

## ORIGINAL RESEARCH ARTICLE

# Factors Associated with Parental Intent not to Circumcise Daughters in Enugu State of Nigeria: An Application of the Theory of Planned Behavior

DOI: 10.29063/ajrh2018/v22i1.3

Cajetan I. Ilo<sup>1\*</sup>, Sandra A. Darfour-Oduro<sup>2</sup>, Jerome O. Okafor<sup>3</sup>, Diana S. Grigsby-Toussaint<sup>2,4</sup>, Ignatius O. Nwimo<sup>1</sup> and Chinagorom Onwunaka<sup>3</sup>

Department of Human Kinetics and Health Education, Ebonyi State University Abakaliki, Nigeria<sup>1</sup>; Department of Kinesiology and Community Health, University of Illinois at Urbana-Champaign, USA<sup>2</sup>; Department of Human Kinetics and Health Education, Nnamdi Azikiwe University Awka, Nigeria<sup>3</sup>; Division of Nutritional Sciences, University of Illinois at Urbana-Champaign, USA<sup>4</sup>

\*For Correspondence: Email: [cajetanilo@gmail.com](mailto:cajetanilo@gmail.com); Phone: +234 (0) 8033430522

## Abstract

This study explored intention of parents not to circumcise daughters in Enugu State, Nigeria using theory of planned behavior (TPB) as a framework. A survey of 1345 parents was carried out using structured questionnaire with FGM question items based on TPB constructs of attitude, subjective norm (SN), perceived behavioral control (PBC), and intention. Intention was dichotomized into two categories and logistic regression analysis was performed to examine the association between the constructs of TPB while controlling for some socio-demographic factors. 70% of respondents did not intend circumcising daughters. Constructs of TPB associated significantly, at  $p < 0.0001$ , with intention not to perform FGM on daughters with PBC having the strongest association. Having a post-secondary education (OR = 3.94; CI = 2.73-5.67) and absence of history of FGM in family (OR = 3.39; CI = 2.62-4.39) are the socio-demographic variables most significantly associated with the intention not to circumcise daughters. Homer-Lemeshow goodness-of-fit statistics indicated logistic regressions model 1 was significant ( $p < 0.05$ ) making TPB a good theoretical basis for study of FGM. Intervention activity should focus on improving attitude of parents and especially those with less than post-secondary education and those with cases of FGM in their household. (*Afr J Reprod Health 2018; 22[1]: 29-37*).

**Keywords:** Female genital mutilation, parental intent, circumcision, childbearing age, Enugu State, Nigeria, Theory of planned behavior

## Résumé

Cette étude a exploré l'intention des parents de ne pas exciser leurs filles dans l'État d'Enugu, au Nigeria, en se servant de la théorie du comportement planifié (TCP) comme cadre. Une enquête auprès des 1345 parents a été réalisée à l'aide d'un questionnaire structuré avec des éléments des questions sur les MGF basés sur les construits TCP d'attitude, la norme subjective (NS), le contrôle comportemental perçu (CCP) et l'intention. L'intention a été dichotomisée en deux catégories et une analyse de régression logistique a été effectuée pour examiner l'association entre les constructions de TCP tout en contrôlant certains facteurs sociodémographiques. 70% des interviewés n'avaient pas l'intention d'exciser leurs filles. Les constructions de TCP associées de façon significative, à  $p < 0,0001$ , avec l'intention de ne pas effectuer de MGF sur les filles avec la CCP ayant l'association la plus forte. Les études postsecondaires (RC = 3,94; IC = 2,73-5,67) et l'absence d'antécédents de MGF dans la famille (RC = 3,39; IC = 2,62-4,39) sont les variables sociodémographiques les plus significativement associées à l'intention de ne pas exciser les filles. Les statistiques de Homer-Lemeshow sur la qualité de l'ajustement ont indiqué que le modèle 1 de régressions logistiques était significatif ( $p < 0,05$ ), ce qui fait du TCP une bonne base théorique pour l'étude des mutilations génitales féminines. L'activité d'intervention devrait être axée sur l'amélioration de l'attitude des parents, en particulier ceux qui n'ont pas suivi d'études postsecondaires et ceux qui ont des MGF dans leur ménage. (*Afr J Reprod Health 2018; 22[1]: 29-37*).

**Mots-clés:** Mutilations génitales féminines, intention des parents, excision, âge de procréer, État d'Enugu, Nigeria, théorie du comportement planifié

## Introduction

Female genital mutilation (FGM) is a cultural practice widespread in the majority of Africa and the Asian countries. It has attracted global attention and efforts are underway to overcome the practice due to threats to the health and rights of millions of women and children<sup>1</sup>. The World Health Organization (WHO) explained that FGM comprises all procedures concerning fractional or total taking away of the external genitalia of the girl child whether for cultural or other non-medical reason<sup>2</sup>. Approximately 200 million girls and women alive today have undergone female genital mutilation in the countries where the practice is concentrated<sup>3</sup>. In Nigeria, 25% of women aged 15-49 and 17% of girls aged 0-14 years have undergone FGM<sup>4</sup>. The Nigerian Demographic and Health Survey (NDHS) puts the prevalence of FGM at 25%<sup>5</sup>. The concern about FGM stems from the observed dire consequences of the procedure on females, of which some are found to be debilitating, life threatening and may have a long-term effect and complications<sup>1</sup>. In reaction to this harmful traditional practice, the international community, national and local institutions have designed programs to eliminate the practice. Most of these intervention efforts have, in many situations, produced incomplete results<sup>1</sup>. Moreover, emphasis has been placed on improving understanding on why and how interventions for FGM influence change, with the integration of theories on behavior change<sup>6</sup>. Therefore, to understand and predict intention towards FGM practice, a supportive assumption which recognizes the social foundation of behavior and includes behaviors which may possibly be under complete voluntary control is needed to guide the study. The theory of planned behavior (TPB) presents such a base.

### *Theoretical background*

TPB is a theoretical model that is propounded to predict and illuminate a range of behaviors<sup>7</sup>. In health psychology, this theory is one that reveals relationship between feelings and behavior. Three cognitive indicators to whether FGM will be performed on daughters by parents were identified.

These indicators include attitude towards performing FGM, perceived attitude of other people towards practice of the act, and apparent control over the practice of FGM. Each indicator contributes independently to intention to carry out or not to carry out FGM, while perceived control makes an autonomous contribution to the real practice or non-practice of FGM<sup>8</sup>. These indicators are showcased in the TPB. This theory explains that individuals form intention in advance of behavior<sup>9</sup>. Intention which is a powerful predictor of behavior is also predicted by behavioral attitude, subjective norms and perceived behavioral control. These psychological dispositions have been indicated to predict a wide range of health-related behaviors<sup>10</sup> including fertility studies<sup>11</sup>, preventing weight gain<sup>12</sup> and cervical cancer screening uptake<sup>13</sup>.

The TPB hypothesis therefore postulates that in order to comprehend and forecast whether an individual has no intent to perform a behavior, for example FGM, the researcher needs to identify whether the individual favors performing the act in question (attitude); how the individual accepts societal pressure either perform or not to perform FGM (subjective norms); and whether the individual thinks he or she is in control of performing or not performing FGM (perceived behavioral control). By comprehending and altering these three predictors a researcher could influence the possibility that the individual might not have the intention to perform FGM. The connection among the three variables with intent not to carry out FGM provided the direction for this study which measured the ability of the variables namely, attitude, subjective norms and perceived behavioral control towards not performing FGM among parents in Enugu State. FGM and TPB have been studied independently and collectively, but no study might have investigated the intention of parents toward non-practice of FGM using TPB as its theoretical underpinning in Enugu State, Nigeria, a gap which this study intends to fill. The study therefore aims to identify constructs and factors associated with parental intention not to practice FGM on their daughters and determine if TPB is a good model fit for understanding and explaining parent's intention not to perform FGM on their daughters.

## Methods

### *Participants and recruitment*

The sample for this cross-sectional study was 1345 parents aged 15 years and above selected out of an estimated population of 1, 454,889 through multistage sampling conducted in August 2012 in Enugu State, Nigeria. Greater percentages of the population live in the rural areas and are made up of more females (61%) than males<sup>14, 15</sup>. The urban population is predominantly civil servants. Some inhabitants engage in small and medium scale business. The rural counterparts are predominantly subsistent farmers, petty traders and craftsmen. Enugu State has common values, beliefs and some cultural practices which negatively influence personal health of women, especially the girl child<sup>14, 15</sup>.

The study adopted multi-stage sampling approach. The first stage involved purposive selection of one Local Government Area (LGA) with both rural and urban characteristics each from the three Senatorial Zones in the State. The next stage was identification and stratification of the Enumeration Areas (EAs) in which 30 EAs were randomly selected; 5 urban and 5 rural from each of the three sample LGAs. Houses in the sample EAs were numbered and from each EA, 25 households were selected making up 750 households from which all eligible parents were sampled. The characteristics of the final sample are shown in Table 1.

### *Measures*

Parent's intention toward female genital mutilation/cutting questionnaire (PIFGMCQ), a structured questionnaire was utilized for data collection. Instructions on preparation of TPB questionnaires items guided the compilation of the instrument<sup>8</sup>. The questionnaire contained two sections in which section one solicited information on socio-demography of respondents and section two contained questions on the constructs of TPB, namely: intent, attitude, subjective norms and perceived behavioral control of parents as regards not circumcising daughter(s). Face validity of the instrument was established by experts in relevant

speciality areas in education leading to reviews based on validator's suggestions.

### *TPB constructs*

**Intention:** Participants' intention was assessed with three (3) question items which asked respondents whether they "intend", "will try" and "plan" not to circumcise daughter(s). The 3 questions all had 5-point response scales ranging from 1 (strongly disagree) to 5 (strongly agree). The 3-item approach to measuring intention was adopted to make sure that all aspects of intention were captured for the respondents.

**Attitude:** Attitude towards not circumcising daughter was measured with 4 question items. The 4 question items all had a 5-point response scale of how "harmful or beneficial" it is not to circumcise daughter (1 = harmful to 5 = beneficial).

**Subjective norms:** This was measured with three items of whether the respondents thought 'important others' (spouse, family, friend, religious and community leaders) want them not to circumcise or whether the respondents feel social pressure not to circumcise or thinks it is expected of them not to circumcise; 1 (strongly disagree) to 5 (strongly agree).

**Perceived behavioral control:** Four items were used to assess perceived behavioral control. One item asks how difficult or easy it is for respondents not to circumcise daughters (1 = very difficult; 5 = very easy). The other 3 items included "Confident that I would not circumcise daughter", "The decision not to circumcise daughter is not beyond my control" and "whether I circumcise daughter or not is completely up to me" (1 = strongly disagree; 5 = strongly agree).

### *Analysis methods*

All items to measure TPB constructs were direct measures on 5-point one direction scale (1 to 5). The mean score for multiple question items were calculated to establish the value of each construct of the TPB. The reliability (intention  $r = 0.68$ , attitude  $r = 0.65$ , subjective norms  $r = 0.79$ , and perceived behavioral control  $r = 0.67$ ) of the instrument was calculated using Cronbach alpha statistic. Since the reliability coefficient of above

0.60 was obtained on all the subscales, the instrument was considered reliable for use in the study. Based on the obtained reliability coefficients, the instrument was deemed good<sup>8,16</sup>.

Descriptive statistics were used to present the socio-demographic characteristics of parents enrolled in the study. Bivariate logistic regression was performed to determine the association between the predictor variable of TPB and education, age, gender, FGM status of females in the household and location of residence of parents on intention. To perform logistic regression, the dependent variable 'intention' was dichotomised by categorizing respondents whose mean intention score fell between 1-3, that is (1. "Strongly disagree" 2. "Disagree" and 3. "Undecided") as having intention to circumcise and those whose score was above 3 (4. "Agree" 5. "Strongly agree") as those who do not having intention to circumcise. The logistic regression analysis was conducted using the stepwise approach to determine the association between the predictor variable of TPB and intention, the association between the socio-demographic variables (education, age, gender, FGM status of females in the household, location of residence of parents) and intention; the association between a combination of both the predictor variables of TPB and socio-demographic variables and intent. The Hosmer-Lemeshow goodness-of-fit statistics test was used to evaluate the model fit of all logistic models. The survey data were analysed using STATA version 14, software.

## Results

### Sample characteristics

In total 1345 parents participated in the study. Approximately 59.63% (n = 802) were females and 40.37% (n = 543) were males. The distribution of respondents by age indicated that age group 25-34 (35.32%) had the highest percentage while age group 45 and above (20.74%) had the lowest. A higher number of the respondents (55.54%) had a history of FGM among females in the household. Regarding parent's place of residence, 50.19% of respondents lived in urban areas. Education was measured by the highest level of educational attainment of parents, 12.79% had no formal

**Table 1:** Characteristics of Parents in Enugu State, Nigeria

<b>Characteristics</b>	
<b>Socio-demographic variables</b>	<b>N (%)</b>
<b>Education</b>	
No formal	172 (12.79)
Primary	152 (11.30)
Post primary	394 (29.29)
Tertiary	627 (46.62)
<b>Age of Parents</b>	
15-24	303 (22.53)
25-34	475 (35.32)
35-44	288 (21.41)
45 and above	279 (20.74)
<b>Gender</b>	
Male	543 (40.37)
Female	802 (59.63)
<b>FGM status in family</b>	
Positive	747 (55.54)
Negative	598 (44.46)
<b>Location</b>	
Urban	675 (50.19)
Rural	670 (49.81)
<b>Predictor variables</b>	
Attitude	Mean ±(SD) 3.26 (1.50)
Subjective Norm	3.48 (1.29)
PBC*	3.84 (1.18)
Intention	3.73 (1.52)

\*PBC = Perceived behavioral control

education, 11.30% had primary education, and 29.29% had secondary education while 46.26% attained post-secondary education (see Table 1).

Table 2 indicates that close to 70% of parents intend not to perform FGM on their daughters. Bivariate logistic regression was used to determine association between intention not to perform FGM and the predictor variables of TPB and the socio-demographic variables of levels of education of parents, age, and gender, FGM status of girls in the family and parents place of abode. To compute association between intent and the other constructs of TPB, Attitude, SN and PBC where not dichotomized but were treated as continuous variables. There were statistically significant associations between all the socio-demographic variables and intention. Those with post-secondary education were 3.94 times likely not to intend to perform FGM on their daughters compared to those with non-formal education (OR = 3.94; CI = 2.73-5.67). Males were 1.32 times likely not to intend to perform FGM on their daughters compared to females (OR = 1.32; CI =

**Table 2:** Independent Bivariate Logistic Regression of Association Between Socio-demographic Variable, TPB Predictor Variables and Intention not to Circumcise Daughter

Characteristics	Intention to practice FGM (30.19%)	Intention not to practice FGM (69.81%)	OR (CI)
<b>Socio-demographics</b>			
<b>Education</b>			
No formal (ref)	78 (45.35)	94 (54.65)	
Primary	72 (47.37)	80 (52.63)	0.92 (0.59-1.42)
Post primary	147 (37.31)	247 (62.69)	1.39 (0.96-2.00)
Tertiary	109 (17.38)	518 (82.62)	3.94 (2.73-5.67) ***
<b>Gender</b>			
Female (ref)	261 (32.54)	541 (67.46)	
Male	145 (26.70)	398 (73.30)	1.32 (1.04-1.68) **
<b>FGM status in family</b>			
Positive (ref)	305 (40.83)	442 (59.17)	
Negative	101(16.89)	497 (83.11)	3.39 (2.62-4.39) ***
<b>Age</b>			
15-24	96 (31.68)	207 (68.32)	1.04 (0.73-1.47)
25-34	145 (30.53)	330 (69.47)	1.10 (0.80-1.51)
35-44	74 (25.69)	214 (74.31)	1.39 (0.97-2.01)
45+ (ref)	91 (32.62)	188 (67.38)	
<b>Location</b>			
Rural (ref)	230 (34.33)	440 (65.67)	
Urban	176 (26.07)	499 (73.93)	1.48 (1.17-1.87) **
<b>TPB predictor variables</b>			
Attitude	-	-	1.64 (1.51-1.78) ***
Subjective norm	-	-	4.16 (3.59-4.81) ***
PBC	-	-	5.39 (4.51-6.45) ***

\*\*\* $p \leq 0.001$ , \*\* $p \leq 0.05$ , ref = reference category, OR = odd-ratio, CI = confidence interval, PBC = Perceived Behavioral Control

1.04-1.68). Parents with no history of FGM in their families were 3.39 times likely not to intend to perform FGM on daughters than those with FGM history in family (OR = 3.39; CI = 2.62-4.39). Parents who lived in the urban areas were 1.48 times more likely not to have intention to perform FGM on daughter compared to parents in the rural areas. Perceived behavioral control showed a higher association with intention than the other TPB variables (OR = 5.39; CI = 4.59-6.45;  $p < 0.001$ ), though all the TPB variables had significant association with intention.

A stepwise logistic regression model was used to test the factors associated with intention not to circumcise daughter. Model 1 looked at the association between the predictors of TPB and intent. Model 2 investigated the association between the socio-demographic variables (parent's education, gender, FGM status of girl members of household, age and location of residence) with intention. Model 3 investigated the association

between TPB predictor variables to determine intention while controlling for socio-demographic factors (level of education attained, age, gender, FGM status in family and place of residence). Results in Table 3 indicate that all models predicted intention not to circumcise and were significant ( $p \leq 0.001$ ). Model 1 indicated that PBC (OR = 3.38; CI = 2.78-4.12) had the highest association with intention and with likelihood to predict intention three times more than attitude. Model 2 showed that having a post-secondary education (OR = 3.30; CI = 2.17-5.00;  $p \leq 0.001$ ), being aged 25-34 (OR = 0.67; CI = 0.46-0.98;  $p \leq 0.05$ ) and not having a history of FGM practice in family (OR = 3.02 CI = 2.29-4.00;  $p \leq 0.001$ ) were significantly associated with intention not to circumcise daughter. In the full model (model 3), controlling for the socio-demographic variables, on the relationship between TPB predictor variable and intention, the table indicates that the predictor variables of TPB were still significant ( $p \leq 0.001$ )

**Table 3:** Results of Logistic Regression Models of Association between the TPB Predictors and Socio-demographic Variables on Intention not to Circumcise Daughters

Model 1 Predictors	OR (95%CI)	Model 2 Predictors	OR (95%CI)	Model 3 Predictors	AOR (95%CI)
Attitude (ref)	1.20 (1.05-1.36)***	Education		Attitude	1.26 (1.10-1.44)***
Subjective norm	2.60 (1.05-1.36)***	No formal (ref)		Subjective norm	2.48 (2.10-2.93)***
PBC	3.38 (2.78-4.12)***	Primary	0.91 (0.57-1.44)	PBC	3.30 (2.69-4.05)***
		Post primary	1.30 (0.84-2.00)	Education	
		Tertiary	3.30 (2.17-5.00)***	No formal	
		Sex		Primary	0.88 (0.42-1.87)
		Male (ref)		Post primary	1.26 (0.64-2.47)
		Female	0.84 (0.65-1.09)	Tertiary	1.98 (1.03-3.78)**
		FGM Status		Sex	
		FGM positive (ref)		Male	0.97 (0.66-1.42)
		FGM negative	3.02 (2.29-4.00)***	Female	
		Age		FGM Status	
		15-24	0.71 (0.46-1.08)	FGM positive	
		25-34	0.67 (0.46-0.98)**	FGM negative	1.61 (1.07-2.42)**
		35-44	1.11 (0.73-1.67)	Age	
		45+ (ref)		15-24	0.42 (0.22-0.78)
		Location		25-34	0.36 (0.19-0.65)***
		Rural (ref)		35-44	0.61 (0.32-1.15)
		Urban	1.05 (0.80-1.38)	45+	
				Location	
				Rural	
				Urban	1.06 (0.71-1.58)

Homer-Lemeshow goodness-of-fit test was significant for model 1 at  $p > 0.05$ .

associated with intention not to perform FGM on daughters, and that having a post-secondary education, not having FGM history in a family and being aged 25-34 are the socio-demographic variables that were strongly association with intention not to practice FGM on daughters ( $p \leq 0.05$ ). The Homer-Lemeshow goodness-of-fit statistics indicated logistic regressions model 1 was significant at  $p > 0.05$  while models 2 and 3 were not significant.

## Discussion

The present study utilized TPB in exploring the factors associated with intention of parents in Enugu State, Nigeria not to practice FGM on their daughters. The findings of the study indicate strong support for specific aspects of TPB in predicting intention not to perform FGM among the study population. Most parents (69.81%) in Enugu State, Nigeria had a positive intention not to practice FGM on their daughters, a finding that supports the

results of NDHS that most parents want the discontinuation of FGM practice<sup>5</sup>. This study also found that perceived behavioral control presented the strongest association with intention, with the results showing that people with higher perceived behavioral control indicated higher intention not to perform FGM on daughters. The finding is consistent with the postulation of the TPB that perceived behavioral control is the strongest predictor and the most proximate determinant of intention and actual performance of a behavior<sup>7</sup>. Subjective norms had the second strongest association with intention not to perform FGM, implying that parents perceive strong social support of significant others not to engage in FGM practice. This finding is consistent with a study which found that social pressure from significant others were an important predictor of the performance or rejection of FGM practice<sup>17</sup>. Attitude was associated with intention significantly but not as strongly as PBC and subjective norms.

This might be indicative of the fact that there is need to equip parents with correct information on FGM practice and its consequences with aim of improving their attitude towards FGM positively through intervention activities. These findings have implication for FGM intervention programmes. While the study demonstrated that parents in Enugu State Nigeria possess high PBC and subjective norms there is still a need to target and reinforce the beliefs that significant others expect them not to perform FGM on their daughters and work on their control beliefs over not performing FGM on their daughters to ensure that these attitudinal dispositions are translated to actual behavior.

The Homer-Lemeshow goodness-of-fit test indicated that the logistic regression model comparing TPB predictor variables and intention was significant ( $p > 0.05$ ) but not significant for model comparing intention and the socio-demographic variables and combined model. This finding indicates that TPB is a good theoretical foundation for understanding and explaining intentions towards FGM practice and therefore, can be adopted for the design of FGM intention/behavior studies and interventions.

Socio-demographic variables such as education, gender, FGM status in family, and location also significantly predicted intention not to practice FGM. Also, having a post-secondary education and not having a history of FGM in a family strongly predicted intention not to practice FGM, having a post-secondary education for parents was a very strong predictor of intention not to practice FGM. This finding is consistent with studies which investigated the association between education and FGM<sup>17-19</sup>. In addition, it was contended that education appeared to be strong predictor of whether a woman would want FGM either performed on her daughter or not<sup>20</sup>. A research also found that the factors responsible for decline in prevalence of FGM practice in Nigeria are the rising rate of education among women in Igbo society<sup>21</sup>. The inference that could be drawn from the findings is that proper education will be a factor in eliminating FGM practice and its consequences.

The significant association between not having a history of FGM among females in family

and intention is supported by the findings of other studies that one of the most significant predictor of whether a daughter will be circumcised or not is the FGM status of the mother or other girl members of the family<sup>22-24</sup>. One implication of this finding is for intervention programmes to pay special attention to families with history of FGM practice through educating families on dangers of its practice. The finding also presents a support for the clamor for including past behavior as an approach to the improvement of the predictive ability of TPB<sup>23</sup>.

The finding that being male more than being female significantly predicted intention not to perform FGM on daughter is surprising because women are primarily affected by the consequences of FGM and therefore, are expected to resist the practice more. There are conflicting findings across studies that women are more intentional on not circumcising daughters than men<sup>25, 26</sup>. UNICEF reported studies in some parts of Guinea, Sierra Leone and Chad whose results are consistent with the findings of this study indicating that more men than women want FGM to end<sup>27</sup>. This implies therefore, that men should be targeted in intervention programmes as change agents since there is the propensity among women in Africa to rely on husbands in decision making process.

The present study reported that age significantly predicted intention not to practice FGM. This finding corroborates the findings of other studies which indicated that older mothers exhibited greater intention to circumcise their daughters than younger ones<sup>17,28</sup>. The study also indicates living in an urban area is a significant predictor of intention not to perform FGM on daughter, a finding that is in line with other studies<sup>17,18,22,29</sup>. This has obvious implications for intervention programming especially in deciding which segment of society to target in FGM eradication programmes.

## Limitations of the Study

There are several limitations to acknowledge in the interpretation of the results of this study. First, the study relied on self-reports which for a sensitive topic like FGM with all its social and legal implications in Nigeria might introduce social-

desirability and self-report bias which has been identified in some other studies. Furthermore, further studies might explore the use of longitudinal design to establish causality and explore the full ambit of the TPB. Another limitation of the study is that the direct measures of the TPB constructs were used for the study leaving out the indirect measures. Though this is acceptable<sup>7</sup>, it limits the ability of the study to understand the underlining beliefs that drive the associations identified in the study. For the development of intervention, it will be more informative to identify for instance the behavioral beliefs that drive attitude towards not performing FGM on daughters and understand what intervention programmes will target for change.

### Ethical Considerations

Steps were taken to protect the confidentiality of the study participants. The purpose of the study and the procedures were explained to the participants and they were assured that their responses would be treated with utmost confidentiality. They were also made to understand clearly that their participation in the study was completely voluntary and that they were under no obligation to participate, complete or attend to all the question items. The participants who gave verbal consent were included in the study.

### Conclusion

In recognition of the health consequences of FGM on women and the seeming failure of intervention programs to eliminate the practice in Enugu State Nigeria, this study found that all the predictor variables of TPB significantly predicted parents' intention not to perform FGM on their daughters and this is in line with the TPB theory. The socio-demographic variables, specifically post-secondary education and absence of FGM history in family, significantly predicted intention not to perform FGM on daughters. The study found that TPB will be a good theoretical basis for FGM intention/behavior studies and interventions in FGM eradication programmes.

### Acknowledgements

The authors are grateful to the education experts who validated the instrument used for data collection, those who offered advice during the process of compiling the manuscript and the researchers whose works are cited in this article.

### Conflicts of Interest

No conflict of interest.

### Funding

No funds were received for this study.

### References

1. Deutsche, Gesellschaft Fur Technische Zusammenarbeit. Addressing female genital mutilation: Challenges and prospective of health programmes Path 1: Selected approaches. Echborn: GTZ; 2003.
2. World Health Organization. Female genital mutilation: A Joint WHO/UNICEF/UNFPA statement. Geneva: World Health Organization; 1997.
3. World Health Organization. Female genital mutilation; 2016. Retrieved June 26, 2016, from <http://www.who.int/reproductivehealth/topics/fgm/prevalence/en/>
4. United Nations Children's Fund. Female genital mutilation/cutting: A global Concern. New York: UNICEF; 2016. Retrieved February 7, 2016, from [http://www.unicef.org/media/files/FGMC\\_2016\\_brochure\\_final\\_UNICEF\\_SPREAD.pdf](http://www.unicef.org/media/files/FGMC_2016_brochure_final_UNICEF_SPREAD.pdf)
5. National Population Commission (NPC) [Nigeria] and ICF International. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria, and Rockville, Maryland, USA: NPC and ICF International; 2014.
6. Shell-Duncan B, Herlund Y, Wander K and Moreau A. Contingency and change in the practice of female genital cutting: dynamics of decision making in Senegambia. Summary Report; 2010. <http://csde.washington.edu/bsd>
7. Ajzen I. The theory of planned behavior. *Organization Behavior and Human Decision Processes*. 1991; 50: 179-211.
8. Francis JJ, Eccles MP, Johnston M, Grimshaw J, Foy R, Kaner EFS and Bonnetti D. Constructing questionnaire based on the theory of planned behavior: A manual for researchers. Newcastle UK: Centre for Health Service Research; 2004.
9. Ajzen I. Constructing a TPB questionnaire: Conceptual and methodological considerations; 2006. Retrieved December 15, 2009, from <http://www->

- unix.oit.umass.edu%7Eaizen/
10. Armitage C and Conner M. Efficacy of the theory of planned behavior: A meta-analytic review. *British J Soci Psy.* 2001; 40: 471-497.
  11. Liefbroer AC. The impact of perceived cost and rewards of childbearing on entry into parenthood: evidence from a panel study. *European J Popul.* 2005; 21: 267-291.
  12. Wammes B, Kremers S, Breedveld B and Brug J. Correlates of motivation to prevent weight gain: a cross sectional survey. *BMC International J Behavioral Nutr Phy Activity.* 2005; 2: 1. doi:10.1186/1479-5868-2-1
  13. Roncancio A, Ward K, Sanchez B, Cano M, Byrd T, Vermon S, Fernandez-Esquer M and Fernandez M. *Health Edu Behavior.* 2015; 42(5): 621-6, doi: 10.1177/1090198115571364
  14. Jones GI. Ecology and social structures among north eastern Igbos. *J International Afr Instit.* 1988; 6(2): 9-25.
  15. National Bureau of Statistics. Annual abstract of Statistics 2012. Abuja: Federal Republic of Nigeria; 2012.
  16. Ogbazi JN and Okpala J. Writing research report: Guide for researchers in education the social sciences and humanities. Enugu: Press Time Ltd; 1994.
  17. Pashaei T, Ponnet K, Moeeni M, Khazaepool M and Majlessi F. Daughters at risk of female genital mutilation: examining the determinants of mothers' intentions to allow their daughters to undergo female genital mutilation. *PLoS ONE.* 2016; 11(3): E0151630. doi:10.1371/journal.pone.0151630
  18. Tamire M and Molla M. Prevalence and belief in the continuation of female genital cutting among high school girls: a cross-sectional study in Hadiya zone, Southern Ethiopia. *BMC Public Health.* 2013; 13: 1120. doi: 10.1186/1471-2458-13-1120.
  19. Obi SN. Female genital cutting in south-east Nigeria. *International J Gynaecol Obstetr.* 2004; 84(2): 183-4.
  20. Mandara M. Female genital mutilation in Nigeria. *International Journal of Gynaecol Obstetr.* 2004; 84(3): 291-8.
  21. Nkwo PO and Onah HE. Decrease in female genital mutilation among Nigerian Ibo girls. *International J Gynaecol Obstetr.* 2001; 75: 21-32.
  22. Yoder PS and Henry R. Female genital cutting a coming of age in Guinea. Calverton, MD: Measure DHS+; 2003. Retrieved August 9, 2002, from [http://www.measuredhs.com/about/qualitativeflyers\\_2.pdf](http://www.measuredhs.com/about/qualitativeflyers_2.pdf)
  23. Population Reference Bureau. Abandoning female genital cutting: Prevalence, attitude and efforts to end the practice. Washington DC: Measures Communication; 2001.
  24. Foster C. On the trail of a taboo: Female circumcision in the Islamic world. *Contemp Rev.* 1992; 35(6): 244-9.
  25. Brigg LA. Male and female viewpoint on female circumcision in Ekpeye, River Nigeria. *Afr J of Reprod Health.* 2000; 6(30): 44-52.
  26. Babalola S and Amouzuo J. Baseline survey of knowledge, attitudes and practice about FGC in Eastern Nigeria: Report of findings. Baltimore, USA: Johns Hopkins Centre for Communication Program; 2003.
  27. United Nations Children's Fund. Female genital mutilation/cutting: a statistical overview and exploration of the dynamics of change; 2013. Retrieved June 16, 2016, from [http://www.unicef.org/publications/index\\_69875.html](http://www.unicef.org/publications/index_69875.html)
  28. Msuya SE, Mbizvo E, Hussain A, Sundby J, Sam NE and Stray-Pedersen D. Female genital cutting in Kilimanjaro, Tanzania: Changing attitude. *Trop Med International Health.* 2002; 7(2): 159-165.
  29. Orubuloye IO, Caldwell P and Caldwell V. Female "circumcision" among the Yoruba of Southwest Nigeria: The beginning of change. In B. Shell-Duncan, & Y. Yernland (Eds.), *Female circumcision in Africa: Culture, controversy, and change* (pp. 73-94). Boulder, CO: Lynne Rienner Publishers; 2000.