). The state has also recorded 154 covid-19 related deaths during the same period. Data from the world health organization (WHO) shows that the state have received 150,240 doses 0f the Astrazenecacovid-19 vaccine. Out of this figure, 78,000 people have had the first jab while only 27,000 persons have received their second jab as at June 24th, 2021 (Guardian. NG, 2021). In a bid to get more people vaccinated, the state government have engaged regularly with healthcare workers, media practitioners and other stakeholders. Along this line, radio and television jingles, newspaper adverts as well as local mode of communication have been activated to further disseminate covid-19 messages to the citizenry. In addition, the state government also established a covid-19 taskforce headed by the state commissioner for information, Mr. Paulinus Nsirim and Mr. Aggrey Harry, permanent secretary primary healthcare management board as chairman and secretary respectively.

On the other hand, celebrity endorsement is a popular marketing approach to making a product more noticeable, attractive and compelling (Khong, 2013). Celebrity endorsement has been observed as an accelerator of information on innovated products, services and ideas within, between and among societies and markets because it has greater influence on consumer acceptability of products and services with the potential ability of diffusing innovation into societies at a faster rate (Addo, 2016). Although consumers have favorable response towards celebrity endorsement, research that examines the impact of celebrity endorsement on covid-19 vaccine hesitancy in Rivers State is scarce. It is certainly worthwhile to examine how Rivers people respond to covid-19 vaccine with celebrity endorsement as tool.

1.1 Research Problem

Vaccination represents basic public health intervention aimed at mitigating the severe epidemiological and economic burden generated by communicable disorder (OECD, 2017), thus recognized globally as key strategy for improving health outcomes and life expectancy. The reluctance of people to receive safe and recommended available vaccines known as vaccine hesitancy was already a growing concern even before the development and approval of the vaccine (MacDonald, 2015).

Skepticism towards vaccine ranging from slight hesitancy to outright refusal is not unique to covid-19 vaccine. Reasons for low vaccine intake are typically centered on concerns about their safety, potential side effect and efficacy (Fiquieredo, 2020) frequently fuelled by misinformation or lack of trust in government and health system (Martinez-Bravo & Stegman, 2021).

Inspite of the effort by Rivers State government at intensifying awareness and putting in place machineries to ensure citizens take the covid-19 vaccine to curtail its spread, not much has been achieved. This study therefore seek to examine if celebrity endorsement as a marketing tool can be used to tackle covid-19 vaccine hesitancy in Rivers State. It is hoped that the outcome will assist the Rivers State government in her effort at ensuring that residents of the state are vaccinated and protected against the dreaded disease.

Review of Related Literatures

2.0 Theoretical Foundation

Diffusion of innovation theory developed by E.M Rogers in 1962 is one of the oldest social science theories. It originated in communication to explain how over time an idea or product gains momentum and diffuses (or spread) through a specific population or social system. In its classical formulation, diffusion involves an innovation that is communicated through certain channels overtime among members of a social system.

The theory offers guidance to this study in that a diffusion rate ranging from early adopters who actively seek vaccination to those who are unsure or hesitant can be envisioned (Ghesla, Grieder & Schmitz, 2019). In the short term, covid-19 demand creation will be relatively easy as the early adopters (i.e. the enthusiast) will come forward without persuasive effort. However as time goes on, those who are hesitant will come to represent more of the unvaccinated. As the hesitant come to the front of the queue, there will be a need for more targeted approaches that speaks to the concerns held by these groups.

2.1 Concept of Celebrity Endorsement

As marketing communication continue to evolve and diverse means of reaching out to existing and potential consumers emerges, practitioners in the field of marketing have come to acknowledge the use of celebrity endorsement as a potent marketing tool. One of the reason that could be adduced for this is the fragmentation of the traditional mass market and media which according to Ukman, (1996) has forced many companies to look for alternative methods to communicate their marketing messages.

The concept of celebrity endorsement emerges within the literature of mass communication, social psychology and marketing concepts (Meenaghan, 1988). Celebrity endorsement is a popular marketing approach to making a product more noticeable, attractive and compelling to consumers. Many consumers according to Khong & Wu (2013) are willing to spend money on the products and service their favourite celebrity endorses. This according to them shows the persuasiveness of celebrity appeal as a means of persuasive communication. Till (1998) found that the use of celebrity endorsers can result in better attitudes towards the brand than the use of average citizen testimonials.

Pringle, (2004) explains that celebrity endorsement effort involve branding, sponsorship, product placement and testimonials. From a marketing communication point of view, it is essential that organizations know how to create competitive advantage via their celebrity endorsement approaches of marketing communication activities by integrating it with other elements of the marketing mix such as distribution and pricing decisions. (Khong & Wu, 2013).

Marketing and advertising practitioners share the belief that communicators' character has a significant impact on the persuasiveness of the message. Benoit and Benoit (2008) says persuasion is a process in which a source (persuader) uses a message to achieve goal by creating, changing or reinforcing the attitude of others (the audience).

As with any other dynamic marketing communication efforts, there are some elements of risk in celebrity endorsement. (Khong & Wu, 2013). One of the biggest worries of employing celebrities is the risk of bad publicity (Till & Shimp, 1995). Funke Akindele (aka Jenifa) a famous Nollywood actress lost her endorsement deal with Dettol and NCDC after being arrested for hosting a party in contravention of the covid-19 lockdown order in Lagos state. Tiger Woods, a veteran golfer also lost his endorsement deals with AT&T, Accenture, Gatorade and Gillette worth over 50 million dollars in the wake of a tabloid headlining sex scandal and messy divorce nearly a decade ago. When the negative image of a celebrity is exposed, the organization brand image will be tarnished causing degradation of consumer trust and confidence (Nelson, 2010).

2.1.1 Source Credibility

Credibility is the extent to which a message receiver sees the source as having relevant knowledge, skills, experience and trust to give unbiased and objective information. Source credibility is used to imply a communicator's positive characteristics that will affect the receiver's acceptance of the message (Ohianan, 1990). Belch and Belch (2001) argues that when the information from a credible source influences the beliefs, opinion and attitudes of the receiver, the latter mentioned adopts the opinion of the credible communicator. This is based on the assumption that the information from the source is accurate.

Source credibility is perceived as possessing expertise relevant to the communication topic and can be trusted to give an objective opinion on the subject (Goldsmith, 2000). Celebrity credibility contains two components which are expertise and trustworthiness (Ohanian, 1991). This could impact the customers' perception towards the brand that is endorsed (Audi, Masri & Ghazzawi, 2015)

Expertise is co-usually defined as elite, peak or exceptionally high levels of performance on a particular task or within a given domain (Bourne & Healy, 2014). One who achieves this status is called an expert or some related term such as master, prodigy, genius etc. Ohanian (1991) found that the expertise of a celebrity increases the probability of buying the brand since the level of persuasion grew.

Trustworthy is the degree of confidence in the source's intent to communicate the assertions considered to be most valid (Hawland, 1979). Celebrities with higher level of trustworthiness are easier to reach the customers. Expertise and trustworthiness are main factors of convincing sources of celebrity endorsers. It could create the authenticity of the brand in the client view (Audi, Masri & Ghazzawi, 2015).

Since endorsement as a communication tool will comprise of some of the signals of the endorsed brand, it seems likely that the credibility of the endorser will subsequently transfer to the brand. In summary, high endorser credibility should lead to higher brand credibility.

A highly credible endorser will become more strongly associated with the endorsed brand in the consumers' mind (Biswas, 2016). When a highly credible scientist such as Ian Frazer who achieved celebrity status by developing a vaccine for cervical cancer endorses a health related initiative, both recall and recognition are likely to be positive for the initiative.

Base on the above review, we hypothesize as follows:

H1: There is no positive relationship between source credibility and covid-19 vaccine hesitancy.

2.1.2 Source Expertise

Expertise is consensually defined as elite, peak and exceptionally high level of performance on a particular task or within a given domain (Bourne, Kole & Healy, 2014). In order to persuade recipients of information, endorsers expertise has encouraging effect on receivers (Ohanian, 1990). Belch and Belch (1994) said that information receivers have strong belief upon the person who is practically having related knowledge, expertise in advocating area. Endorsers with high knowledge and skills have strong power and recommendation as compared to the endorsers with low expertise (Ohanian, 1990). If the celebrity advocating the product has knowledge and experience, then he/she will ultimately have differential power to pursue to strong believability.

Celebrity endorsers' expertise is a true sign of professionalism and have encouraging effect on receivers loyalty (Ohanian, 1990). According to Eyitayo (2017) the expertise of a celebrity with a more concrete information on the product offering can lead to a favorable attitude towards the brand (Magnini & Cross, 2008). Ohanian (1990) argues that celebrity endorsers are more effective when they are knowledgeable, experienced and qualified to talk about the product they endorse.

On the whole, source expertise in persuasive communication, indicates generally that the source's perceived expertise has a positive impact on attitude change when a consumer perceives that a celebrity endorser has a high level of expertise, he or she is more likely to be persuaded by the message in an advert (Speck, 1988). Therefore a celebrity with high expertise is assumed to be more persuasive (Ohanian, 1991; Erdogan, 1999) than a celebrity with low level perceived expertise.

Base on the above review, we hypothesize as follows:

H2: There is no positive relationship between source expertise and covid-19 vaccine hesitancy.

2.1.3 Source Attractiveness

Marketers treat physical attractiveness as one of the criteria for selecting endorsers since it could impact customers' attitude towards the advert and the product itself (Khale & Homer, 1985). Patzer (1985) asserted that physical attractiveness as an informational cue; involves effects that are subtle, persuasive and inescapable; produces a definite pattern of verifiable differences and transcend culture in its effect.

Source attractiveness is more related to the physical attributes such as similarity, familiarity and likeability. These are important in the individual's initial judgment of another person (Ohanian, 1990). Similarity is a supposed resemblance between the source and the receiver of the message while familiarity refers to the knowledge of the source through exposure. Likeability is affection for the source as a result of physical appearance, behavior or other personal traits (Belch & Belch, 2001).

Source attractiveness affect the receiver in the sense that they are identifying themselves as the celebrity (Patzer,1985). This also motivate the receiver to seek some type of relationship with the source and thus adopts similar beliefs, attitude, preferences and behavior. Source attractiveness is used to create effective message where the attribute attractiveness refers to the endorser's physical appearance, personality, likeability and similarity (Salomon, 2002).

From the above review, we hypothesize as follows:

H3: There is no positive relationship between source attractiveness and covid-19 vaccine hesitancy.

2.2 Vaccine Hesitancy

Vaccination represents basic public health interventions aimed at mitigating the severe epidemiological and economic burden generated by communicable disorders (Barnghausen, Bloom, Cafiero-Fonseca & Obrien, 2014) thus recognized globally as a key strategy for improving health outcomes and life expectancy (WHO, 2014). In Africa, vaccination programs have helped in the reduction of mortality and morbidity due to vaccine-preventable diseases (Cooper, Betsch, Sambala, Mchina, Wiysonge, 2018).

The reluctance of people to receive safe and recommended available vaccines known as vaccine hesitancy was already a growing concern before the development and approval of covid-19 vaccine (Mcdonald, 2015). According to SAGE working group on vaccine hesitancy, the determinants of this behavior can be characterized by 'The 3c model': Confidence (trust in healthcare professionals, vaccines and their effectiveness), Complacency (low awareness of the risk of vaccine-preventable diseases and the importance of vaccines) and Convenience (availability and accessibility to vaccine and healthcare services (SAGE, 2014; Salmon, Dudley, Glanz & Omer, 2015).

Regarding covid-19 vaccine hesitancy, studies suggest that the rapid pace of vaccine development may undermine vaccination confidence and increase complacency about the vaccine (Rutten, Zhu, Leppin, Ridgeway, Swift, 2021). Covid-19 vaccine hesitancy may be aggravated in African countries due to many theories on social and traditional media that Africans are "immune" due to the climatic condition of the African continent (Dube, Vivion & MacDonald, 2015).

Vaccine refusal in the past has been associated with outbreaks of many diseases in different countries, both developed and developing countries. Historically, Northern Nigeria has been plagued with challenges of vaccine hesitancy. The polio vaccine rejection in Northern Nigeria according to Oladapo, Oyetola, Olajide, Monisola and Adebayo (2021) was driven by rumors and distrust which are rudiments of vaccine hesitancy. Hesitancy can thrive because of various religion that see causation as coincidences rather than find answers to what appears like coincidences (Demi, Buhi, Nother, Kleim & Huber, 2020). In certain religion, death, either children or adults are seen as coincidences or ascribed to God who is supreme in all even if apparent causation like vaccine preventable disease can be identified as the probate cause.

In spite of these factors that can be attributed to vaccine hesitancy, **behavioral intention** and **affective attitude** have become inevitable for vaccine uptake.

Several researchers studied **behavioral intention** in different context, using different synonym for it. For example, adoption intention (Zhu, Sangwan &Lu, 2010), Intention to use (Lallmahamood, 2007), online purchase intention (Sin, Nor & Al-Agaga, 2012). The most important keyword is intention and it appears in all the studies whereas adopt, use or purchase are all behaviors or actions.

Behavioral intention is a person's subjective likelihood of accomplishing a particular behavior and it is the deciding factor in actual behavior (Abdulrashid, Jussof & Kassim, 2009). Intention also signifies ones maximum likelihood of engaging into performing an action as immediately as possible (Ajzen, 2002). Venkatesh (2003) define behavioral intention as a person's subjective probability that he or she will perform an action while Abubakar (2015) view behavioral intention as human intrinsic/extrinsic behavior that eventually leads to an action for which the intention was initially made.

Audience view celebrities as very important prestigious and unique thus this brings in the perception of practicing what they do and identify themselves with celebs to have an image similar to them. This helps in finding reinforcements for personal values thus finding model behavior.

Early research into the areas of consumer behavioral intentions was limited by the ability to fully account for the variety of possible behavior a consumer may adopt. For example Cronin and Taylor (1992) used a one item measure of purchase intentions to capture the construct while Boulding (1993) focused on purchase intentions and willingness to recommend. A broader conceptualization of consumer behavioral intentions construct was proposed by Parasuraman & Barry (1994) and this scale consisted of 13 items that aim to capture five dimensions, loyalty to the company, propensity to switch, willingness to pay more, external response to a problem and internal response to a problem.

Affective Attitude relates to a person's feelings or emotions in their shaping on attitudes to a person or object. If one feels positive about someone, that person is more likely to address them in a positive manner

The term attitude is derived from the Latin word for posture or physical position. In the words of Allport (1935) sited in Asiegbu, Powei & Iruka, (2012), an attitude is a mental and neutral state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual response to all objects and situations with which it is related. Krech (1962) define an attitude as a person's enduring favorable or unfavorable evaluations, emotional feelings and action tendencies towards some object or idea. Attitude lead people to behave in a fairly consistent way towards similar objects.

Boone and Kurtz (2004) describe attitude as a person's enduring favorable or unfavorable evaluations, emotions and action tendencies towards some object or data. As they form over time through individual experiences and group contacts, attitude become highly resistant to change.

Affective attitude refers to the way an individual feel's about an attitude object. It relates to the emotional content and arouses either like or dislike for a particular object. Chisnall (1975) observes that these feelings may derive from personality traits, motives, social norms etc. A consumer emotions or feeling about a particular product or brand constitute the affective component of an attitude (Asiegbu, et al, 2012). Consumer researchers according to Asiegbu et al (2012) frequently treat these emotions and feelings as primary evaluation in nature, that is, they capture an individual direct assessment of the attitude object i.e. the extent to which individual rates the attitude object as favorable or unfavorable.

2.3 Celebrity Endorsement and Vaccine Hesitancy

When government and health experts cannot reach certain members of the public who are skeptical about vaccines, there is need to use different and innovative approaches to reach them. Government turning to celebrities or influencers to encourage covid-19 vaccine uptake may seem like an odd choice yet there is evidence that celebrities may play a crucial role when it comes to promoting positive messages about vaccines especially amid vaccine hesitancy (Menon, 2021).

Although it is difficult to measure the exact success of influencer and celebrity endorsement on covid-19 vaccine uptake, using them as part of a vaccine marketing campaign can be a good thing if done right. There are obviously risks, but any positive association that government and health experts can conjure about the vaccine may go some way to encouraging those less inclined to get vaccinated to do so.

A 2019 Indonesian study published by the National Bureau for Economic Research (NBER) found that tweets about vaccines that came from celebrities were more likely to be retweeted than same tweets seen by same users that did not come from celebrities.

To some, influencers and celebrities may appear more trustworthy, relatable and authentic than scientific and medical spokespeople. "What an influencer or celebrity can do is that they can get people to pay attention and they can bring credibility to the message" (Calkins,2021)

Choosing a celebrity or influencer to promote vaccines is not a simple task, government and health institutions need to be strategic and intentional in their approach or risk further loosing audiences' trust by choosing the wrong person to front their messages (Kubowicz 2021). She notes the need to tailor messages to the target population if there is an authentic connection between the celebrity and the endorsement, it can be well received. Schulman (2021) believes that celebrity endorsement can be helpful when organizations tailor their language of the campaigns to target specific population, he notes the need to be cautious about strategy.

Menon (2021) agrees that using celebrities/influencers can be a great way to access certain population groups. "It is important to disconnect vaccines from politics. It should not be about political leanings" she added.

Calkins (2021) says when you are aligning the vaccine with a celebrity, you are taking vaccine from being a brand that is aligned with science and the pharmaceutical industry to being a brand that's aligned with somebody who is influential, contemporary and interesting and all that has a big impact on how people see and understand vaccines.

2.4 Conceptual Framework

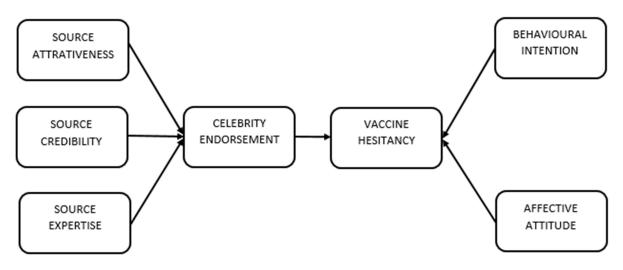


Figure 1: Conceptual framework of the relationship between celebrity endorsement dimensions and vaccine hesitancy measures.

Source: Researchers Desk, 2022.

3.0 Methodology

The study adopted a survey design method. Three hypotheses were formulated while the study population is made up of all citizens of Rivers state given at 5,198,716 (Census, 2006). Taro Yamen formula was used to determine a sample size of 400. Primary data for the study was generated through research questionnaires developed on a five point Likert scale.

Multiple regression was used to test the three (3) hypotheses stated in this study with the aid of statistical package for social science (SPSS) version 21.0

4.0 Data Analysis and Results

Four hundred (400) copies of questionnaire were administered to the selected respondents in Rivers State. Three hundred and ninety-four (394) representing ninety-eight point five percent (98.5%) copies were accurately filled while the remaining six (6) with percentage of one point five percent (1.5%) contained certain inconsistencies, and thus not valid for analysis. Therefore, the analysis was based on three hundred and ninety-four (394) copies accurately filled.

4.2 Hypotheses Testing

Table 2 Regression Analysis showing the influence of Source Credibility, Source Attractiveness and Source Expertise on Covid-19 Vaccine Hesitancy Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.873 ^a	.762	.733	6.37911	1.411

a. Predictors: (Constant), Source Credibility, Source Attractiveness, Source Expertise

b. Dependent Variable: Covid-19 Vaccine Hesitancy

_	ANOVA"								
Mode	1	Sum of Squares	Df	Mean Square	F	Sig.			
	Regression	55.848	3	5.468	2.775	.000 ^b			
1	Residual	61.099	391	15.176					
	Total	116.947	394						

a. Dependent Variable: Covid-19 Vaccine Hesitancy

b. Predictors: (Constant), Source Credibility, Source Attractiveness, Source Expertise

		Coefficier	nts ^a			
Model		-	Unstandardized Coefficients		t	Sig.
		В	Std. Error	Beta		
1	(Constant)	5.103	2.099		4.925	.000
	Source Credibility	.704	.434	.711	.823	.000
	Source Expertise	.293	.171	.225	.487	.000
	Source Attractiveness	.486	.229	.391	1.341	.000

a. Dependent Variable: Covid-19 Vaccine Hesitancy

Regression Model: Covid-19 Vaccine Hesitancy = 5.103 + [(0.704Source Credibility) + (0.293Source Expertise) + (0.486Source Attractiveness)]

Interpretation

The result in Table 2 shows that there is a statistically determinant relationship between celebrity endorsement dimensions (source credibility, source expertise and source attractiveness) and covid-19 vaccine hesitancy in Rivers State as it is associated with sig-value of 0.000 which is less than 0.005 or 5%. The null hypotheses one, two and three that says source credibility, source expertise and source attractiveness have no significant relationship with covid-19 vaccine hesitancy in Rivers State were rejected and the alternative hypothesis that says source credibility, source expertise and source attractiveness significantly affect covid-19 vaccine hesitancy in Rivers State were accepted.

A constant value (alpha) of 5.103 which is the predicted value of the dependent variable (covid-19 vaccine hesitancy) when the predictor is set at 0 and the coefficient of source credibility (beta = 0.704), source expertise (beta = 0.293) and source attractiveness (beta = 0.486) given the size of effect it has on covid-19

vaccine hesitancy are 0.704, 0.293 and 0.486 respectively. The coefficient of determination (R^2) indicates that, dimensions of celebrity endorsement explains (76.2%) in the differences of covid-19 vaccine hesitancy, while the increasing degree in source credibility, source expertise and source attractiveness will increase covid-19 vaccine hesitancy by (0.873). The coefficient tells how much covid-19 vaccine hesitancy is expected to increase since it is positive when source credibility, source expertise and source attractiveness is increased by 1 unit. The tstatistic is the coefficient divided by its standard error. If 95% of the t-distribution is close to the mean than the t-value, then the coefficient will have a p-value of 5%. The p-value indicates that the independent variables measure the source credibility, source expertise and source attractiveness. The size of the p-value for coefficient says nothing about the size of the effect of that variable on the dependent variable, covid-19 vaccine hesitancy as it is possible to have a highly significant result for a miniscule effect. It also shows that the F-value which is the mean square model divided by the mean square residual yielded F=2.775. The result further shows that the test of source credibility, source expertise and source attractiveness on covid-19 vaccine hesitancy is significance at 0.000 p-value.

4.3 Discussion of Findings

i. Source credibility significantly and positively relates with covid-19 vaccine hesitancy

The outcome from the test of analysis identified source credibility (SC) as having a significant impact on covid-19 vaccine hesitancy. On this basis, the null hypothesis was rejected as the result revealed that there was a significant relationship between SC related activities and covid-19 vaccine hesitancy. The result showed that celebrity endorsement which involves SC contributed positively towards the degree to which covid-19 vaccine hesitancy can be tackled by government through her agencies. The findings reiterate the view of scholars such as Calkins (2021) and Kubowicz (2021).

ii. Source expertise has a significant and positive relationship with covid-19 vaccine hesitancy

Hypothesis two (Ho2) aim to examine relationship between source expertise and covid-19 vaccine hesitancy in Rivers State. Our analysis reveal positive relationship between variables and extends the existing literature by explicitly testing the relationships between SE and covid-19 vaccine hesitancy simultaneously within a mediation model. In particular, CE positively explained

the relationship between SE and covid-19 vaccine hesitancy. This relationship corresponds with Koo et al. (2012), Lee and Koo (2015) and (Spry et al., 2011).

iii. Source attractiveness significantly and positively correlates with covid-19 vaccine hesitancy

Premised on the result evidence above, the relationship between source attractiveness (SA) and covid-19 vaccine hesitancy was also observed to be significant; with SA having a significant impact. As such the null hypothesis of no significant relationship was therefore rejected. This went further to indicate that SA contributed significantly as a predictor of covid-19 vaccine hesitancy. This result agreed with the work of Menon (2021) and Calkins (2021).

5.0 Conclusion

The subject point of this study was to establish the influence of CE on covid-19 vaccine hesitancy in Rivers State. The study considered three dimensions of CE – SC, SE and SA (independent variables) and covid-19 vaccine hesitancy (dependent variable). Analysis was done using multiple regression statistics. Based on the results from analysis, it is concluded that celebrity endorsement strongly and positively relates with covid-19 vaccine hesitancy in Rivers State as it creates a means of awareness about the vaccine which leads to citizens favorable disposition and assist government tackle the problem of hesitancy.

5.1 Recommendations

Based on the findings and conclusions, the following are recommended:

- (i) Government should engage the services of celebrities/influencers in her quest to tackle the problem of covid-19 vaccine hesitancy in Rivers State.
- (ii) Celebrities with expertise in the field of medicine and pharmaceuticals should endorse covid-19 vaccine as such expertise creates room for trustworthiness.
- (iii) Government should regularly monitor the behavior, conduct and public image of the endorser to minimize or avoid possible negative publicity.
- (iv) Celebrities who posses the expertise, credibility and are attractive enough should endorse covid-19 vaccine campaigns as they have the capacity to sway public opinion positively.

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