

Does Individual Social Change Occur? The Case of Female Genital Cutting in Egypt

Female genital cutting (FGC), also known as female genital mutilation or female circumcision, has been practiced on more than 125 million women and girls worldwide, and is primarily concentrated in Africa and the Middle East (World Health Organization 2014). FGC is a non-medical procedure that involves partially or completely removing external female genitalia and is performed on girls anytime between birth and age 15. There are several types of FGC with varying degrees of severity, but all forms are internationally recognized as human rights violations and are illegal in many countries.

With only a few exceptions, prevalence rates of FGC are decreasing and countries in which FGC was formerly ubiquitous are now experiencing a shift away from the practice. It is now criminalized in 19 countries in Africa and support for the practice is gradually waning (WHO 2014). In Egypt, the prevalence rates of FGC have slowly declined since the Egypt Demographic and Health Survey were collected in 1995. In that year, the prevalence of FGC among ever-married women ages 15-49 was 97% and remained constant over the next 5 years (Egypt DHS 1995; Egypt DHS 2000). In 2005, 3 years before the 2008 criminalization of FGC, 96% of ever-married women ages 15-49 had been circumcised, and by 2014, 6 years after criminalization, the prevalence rate had declined to 92%. The decline appears small, but most women surveyed were old enough to have been circumcised before criminalization in 2008. However, the attitudes toward female genital cutting show a steeper decline. In 1995, 82% of women surveyed wanted FGC to continue, while in 2000, support had decreased to 75%. In 2005, 68% believed it should continue, and by 2014, support dropped to 58% (Egypt DHS 1995; Egypt DHS 2000; Egypt DHS 2005; Egypt DHS 2014). The majority of women in Egypt

continue to support FGC despite its criminalization, but the rates of support and prevalence of the practice have dropped steadily over the past two decades.

EGYPT CONTEXT

Female genital cutting began in Egypt during the Pharaonic period and continues into the twenty-first century (Egypt DHS 2005). Egyptian activists began lobbying against FGC in the 1920s, and efforts to abandon the practice gained momentum starting in the 1970s and 1980s due to international awareness and pressure. The Convention on the Elimination of all Forms of Discrimination against Women (CEDAW), which Egypt ratified in 1981, required Egypt to file reports on gender equity. In 1991, the Egyptian representative to the convention misleadingly claimed that the practice was dying out and that it was a private matter outside of state regulation (Boyle 2001).

Female genital cutting in Egypt is a case of cultural conflict between international and governmental agencies wanting to end the practice and the vast majority of the population continuing it. In 1994, while the United Nations International Conference on Population and Development was taking place in Cairo, CNN broadcasted the circumcision of a 14-year old Egyptian girl, leading to increased international pressure on Egypt (Seif El Dawla 1999). Government leaders spoke out against FGC, but they failed to take official legal action. In 1995, a prominent Egyptian Islamic cleric issued a decree stating that FGC was a religious ritual and encouraged families to circumcise their daughters. Five years later, a health ministry decree banned FGC in government hospitals, and then in 2006 Egypt's Grand Mufti of Al-Azhar, the most prominent Sunni Islamic authority, officially denounced the practice and said it was unnecessary according to Islam. Finally, in 2008 the government criminalized FGC. Many parents, however, continue to have their daughters circumcised and officials are only notified if

the girl dies from the procedure. Nevertheless, very few parents or doctors have been given FGC-related charges and the practice persists (Darwish 2014). Many groups in Egypt are actively working to end the practice; the Coalition against FGM/Cutting is an alliance of over one hundred Egyptian non-governmental organizations focused on women's rights that combined in 2003 to eradicate FGC in Egypt (Darwish 2014).

That over half of Egyptian women continue to support FGC even after it has been criminalized shows that this is a deeply embedded cultural practice. The persistence of FGC is partially due to its connection to Islam. Despite the Grand Mufti's denouncement in 2006, 52% of women in 2014 continued to believe that religious precepts require circumcision (Egypt DHS 2014), indicating that the official views of religious leaders do not necessarily change the long held views of the lay people. A 2003 report in Egypt found that the main motivation for the practice was to maintain tradition, to prevent illicit sexual behavior in women, and to meet the preference of husbands (El-Zanaty and Way 2004). Additionally, a 2010 study found that women's main reason for supporting FGC was to reduce and regulate girls' and women's sexual desires. Women stated that FGC helps to ensure premarital virginity and marital fidelity, which are both highly valued in Egypt (Fahmy, El-Mouelhy, and Ragab 2010). Government policies and religious statements have not drastically changed women's attitudes towards FGC because many women view it as a non-negotiable tradition that preserves social values that are important to the functioning of their families.

Descriptive statistics indicate that the prevalence of FGC is declining, and this paper seeks to understand whether that change is occurring at the individual level or generationally. Is the practice being slowly abandoned as less mothers in each new generation decide to circumcise

their daughters? Or are individual women changing their minds regarding FGC? If women are changing their minds, who are they and why?

THEORETICAL BACKGROUND

A large life course literature examines whether social change comes about through actual change in individual opinions, population turnover, or both (Firebaugh 1992; Brewster and Padavic 2000; Danigelis, Hardy, and Cutler 2007). Does society change because individuals change throughout the life course or does society change through cohort replacement? Most research shows that the answer is both. Several studies on changing gender ideology in the United States show that both changing individual opinions and changes in population membership through births and deaths account for an ideological shift in the late 20th century (Mason and Lu 1988; Brewster and Padavic 2000). Although both individual change and population change contribute to social change, they each influence the trends differently. Population change leads to gradual and steady social change whereas individual change is more erratic, as it is often influenced by specific events.

Demographic factors, such as education, wealth, urban residence, and religion, can predict one's likelihood of practicing female genital cutting. In the majority of cases, a girl's mother decides whether or not the daughter will be circumcised rather than the girl herself, therefore most studies look at the education level of the mother and how that influences her decision to circumcise her daughter. A study examining FGC in Minia, Egypt found that maternal education was negatively associated with the intent and decision to circumcise a daughter (Yount 2002). Over 88% of mothers with no education intended to circumcise their daughters, while 14% of mothers with a university education reported similar intentions, and the difference remained significant when adjusting for other household characteristics (Yount 2002).

Several other national and community-based studies in Egypt show similar findings – better-educated women less often support the continuation of female genital cutting and less often decide to circumcise their daughters (El-Zanaty et al. 1996; Sayed, Abd El-Aty, and Fadel 1996; El-Gibaly et al. 2002).

Research has shown that higher levels of wealth are negatively associated with support for FGC (Blaydes and Izama 2015). Wealthier individuals more likely have resources to view the world globally and be exposed to ideas that conflict with the practice of FGC. Similarly, wealthier women are more likely to have access to greater technological sophistication and resources (Thornton et al. 2015).

Urban residence is associated with declines in FGC. In a study in Minia, Egypt, mothers in urban areas were 70% less likely to have their daughters circumcised than mothers in rural areas (Yount 2002). However, a study in Nigeria showed no difference in rates of FGC in urban and rural areas once education and parents' age were accounted for (Caldwell et al. 1997). The mixed results regarding the correlation between urbanization and FGC indicate that whether a woman lives in a rural or urban area may be country specific and dependent on the opportunities available in cities and the community structure of urban environments.

Educated, wealthier, urban women are less likely to practice FGC for several reasons. For example, women with more education have a broader definition of the role of women and believe that women can secure their own stability through education rather than solely through marriage (Yount 2002). Additionally, a wealthy, educated, urban woman is more likely to be aware of the potential health risks associated with FGC. Such women may also be exposed more to discussions that oppose the practice and be introduced to Western ideas of marriage and sexual satisfaction (Yount 2002).

Although female genital cutting is not strictly an Islamic practice, in Egypt it is more widely practiced among Muslims than among the minority Christian population. Islamic leaders encouraged families to practice FGC until 2006 when the Grand Mufti denounced the practice (cite). However, after a lifetime of believing that FGC is an essential custom, many women are not going to change their beliefs, especially if religious authorities give conflicting messages. Also, many women likely were unaware of the Grand Mufti’s official denouncement.

The majority of Egyptians identify as Muslim, though the level of observance and religiosity varies. According to the Arab Barometer, a nationally representative survey study conducted in several Arab countries since 2006, religiosity in Egypt is decreasing. The study has so far conducted two waves in Egypt, the first in 2010 and the second in 2016. In the first wave, 94% of respondents identified as Muslim while 6% identified as Christian. The second wave was similar, with 95% identifying as Muslim and 5% identifying as Christian. However, indicators of religiosity have decreased, particularly among Muslims. In 2010, over 80% of Muslims reported praying every day, but by 2016, only 60% reported praying every day. The frequency of praying was more stable for Christians between 2010 and 2016. Because FGC in Egypt is associated with Islam, declines in religiosity could lead to declines in FGC.

	Muslim		Christian	
	2010	2016	2010	2016
Always	82.87	60.38	53.52	50.94
Most of the Time	11.63	22.08	29.58	26.42
Sometimes	4.28	14.57	12.68	16.98
Rarely	1.22	2.09	4.23	5.66
Never	na	0.87	na	0
<i>N</i>	1,144	1,146	71	53

Source: Arab Barometer II and IV

Although the degree to which a woman independently decides to circumcise her daughter varies, she is likely influenced by outside information and the opinions of those around her. Susan Cotts Watkins (1990) claims that demographic behavior is not only an independent individual choice but that it is influenced by the communities to which an individual belongs. Watkins specifies that women's gossip "permits the evaluation of new behavior" (1990:263). When women discuss FGC with their friends and family, whether they then choose to continue or abandon the practice reveals the current social rules of their social network regarding FGC. If a woman hears that a leader denounced FGC or that the government criminalized FGC, and yet everyone she knows continues to support the practice, then her own beliefs and behaviors will likely not change. Because of media and internet use, social networks can expand beyond the physical and local. Countries with high rates of FGC, such as Egypt, use media campaigns to try to end FGC, and some women attribute their changing views of the practice to those campaigns (Adeokun et al. 2006). Women who have access to TV and the internet are likely more aware of customs and perspectives outside of their own community and may have more exposure to information that condemns the practice of FGC.

In the first part of this study, I determine whether birth cohorts, individual sociodemographic characteristics, or external influences best predict a woman's likelihood of choosing FGC for her daughter. In the second part, I examine whether any women who have already practiced FGC later choose to abandon it, and if so, how are they different than those who continued?

DATA AND METHODS

Data for this analysis come from the 2014 Egypt Demographic and Health Surveys (DHS), which are nationally representative household surveys of ever-married women of childbearing age. The surveys provide data in the areas of health and population. For the first analysis, I include in the sample women ages 15-49 who have been circumcised and have at least one daughter ages 0-19. The DHS includes information on daughters ages 0 to 19, which limits the sample to women with daughters in that age range. The total sample size is $n = 10,061$. For the second analysis, I include in the sample women ages 15-49 who have at least two daughters younger than age 19 and at least one of the daughters is circumcised, and the total sample size is $n = 2,427$.

Dependent Variables

For the first analysis, the outcome variable measures whether the respondent has circumcised her daughter or intends to circumcise her daughter in the future. No daughter circumcised and no intent to circumcise a daughter in the future is coded 0. At least one daughter circumcised or intent to circumcise a daughter in the future is coded 1. If she does not know whether she will circumcise a daughter in the future but has already circumcised at least one daughter, she is coded 1. The remaining respondent who answered “don’t know” are dropped from the sample to create a dichotomous variable.

For the second analysis, the outcome variable is whether or not the respondent changed her mind/actions regarding female genital cutting. If all her daughters are circumcised, she is coded 0. If she has at least one daughter who is circumcised and at least one daughter who is not, but she intends to circumcise the uncircumcised daughter(s) in the future, she is not a mind changer (coded 0). If she has at least one daughter who is circumcised and at least one daughter

who is not, and she intends to not circumcise the uncircumcised daughter(s) in the future, she is a mind changer (coded 1).

Independent Variables

In order to determine whether change in the practice of FGC is generational, the first independent variable is age, measured as 7 birth cohorts. Ages 15-19 are coded 0, ages 20-24 coded 1, 25 to 29 coded 2, 30 to 34 coded 3, 35 to 39 coded 4, 40 to 44 coded 5, and 45 to 49 coded 6. I include age at first marriage to control for women in younger cohorts who potentially married at younger ages, and therefore are more traditional, than women in older cohorts. Additional sociodemographic variables are education, wealth, urban residence, and religion. Educational attainment is categorical and measured as “no education” (0), “primary” (1), “secondary” (2), and “higher” (3). Wealth is measured by an index that places households on a standardized scale of relative wealth (measured in quintiles). Urbanization is measured by the type of place of residence— “rural” (0) or “urban” (1). The DHS classifies large cities, small cities, and towns as urban areas, while rural areas are countryside (Demographic and Health Surveys 2008). Finally, religion is coded as “Muslim” = 0 and “Christian” = 1. Previous research shows that education, wealth, and urban residence are negatively associated with support for and practice of FGC (Blaydes and Izama 2015; El-Gibaly et al. 2002; Rahlenbeck and Mekonnen 2010; Yount 2002). Also, in most communities, Muslims are more likely to practice FGC than Christians. (Seif El Dawla 1999).

The additional independent variables are whether she believes circumcision is required by religion (“no”=0 and “yes”=1), whether she uses the internet (“no”=0, “yes”=1), and whether she has discussed FGC with a friend or relative in the past year (“no”=0 and “yes”=1).

Analysis

Because the outcome variables are dichotomous in both analyses, models are estimated using logistic regression with odds ratios. First, I present the descriptive statistics of the women included in the first analysis in Table 1, and of the second analysis in Table 2. Next, I present the results of the logistic regressions. Included in my results are 3 models. The first model includes birth cohort as the independent variable to predict the outcome and age at first marriage as a control. The second model adds the demographic variables—education, wealth, urban residence, and religion. The third model includes several additional key independent variables—whether she believes FGC is required by religion, internet use, and whether she has discussed FGC.

RESULTS

Descriptive Statistics

Table 1 provides descriptive statistics for the women included in the sample. About 68% of women have either circumcised or intend to circumcise their daughter(s). The average current age is 34.47. The mean educational attainment is between primary and secondary, and the mean wealth index score is about 2 (0 minimum, 4 maximum). About 40% of respondents are urban residents and 60% rural residents. Only 4% of respondents are Christian whereas 96% are Muslim; about 58% think that circumcision is required by religion, about 27% think that it is not required, and about 13% are unsure. About 90% never use the internet and 33% of women have discussed FGC with friends or relatives in the past year.

Table 1. Descriptive Statistics of Women ages 15-49 with Daughters

	<i>Mean</i>	<i>SD</i>
Daughter circumcised or intends to circumcise (no=0)	0.68	0.66
Age	34.47	7.52
Education	1.50	0.98
Wealth	1.99	1.42
Urban	0.41	0.49
Religion	0.04	0.18
Required by religion	0.85	0.66

Internet use	0.15	0.51
Discuss	0.33	0.47
<i>N</i>	10,061	

Source: Egypt Demographic and Health Survey 2014

Table 2 provides descriptive statistics for the women included in the sample. Only 6% of them have changed their minds, meaning they have circumcised one daughter but do not intend to circumcise the other. The average current age is 39.46. The mean educational attainment is primary, and the mean wealth index score is between the first and second wealth quintile. About 30% of respondents are urban residents and 70% are rural residents. Only 2% of respondents are Christian whereas 98% are Muslim; about 73% think that circumcision is required by religion, about 14% think that it is not required, and about 13% are unsure. About 97% never use the internet and 37% of women have discussed FGC with friends or relatives in the past year.

Table 2. Descriptive Statistics of Women ages 15-49 with at least 2 Daughters

	<i>Mean</i>	<i>SD</i>
Mind changer	0.06	0.24
Age	39.46	5.60
Education	1.05	0.98
Wealth	1.42	1.33
Urban	0.31	0.46
Religion	0.02	0.13
Required by religion	1.00	0.52
Internet use	0.04	0.28
Discuss	0.37	0.48
<i>N</i>	2,427	

Source: Egypt Demographic and Health Survey 2014

Analysis 1

Model 1

Birth cohort is associated with a decreased likelihood of circumcising or intending to circumcise a daughter. I also looked at the coefficients for each individual cohort and the likelihood decreased slightly with each one. The magnitude is small but still statistically significant ($p < .01$). Because the model also controls for age at marriage, the results are surprising. However, the women in the youngest cohort, ages 15 to 19, are already married with children, and therefore are likely more conservative than those unmarried in their same birth cohort and also than women ever-married in older cohorts.

Model 2

In model 2, I added the demographic variables of education, wealth, urban residence, and religion. The additional variables slightly increased the magnitude of the coefficient for age and did not alter its significance. All demographic variables except for urban residence have statistically significant odds ratios less than 1. For every increase in educational attainment, respondents are 30% less likely ($p < 0.001$) to have circumcised or intend to circumcise their daughter and for every additional wealth quintile, respondents are 40% less likely ($p < 0.001$). Urban residents are 12% less likely to have circumcised or intend to circumcise than rural residents, but the coefficient is not statistically significant. Lastly, Christian respondents are about 90% less likely to have circumcised or intend to circumcise their daughter.

Model 3

In the final model, I add variables for whether they believe FGC is required by religion, internet use, and whether they have discussed FGC with friends or relatives. The magnitude and significance of the variables included in model 2 remain relatively stable. Respondents who believe that FGC is required by religion are 233% more likely ($p < 0.001$) to have circumcised or

intended to circumcise. Women who use the internet are 32% less likely ($p < 0.001$) whereas those who have discussed FGC with friends or family are 37% more likely ($p < 0.001$).

Table 2. Logistic Regression of Likelihood of Circumcising and/or Intending to Circumcise Daughter

	Model 1		Model 2		Model 3	
Birth Cohort	0.958	(.014)**	0.917	(.016)***	0.925	(.017)***
Age at marriage	0.891	(.005)***	0.964	(.007)***	0.967	(.007)***
Education			0.704	(.022)***	0.781	(.026)***
Wealth			0.6	(.017)***	0.627	(.019)***
Urban			0.879	(.062)	0.914	(.068)
Religion			0.099	(.014)***	0.163	(.024)***
Required by Religion					3.328	(.145)***
Internet use					0.679	(.035)***
Discuss					1.372	(.077)***
Constant	25.563	(3.101)***	38.842	(5.293)***	10.021	(1.484)***
N		10,061		10,061		10,061
BIC		12112.53		10386.12		9424.61

Source: Egypt Demographic and Health Surveys 2014

Notes: Standard errors are shown in parentheses

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Analysis 2

The birth cohorts positively associated with being a mind changer are ages 30 to 34, 35 to 39, and 40 to 44. However, the latter is not statistically significant. Women ages 30 to 34 are 84% more likely to be a mind changer and women ages 35 to 39 are 76% more likely. None of the women in the youngest age group were mind changers. Because they are only 20 to 24 and likely less time has passed since their first daughter was circumcised, they have had less time to change their mind than the older cohorts.

Urban residence and discussing FGC with friends or family are both negatively associated with being a mind changer, but neither of the coefficients are statistically significant. Education and internet use are both positively associated with the respondent changing her mind, but they are also not significant. The significant predictors of mind changing are wealth, religion,

and believing FGC is required by religion. Every increase in wealth is associated with a 37% increase in the likelihood of being a mind changer ($p < .01$). Christian respondents are 473% more likely ($p < 0.001$) to be mind changers and those who believe FGC is required by religion are 54% less likely ($p < 0.001$) to be mind changers.

Table 4. Logistic Regression of Likelihood of Changing Mind toward Female Genital Cutting

	Model 1		Model 2		Model 3	
Age						
20-24	1		1		1	
25-29	0.965	(0.605)	0.764	(.492)	0.82	(.533)
30-34	1.999	(.570)*	1.749	(.517)	1.843	(.550)*
35-39	1.923	(0.481)**	1.688	(.436)*	1.756	(.459)*
40-44	1.42	(0.361)	1.295	(.335)	1.32	(.344)
45-49	1		1		1	
Age at marriage	1.101	(.025)***	1.062	(.027)*	1.062	(.027)*
Education			1.103	(.111)	1.025	(.107)
Wealth			1.372	(.130)**	1.369	(.130)**
Urban			0.928	(.235)	0.88	(.224)
Religion			7.554	(2.607)***	5.732	(2.069)***
Required by Religion					0.461	(.077)***
Internet use					1.432	(.295)
Discuss					0.92	(.168)
Constant	0.007	(.025)***	0.008	(.004)***	0.017	(.010)***
N		2,427		2,427		2,427
BIC		1164.156		1139.6		1138.273

Source: Egypt Demographic and Health Surveys 2014

Notes: Standard errors are shown in parentheses

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

CONCLUSION

In part 1, birth cohort predicts whether a woman has circumcised or intends to circumcise her daughter, but not in the predicted direction. This is likely due to the selection bias inherent in a sample that only includes ever-married women. Women ages 20 to 29 who are not yet married and therefore not included in the sample may be less likely to intend to circumcise their future daughters than older married cohorts or same-age married cohorts. There is no evidence that change is occurring through cohort replacement, but this might be due to limitations of the sample.

Results indicate that sociodemographic characteristics excluding urban residence are strong predictors of practicing FGC. Wealth is a stronger predictor than education, and religion is a stronger predictor than wealth. However, because over 90% of Egyptians are Muslim, distinguishing between levels of religiosity would be more useful for understanding the variation of FGC within the Muslim population. The DHS does not include a good indicator of religiosity, but they do ask whether the respondent thinks FGC is required by religion. Although a woman could think it is not required by religion and still practice it, or vice versa, this belief is one of the strongest predictors of practicing FGC.

The variables measuring outside influence--internet use and discussing FGC with friends or relatives--are equally predictive as the significant sociodemographic factors. Using the internet decreases the likelihood of circumcising and/or intending to circumcising one's daughter, whereas discussing FGC with friends or relatives increases the likelihood. Results suggest that women conversing in their local social networks are more likely to maintain

traditional practices, but women exposed to information or social connections on the internet outside of their local communities are more likely to abandon traditional practices.

In part 2, I discovered that only a small percentage (6%) of women who have already circumcised at least one daughter have not or intend to not circumcise a younger daughter. This shows that once someone has acted on this belief or tradition, they rarely change their minds. Those who do change their minds after circumcising one daughter are more likely to be in one of the middle birth cohorts—30 to 34 or 35 to 39. Few younger or older mothers decided to not circumcise a later daughter after circumcising the first, which shows that the relationship between age and mind changing is not linear. Although educated and urban women are no more likely to be mind changers than their less educated and rural counterparts, wealthier women are more likely to be mind changers. Wealth in Egypt, more than education or urban residence, may connect women to people, ideas, and customs that conflict with the practice of FGC.

Christian women and women who do not believe that FGC is required by religion are more likely to change their mind and stop circumcising daughters. It is possible that she never believed FGC was required by religion but practiced it to make her daughter marriageable. Because her reasons were extrinsic rather than intrinsic, she may have been more swayed by other external forces, such as the criminalization of FGC, and decided to stop. On the other hand, she may have previously believed FGC was required by religion, but then her beliefs changed and subsequently her behavior changed. Data from the Arab Barometer show that religiosity in Egypt is decreasing. After more waves of data are collected, future research could compare the trends in female genital cutting from the DHS and the trends in religiosity in Egypt from the Arab Barometer.

Another limitation is that this paper assumes that the mother is the driving force behind a daughter's circumcision. Women in the family do have more involvement in carrying out FGC than men (Yount 2002), but a mother could feel pressure from the grandmother or other women in the family or community to have her daughter circumcised. Qualitative research, such as focus groups or interviews, could help explain who in an Egyptian family most often makes circumcision decisions. Because it is rare for a mother who has already circumcised one daughter to not circumcise the daughters that follow, interventions should be aimed at girls and women before they have daughters or as they are deciding whether to circumcise their first daughter.

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