

Female Genital Mutilation/Cutting
and Intimate Partner Violence:
How Age at Circumcision Influences
Perceptions of Abuse

By

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A Senior Honors Thesis Submitted to
the Department of Political Science,
University of California, San Diego

April 3, 2017

Acknowledgements

First and foremost, I would like to sincerely thank my advisor, Professor Simeon Nichter, for his encouragement and guidance throughout the entire process of writing this thesis. His direction relating to data collection, statistical testing, and STATA analysis was instrumental to my thesis.

I would also like to thank Professors Claire Adida and Lawrence Broz for all of their assistance these two quarters. Their constructive feedback was vital to the formation of my topic. Moreover, their doors were always open to proffer advice and answer my many questions.

Furthermore, I would like to extend my earnest gratitude to political science graduate student Brandon Merrell for his invaluable support in constructing a testable topic and going above and beyond normal graduate student duties. He answered countless STATA and statistical analysis questions, responded to my numerous emails, and aided me in almost every aspect of this thesis.

Finally, I would like to thank my father, my mother, and my two older brothers for their support throughout my time at UCSD. Without my brothers' example, I would not have pushed myself to excel in my schoolwork. Without my parents' hard work and determination, I would not have had this amazing college experience, one that was not afforded to them. They have sacrificed so much for my education. This thesis belongs to them.

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Chapter 1: Introduction

The practice of female genital mutilation and cutting profoundly affects the women who undergo the procedure. While numerous governmental and non-governmental organizations continue to explore the consequences of FGM/C, little research is devoted to the relationship between age at FGM/C and intimate partner violence.¹ I contribute a more in depth look at this relationship by exploring women's attitudes towards domestic violence and the age at which they were cut. I inquire: does the age at which a woman undergoes female genital mutilation and cutting have a significant effect on her perceptions of domestic violence? Is a woman more likely to believe domestic violence is appropriate the younger they were cut? Moreover, are women who were cut later in life, who have cognizant memories of the procedure, more prone to negative opinions regarding domestic violence?²

In exploring the age variable's effect on female perceptions of domestic violence, I further examine a prominent and paradoxical puzzle prevalent in FGM/C research. Data displays that for the majority of countries where FGM/C is practiced, most of these nations' respective populations want the practice to cease. Despite this sentiment, the procedure continues to be preserved and practiced at high levels (United Nations Children's Fund 2013). This potential relationship between age at cutting and perceptions of domestic violence may divulge important information relating to the social norms that aid in FGM/C's endurance.

¹ Female genital mutilation/cutting will be abbreviated to FGM/C. Likewise domestic violence, gender based violence, and intimate partner violence will be used interchangeably in this thesis. They will be abbreviated to DV, GBV, and IPV respectively.

² In this thesis I will use the words cut, excision, and circumcision in reference to female genital mutilation and cutting.

Prevalence

An estimated 200 million women alive today, living in over 29 countries, have been subjected to female genital mutilation and cutting (World Health Organization 2017). This number is believed to be a frugal estimation, with many scholars suggesting its frequency is much greater than this. In 2016, it is projected around one in three girls aged 15-19 have been cut. The practice is heavily concentrated across the continent of Africa, ranging from the Atlantic Coast to the Horn. While FGM/C prevalence varies across country and community, it is a norm in nations like Somalia, Mali, Sudan, and Egypt, where levels remain at approximately 90 percent. In contrast, it is a scarcity in other countries in the same region, like Uganda, with a mere one percent practice rate (UNICEF 2013).

Like prevalence, the average age women undergo excision changes across nation, region, and group. Universally, most women are cut between ages zero to fifteen (UNICEF 2013). However, in some countries women are more often cut in infancy, while in others, they are circumcised later in their primary years. In Ethiopia for instance, two in three girls are cut before the age of five. Mauritania differs from Ethiopia, where girls on average are excised at one month. In Egypt, girls are cut around ten years old and in Guinea almost all girls are circumcised between five and nine years old (UNICEF 2013, 2016). This variation in age at FGM/C is mirrored across the region.

Likewise, domestic violence rates within Africa are equally as disjoint. According to the World Bank Group's 2016 report "Poverty in a Rising Africa", one third of African women claim to have experienced some form of intimate partner violence (Beegle, Christiaensen, Dabalén, and Gaddis). Moreover, the latest data conjectures that 51 percent of all African women believe this violence is justified under certain conditions, such as a woman leaving the house

without informing her husband or partner. At a 51 percent acceptance rate, this number is more than twice the average of the rest of the developing world (Christiaensen 2016). Like fluctuating FGM/C rates, acceptance for intimate partner violence also varies across African countries. In some nations approval rates reach as high as 81 percent, while in others it drops to minority consents as low as 13 percent (UNICEF 2013). These attitudes are perhaps more pernicious than the actual prevalence of domestic violence and relate to my driving query: is the age at which some of these women underwent FGM/C affecting their perceptions of intimate partner violence?

FGM/C is criticized by numerous international treaties and conventions. Likewise, most countries, even 24 out of the 29 countries where it is practiced, have national legislation that criminalizes FGM/C. Moreover, FGM/C violates Article 25 of the Universal Declaration of Human Rights, which expresses the sentiment that all people have the “right to a standard of living adequate for health and well-being” (UNICEF 2016). Similarly, Article 25 inadvertently condemns intimate partner violence, as this behavior also deprives women of their safety and well-being. Likewise, FGM/C and intimate partner violence breaches numerous regional treaties such as the African Charter on People and Human’s Rights (the Banjul Charter) and its Protocol on the Rights of Women in Africa (WHO 2008) Furthermore, in most cases, FGM/C is performed on children unable to give proper consent, which additionally violates the Convention of the Rights of the Child and the African Charter on the Rights and Welfare of the Child (UNICEF 2016). Such staggering statistics demonstrate a need for further research on this topic.

Current Literature

Much of the literature on FGM/C and domestic violence focuses on the prevalence of FGM/C and how that in turn contributes to higher country-wide rates of IPV. These population based cross-sectional studies concentrate on specific countries and explore FGM/C and its potential as a risk factor for domestic violence (Salihu et al. 2012). Studies undertaken in specific countries such as Mali and Egypt reveal an association between FGM/C and IPV. Within Egypt, data shows that women who had ever been beaten were four times more likely to be circumcised than never beaten women. Moreover, these results show that women who are circumcised are 7.5 times more likely than uncircumcised women to accept that husbands are justified in beating their wives. Similarly, this research determines that other socioeconomic factors, like low-income, lack of education, and unemployment all have less association with domestic violence than female circumcision (Refaat et al. 2001). These findings are also reiterated in studies pertaining to Mali. Malian women exposed to FGM/C were nearly three times as likely to experience some form of intimate partner violence (Salihu et al. 2012).

While these studies reflect an association between domestic violence and FGM/C, they do not conduct analyses at a regional level, nor do they address the age at which a woman is cut. Furthermore, only one study within Egypt has actually addressed how FGM/C affects women's attitudes towards intimate partner violence. I contribute a more in depth look at this relationship by focusing on the actual age a woman is cut. I then concentrate on women's perceptions of intimate partner violence rather than focusing on whether or not they have been subjected to IPV. Moreover, I widen the geographic scope and examine this potential relationship between age at FGM/C and women's attitudes towards domestic violence. To my knowledge, this is the first study that employs an expanded geographic scope, while focusing on women's perceptions of domestic violence and their age at excision.

Research Summary

In this thesis I argue that the younger a woman is cut, the more likely she is to not only accept, but also support domestic violence. Furthermore, I posit that the older a woman undergoes the procedure, the more apt she is to oppose domestic violence. I theorize that women who can remember being cut are more likely to oppose intimate partner violence when they are older and married because of their potentially traumatic cutting-related memories. Moreover, I postulate that women who were younger when they underwent FGM/C are more apt to support domestic violence because violence has been ingrained into their lifestyle for longer. To test these preliminary hypotheses, I employed demographic health surveys (DHS) from a swath of countries across northern Africa. With this data, I used individual woman's responses to determine if there is a relationship between the age at which a woman is cut and her opinions of intimate partner violence.

To test my hypotheses, I relied on DHS conducted within Africa between 2010 through 2015. This temporal scope permitted for the most recent datasets available and also allowed me to expand my dataset to include all 13 countries that had a DHS conducted within this 5-year time period. I then merged all 13 datasets together, which resulted in a cross-national dataset with a large geographic range. The demographic and health surveys recorded individual's answers to multiple survey questions, which allowed for an individual unit of analysis and a large numbers of respondents.

In order to operationalize my independent variable, the age at which a female undergoes FGM/C, I largely adopted the same clustering method used by UNICEF. They clump their data into four age groups: four years or younger, five to nine, ten to fourteen, and fifteen to forty-nine. Additionally, I changed their final category to fifteen through nineteen and added a grouping for

those twenty years or older. This data was collected from each country within my geographic scope at a regional or district level, depending upon the way in which the country is partitioned. I coded this data using a DHS Program variable that was described as “a woman’s age at circumcision in years” (Rojas and Rutstein 2006).

My dependent variable, women’s perceptions of domestic violence, was also created by employing a DHS survey variable. The survey variable I used asked women if they believed beating was justified if a wife went out without telling her husband. Women responded either “yes”, “no”, “unsure”, or “no response”. After dropping the unsure and non-responses, I created a new variable that served as a proxy for women’s perceptions of domestic violence.³

Findings

After controlling for possible confounding factors and creating fixed effects by country, the results from my analysis revealed a significant relationship between age at FGM/C and women’s opinions regarding domestic violence, but in the opposite direction from what I predicted. I hypothesized that the younger a woman was cut, the more likely she was to not only accept, but also support domestic violence. The results reflected a highly significant positive association between my two variables, revealing that a woman was actually more likely to support intimate partner violence the older she was cut. I predicted a significant negative relationship between my dependent and independent variable.

³ I also created an alternative composite dependent variable that combined multiple questions relating to perceptions of domestic violence. Most of the effect was driven by the question “is beating justified if a wife goes out without telling her husband”, so I used solely this variable as my proxy.

Furthermore, I posited that the older a woman underwent the procedure, the more apt she was to oppose domestic violence, as I believed that women who could remember being cut were more likely to oppose intimate partner violence. This hypothesis was also debunked by the results. Women who were cut older, and potentially remembered their procedure, were considerably more likely to support domestic violence and deem it acceptable under a variety of circumstances, than women who were younger at circumcision.

In this thesis I begin by providing a literature review where I address the existing research surrounding FGM/C prevalence and variables that have already been examined. Next I provide an in depth examination of my theory and predictions, and the support behind said hypotheses. I then explain my research design and delineate the many variables I used within my regression. After, I present my logistic regression and empirical results. Following the presentation of my findings, I analyze and discuss the data that contradicts my hypotheses. Finally, I finish with the conclusion of my thesis, where I summarize my results and discuss the implications of my findings and their real-world academic and social consequences. I also discuss the limitations of my study and offer suggestions for further research concerning this relationship.

Chapter 2: Literature Review

The majority of research conducted on this topic focuses distinctly on my independent variable, age at circumcision, or my dependent variable, women's perceptions of intimate partner violence. An abundance of literature meticulously explores the intricacies of FGM/C and the countless problems and potential solutions linked to female circumcision. Likewise, there is a myriad of literature that discusses gender based violence within Africa, specifically countries where FGM/C is practiced. Despite this copious amount of research, a minute amount explores an association between FGM/C and IPV. Few studies attempt to link the two variables. Furthermore, while some studies do indeed find an association between FGM/C and IPV, even fewer investigate FGM/C's relationship to women's attitudes towards IPV. Moreover, there are zero studies that explore a potential relationship between the age at which a woman undergoes female circumcision, and her outlooks on domestic violence.

Age at FGM/C

The United Nations Children's Fund and the World Health Organization report that age at cutting varies widely across the continent of Africa. UNICEF states that almost all FGM/C occurs before a woman undergoes puberty (2013). The vast majority of women are excised by the age of 15. For instance, in Mali, 89 percent of women aged 15 through 49 were cut between ages zero to four. Only nine percent were cut from five to nine, and 12 percent after nine years (UNICEF 2013). Likewise, in Nigeria, nine percent of women were cut from 10-14 and another nine percent were cut after 15 (UNICEF 2013). However, these averages are inconsistent amongst the region. In Chad, 57 percent of girls were cut between five to nine, and 23 percent between 10-14. Girls on average are cut older in Chad than those in Mali and Nigeria (UNICEF

2013). This trend is also seen in Togo where 57 percent of women aged 15 through 49 report cutting between 5-9 years. Twenty percent claim they were cut between ages 10-14, and a sizable 12 percent say they were excised after 15 (UNICEF 2013).

While the ages differ cross-continently, recent evidence shows that women's age at excision is dropping in some countries. WHO claims that the primary reason for this drop is practitioners are attempting to cut girls more surreptitiously and "underground" as the practice becomes increasingly more illegal and its consequences more severe (WHO 2017; UNICEF 2013).

While the falling age trend is discouraging, recent DHS survey data reveals that women who are aged 15-49 are less likely to have undergone FGM/C than older age groups. This shift could indicate a generational change (WHO 2017). It is witnessed in prominent nations such as Liberia, where the two most recent DHS Program surveys reveal that 85 percent of women aged 45-49 have been cut, while only 44 percent of girls aged 15-19 have been subjected to FGM/C. This shift is also mirrored in Kenya, Burkina Faso, and Nigeria (UNICEF 2013; WHO 2017). Some countries, such as Somalia, Guinea, and Djibouti continue to have stagnant generational age levels of FGM/C. For example, in Mali 89 percent of women aged 45-49 were cut, and a similar 88 percent of girls 15-19 were subjected to FGM/C (UNICEF 2013; WHO 2017). This lack of consistency in age at FGM/C, as reported by UNICEF, was particularly important for my study, as it showed variation across my independent variable.

Attitudes Towards Domestic Violence

The World Bank Group's 2016 report "Poverty in a Rising Africa" states that one in three African women have experienced some form of domestic violence relating to physical or sexual

abuse (Beegle et al.). Likewise, the latest statistics described by The World Bank, using DHS Program data, reveals that 51 percent of all African women report spousal abuse is justified if: they go out without telling their husband, neglect the children, argue with their husband, burn the food, or refuse to have sex (Beegle et al. 2016).⁴ While the World Bank uses these attitude variables to represent a startling trend amongst African women, I instead use them to test their relationship to age at excision.

Luc Christiaensen, one of the authors of “Poverty in a Rising Africa”, posits that such a high acceptance and support rate amongst women is concerning, particularly because of Africa’s recent economic turn-around (2016). Christiaensen argues that while this statistic remains alarming, it is actually improving across Africa (2016). The rate of both prevalence and acceptance declined by approximately 10 percent between the first half of the 2000’s, 2000-2006, and the second half, 2007-2014. Nevertheless, Africa’s female acceptance rate of IPV is twice as large as the rest of the developing world (Christiaensen 2016). Furthermore, Christiaensen postulates that acceptance rates are widely disparate across the continent. It is deeply ingrained in countries like Mali and Uganda, with 77 percent acceptance rates. In contrast, acceptance is very low in other nations such as Malawi, with a mere 13 percent tolerance level (2016).

Christiaensen and the World Bank argue that a variety of factors may be influencing this high continent-wide percentage. Firstly, they argue that acceptance rates for domestic violence are significantly higher in countries that are resource abundant (Christiaensen 2016; Beegle et al.

⁴ These questions, delineated in DHS data and employed by the World Bank, are the same five variables I used when creating an alternative proxy for my dependent variable. I ended up using the first question, is a husband justified in beating his wife if she goes out without telling him, as the sole proxy.

2016). The World Bank reports that acceptance is 16 percent higher in resource rich countries than non-resource states. Likewise, Christiaensen and the World Bank conclude that acceptance rates for domestic violence are similarly influenced by the fragility of a state. They show that women residing in fragile states are 9.2 percent more likely to support domestic violence (Christiaensen 2016; Beegle et al. 2016). Finally, they conclude that education is the main factor in determining a woman's likelihood of accepting and supporting intimate partner violence. They explain that highly educated women are 31 percent less likely to be tolerant of domestic violence than women with no education. Additionally, women with secondary education are 16 percent less likely to be accepting (Christiaensen 2016; Beegle et al. 2016).

While Christiaensen and the World Bank show that certain economic and socio-economic factors have a significant effect on women's attitudes towards intimate partner violence, they fail to address whether previous acts of violence, such as FGM/C, affect a woman's perceptions towards domestic violence. While they propose education level is the most significant factor in determining women's tolerance of intimate partner violence, I posit that whether a woman was cut, and even more so, the age at which she was cut, may also be an important factor relating to women's attitudes towards domestic violence.

Case Studies Exploring IPV and FGM/C

Since the 2000s a number of studies have explored a potential relationship between female genital mutilation and cutting and intimate partner violence. The first study to investigate this relationship employed Egyptian demographic health surveys (DHS) and scrutinized solely Egyptian data. The study was spearheaded by Amany Refaat, Khadiga F. Dandash, Mohammed H. El Defrawi, and Moustafa Eyada and was published in 2001. They tested if there was an

association between female circumcision and exposure of Egyptian women to domestic violence (Refaat et al. 2001). Furthermore, the study aimed to determine characteristics of the Egyptian population by circumcision status.

Refaat et al.'s study found a significant relationship between female excision and domestic violence. Their research showed that women who had ever been beaten were four times more likely to have undergone FGM/C than women who had never been beaten. Furthermore, using DHS Program variables, Refaat et al. determined that within Egypt, circumcised women were 7.5 times more likely to believe that husbands were justified in beating their wives (Refaat et al. 2001). In their conclusion, Refaat et al. stated that their multiple regression analyses revealed the strongest determinant for domestic violence, above other socioeconomic factors, was a woman's FGM/C status (Refaat et al. 2001).

This study further examined the characteristics of both circumcised women and women who were subjected to IPV. The study showed that women who had been cut were twice as young and 14 times less educated than non-circumcised women. Moreover, it found that excised women were three times more likely to stay at home and 12 times more likely to live in a rural household than those who were not cut (Refaat et al. 2001). Likewise, women who had ever been beaten were three times less educated and 2.5 times more likely to live in a poor household than women who were not abused. In addition, the circumcised women were 12 times as likely to have their daughters circumcised (Refaat et al. 2001). These characteristic findings were particularly useful to me when I was deciding what factors to control for within my own study.

While these researchers showed an association between FGM/C and domestic violence, they did not address age at FGM/C nor did they widen their geographic scope beyond Egypt.

Despite its limitations, it was the first study to find an association between IPV and FGM/C and was reflected in later case studies.

Like Refaat et al.'s previous case study, Salihu, August, Salemi, Weldeselasse, Sarro, and Alio conducted an analysis examining the association between FGM/C and IPV within Mali (2012). This study, published in *An International Journal of Obstetrics Gynaecology*, further investigated if FGM/C is a risk factor for DV. Moreover, Salihu et al. additionally explored female circumcision's relationship to the subtypes of intimate partner violence: physical, sexual, and emotional abuse (2012).

Salihu et al.'s Malian case study found that women with FGM/C were at "heightened odds" for IPV and its subtypes (2012). Malian women who had undergone FGM/C were approximately three times more likely to experience some form of domestic violence. Physical and sexual DV had the most robust association, followed by emotional violence (Salihu et al. 2012). Their findings were consistent with previous research that linked childhood exposure to physical violence, in this case genital mutilation, to future intimate partner violence (Salihu et al.; Afifi and Bothmer 2007).

The study also explored FGM/C and IPV's relationship to a variety of socioeconomic factors that likely influenced the occurrence of both FGM/C and IPV. Salihu et al. argued that women with genital mutilation are often younger at first intercourse (2012). Similarly, the study showed that women who had lower educational attainment levels were more likely to experience intimate partner violence. Moreover, it determined that younger female age was associated with a higher risk for IPV (Salihu et al. 2012). The findings, according to Salihu et al., indicated that these specific public health issues were likely related through common socioeconomic factors (2012).

Salihu et al. argued that this study was the first to examine the association between FGM/C and the multiple forms of domestic violence (2012). They likewise posited that this study was unique from the previous study involving this topic, undertaken by Refaat et al. (2001). According to Salihu et al., the decade old Egyptian study's "analysis and conclusions were based on crude frequency comparisons of rates of physical violence only" (2012), while their Malian study provided further details relating to FGM/C and subtypes of IPV. While this case study may have delved deeper into the relationship between FGM/C and IPV, it did not address women's perceptions of domestic violence like Refaat et al.'s study, nor did it expand its geographic scope to include all countries in Africa with DHS Program IPV and FGM/C available data.

Mirroring the previous Egyptian and Malian studies, Karl Peltzer and Supa Pengpid researched the association between FGM/C and IPV in Cote d'Ivoire. Their case study used DHS data from 2011 through 2012 and had a sample size of approximately 5,000 women. Like Salihu et al., Peltzer and Pengpid categorized IPV into three forms: physical, sexual, and emotional abuse. They found that the lifetime frequency for physical violence within Cote d'Ivoire was 24.8 percent (2014). Furthermore, the prevalence of sexual violence and emotional violence was 5.7 percent and 19 percent respectively (Peltzer and Pengpid 2014). There was a 32.1 percent lifetime prevalence rate for any IPV. An even greater amount of women, 40.6 percent, reported female genital mutilation (Peltzer and Pengpid 2014).

Peltzer and Pengpid found that women who had reported FGM/C were twice as likely to experience sexual IPV than those who had not been cut (2014). The physical and emotional subtypes of FGM/C had higher levels, but this study found they were not as significant. Using socioeconomic covariates, Peltzer and Pengpid argued that urban residence and having a primary

education were linked to the most subtypes of domestic violence (2014). They also found that within Cote d'Ivoire, being a Muslim was “protective” (2014) from all three kinds of IPV. Furthermore, they found a positive association between those who saw their mother getting beaten by their father and all IPV subtypes.

Peltzer and Pengpid also related their findings to the previous studies by Refaat et al. and Salihu et al. (2001; 2012). They explained that like the Egyptian and Malian findings, their research in Cote d'Ivoire also reflected a positive association between FGM/C and intimate partner violence. Citing an explanation first proposed by Salihu et al. (2012), they offered a possible reason for this relationship was that women who were exposed to violence at a young age were more likely to experience it in adulthood (Peltzer and Pengpid 2014). Moreover, they argued that women who experienced FGM/C as a child, which is a form of sexual violence, were more susceptible to IPV. According to Peltzer and Pengpid, this may be because childhood abuse leads to a “higher threshold of tolerance” for sexual exploitation and abuse (Peltzer and Pengpid 2014; Lalor and McElvaney 2010). Like those before them, Peltzer and Pengpid called for new strategies to address this stark association between FGM/C and IPV (2014). Once more, this case study related IPV to childhood exposure to sexual violence in the form of FGM/C, but did not address the age at which a woman is cut and her attitudes regarding domestic violence.

Much of the literature on this topic associated IPV with FGM/C. The research likewise focused on specific countries and conducted case studies in order to test the relationship. None of the literature concentrated on the age at which a woman was cut and how this in turn affected her perceptions of DV. Furthermore, only Refaat et al. addressed women's attitudes towards IPV, not merely whether or not she was beaten. By examining age and outlooks, I depart from the previous case studies and provide a more narrowed approach to this topic.

Chapter 3: Theory and Hypothesis

As previously expressed, much of the research surrounding this topic concentrates on how a woman's FGM/C status in turn affects her likelihood for IPV. In my research, I used specifically age at FGM/C as my independent variable and tested its association against my dependent variable, women's opinions of domestic violence. My study noticeably differs from previous research in relation to both my dependent and independent variables and also in my geographic scope. Despite these dissimilarities, I used the findings from previous case studies to inform and construct my hypotheses. With these studies in mind, I primarily hypothesize that the younger a woman undergoes female genital mutilation, the more likely she is to tolerate and support intimate partner violence. Moreover, I contend that the older a woman undergoes FGM/C, the more apt she is to oppose this form of violence. Based on existing research and literature, I also develop theories to support my predictions.

Hypothesis 1

H1: The younger a woman undergoes female genital mutilation/cutting, the more likely she is to accept and support domestic violence.

For my first hypothesis, I predict that the younger a woman is circumcised, the more prone she is to accept and support domestic violence. I posit that women who were cut younger are likely to believe the practice acceptable and justified because they have been exposed to violence for a longer period of time than those who were cut later in life.

The driving theory behind Hypothesis 1 centers on the idea that female genital mutilation and cutting is a form of sexual objectification and violence against women and girls (Afiffi and

Bothmer 2007; Salihu et al. 2012; UNICEF 2017). I, and most scholars, equate FGM/C with sexual violence because it “is the irreversible reduction of a human capacity in the absence of meaningful consent” (Mackie 2003). I argue that this sexual exploitation and maltreatment during adolescence contributes to a more tolerant position regarding IPV in adulthood. I theorize that the younger a woman was cut, the longer violence, in the form of FGM/C, has been ingrained into her lifestyle. Thus, in these women’s lives, violence becomes the standard.

Furthermore, this theory is substantiated by the previous case studies done in Egypt, Mali, and Cote d’Ivoire. While these studies do not examine age at FGM/C, all three studies find that women who had undergone FGM/C were more likely to be abused as adults. Salihu et al. explains that their finding: women with FGM/C are at a greater risk for domestic violence, is consistent with the theory that childhood exposure to violence is linked to IPV (2012). They also find that younger female age is associated with a higher risk for domestic violence (Salihu et al. 2012). Salihu et al.’s research informs my hypothesis as I build on their findings and add that younger female age at circumcision can lead to a higher possibility of positive perceptions of IPV, not just occurrence.

Peltzer and Pengpid also propose a similar explanation for their positive association between FGM/C and IPV (2014). They suggest, like Salihu et al., that women who are exposed as a child to violence in the form of FGM/C are more susceptible to IPV (Peltzer and Pengpid 2014). This may be because childhood abuse can lead to women having a “higher threshold of tolerance” for abuse (Lalor and McElvaney 2010).

My theory mirrors these case studies’ explanations. I likewise apply this rationalization, that women who were cut are more likely to be abused because violence is ingrained into their lifestyles, and use it to construct my hypothesis one.

Hypothesis 2

H2: The older a woman is subjected to female genital mutilation and cutting, the more apt she is to oppose intimate partner violence.

For my second hypothesis, I postulate that the older a woman is circumcised, the more apt she is to oppose intimate partner violence. I argue that women who were older when they were subjected to FGM/C are more likely to have cognizant memories of the procedure. I contend that such memories are potentially traumatic and triggering and may lead to a woman being less tolerant of future violence.

My primary reasoning for this hypothesis is that the older a woman was when she underwent FGM/C, the more potentially traumatic the experience. I argue that a girl who was cut, for instance, at the age of nine, is more likely to remember the pain and distress associated with this kind of sexual violence than a child who was two when circumcised. This theory is supported by recent UNICEF findings that indicate a declining trend in age at FGM/C. Cross-regionally, women are being cut at a younger age (UNICEF 2013, WHO 2017). While this may be for a variety of factors, such as the increasing criminalization of the practice, I argue that it also could result from parent's desire to have the procedure performed on their daughters before they can remember it. As support rates for FGM/C decline internationally and within FGM/C practicing countries, perhaps parents who want to conform to the tradition, but still insure their daughter does not suffer from the procedure, have increasingly decided to cut their daughters before they can remember. This practice is reminiscent of how western countries, such as the United States, circumcise boys during infancy.

I argue that women who can remember the experience are less supportive of IPV because further sexual violence may trigger traumatic memories. Moreover, if they remember the pain and distress associated with FGM/C, perhaps they are less apt to believe that women deserve to be abused if, for example, a woman refuses to have sex with her husband.

Hypothesis 3

H3: This study's findings will conform to H1 and H2 despite cross-regional variation in the dependent and independent variable throughout the 13 countries.

For my third hypothesis, I conjecture that despite adding 13 distinct countries to my dataset, my results will still conform to hypotheses one and two. In collaboration with the overall findings from my merged data set, I argue that adding the countries will further confirm that women in these nations are more likely to support IPV the younger they were cut and more prone to oppose IPV the older they were cut.

The average age at which a female undergoes FGM/C varies widely across the continent of Africa. Similar to this cross-national variation in the independent variable, there is also deviation within specific countries. In Benin, DHS data reveals that 52 percent of women are cut between ages five to nine (DHS 2006; UNICEF 2013). In Djibouti, more girls are cut later in life. There, sixty-two percent state they were cut between ages five to nine (DHS 1997-2012; UNICEF 2013). In Nigeria, girls are on average cut younger. Eighty-two percent claim they were cut before the age of five (DHS 1997-2013; UNICEF 2014). In Sierra Leone, 37 percent of women report being cut between 10-14 years, which is significantly higher than any other age category within the nation (DHS 2004-2015; UNICEF 2016).

While average ages differ throughout the continent, I posit that my H1 and H2 will hold true despite adding all of these countries. I argue that the driving theories behind my hypotheses are psychological and hold constant no matter the FGM/C practicing country. I do not contribute my hypotheses to economic factors that deviate from nation to nation; rather I base my predictions on social factors and psychological responses to violence, which I posit can hold true for any victim of sexual abuse (Lalor and McElvaney 2010). Thus, because my theories can be true for any women who have been cut, living in any country, I believe that adding these 13 countries to my data set will affirm my H1 and H2.

Chapter 4: Research Design

Data Collection

To test my hypothesis, I created a merged dataset using the Demographic and Health Surveys Program (DHS). As defined by the program, “demographic and health surveys are nationally representative household surveys that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition” (The DHS Program 2017). I used standard DHS for my data, which have large sample sizes and are conducted approximately every five years.⁵

There are six phases of The DHS Program. For my data collection I used DHS V and VI, the two most recent phases, and employed data from countries that had a DHS conducted between 2010-2015. I chose the most recent DHS phases and also a temporal scope of five years because new DHS surveys are typically conducted every five years and using the most recent data allowed for more relevant and current results. Furthermore, the DHS V and VI phases used the same coded variables, which made merging my data set and my subsequent data analysis easier. Despite using different phases, the program explains that if a variable is present in more than one phase, the variable has the same meaning in each phase it is found (The DHS Program 2017).

The DHS Program’s objective in collecting data is to make it comparable across nations (2017). To attain this goal, they create model questionnaires for every phase and then use this as

⁵ I obtained this data through The DHS Program website after applying and registering for dataset access.

a foundation for the questionnaires they use in specific countries.⁶ In these surveys, women aged 15-49 are eligible to participate.

While The DHS Program provides a manual for the methodology, sample weights, recoding variables, etc. that they use in their published datasets, the most necessary information for interpreting my independent and dependent variables pertains to their “all women factors” (The DHS Program 2017). The DHS Manual explains that their all women factors are factors for adjusting ever-married samples to estimate statistics based on all women (Rojas and Rutstein 2006). Their coverage for “all women factors are specific for individual years of age and specific for the particular subgroup to be estimated” (Rojas and Rutstein 2006). In calculations, the numerator is the number of all de facto women 15-49 years old of any marital status and the denominator is the number of women aged 15-49 who had ever been married (Rojas and Rutstein 2006). According to the DHS Manual, these tabulations use household sampling weights and “if there are no or very few women ever married within a single age in the subgroup, then neighboring ages are combined to create the all-women factor, using the single value for each of the single ages” (Rojas and Rutstein 2006). Women with missing or unknown age are excluded from both the numerator and the denominator. Likewise, women with unknown or missing marital status are considered never married (The DHS Program 2017).⁷

Scope

⁶ Please see this link for an exact replica of the DHS VI questionnaire used in the countries within my dataset. <https://dhsprogram.com/publications/publication-DHSQ6-DHS-Questionnaires-and-Manuals.cfm>

⁷ For further information, pertaining to methodology or any other DHS data collection procedures, please see the *Guide to DHS Statistics: Demographic and Health Surveys Methodology*.

To create my dataset, I merged individual countries' most recent DHS datasets. All individual nations' surveys were conducted between 2010-2015. I used any country within Africa that had available DHS phase V or VI datasets that also had survey questions inquiring about both FGM/C and IPV. The 13 countries that met these requirements, which I added to my merged dataset, were: Benin, Burkina Faso, Cote d'Ivoire, Gambia, Guinea, Kenya, Mali, Niger, Nigeria, Senegal, Sierra Leone, Tanzania, and Togo. If a country had both a DHS V and VI conducted between 2010-2015, I used the more recent of the two. After merging the datasets and dropping all irrelevant or unsure responses, the sample size of my dataset totaled 18,442.

By using this specific temporal period, I was able to expand my geographic scope to include more countries. If I chose only one year and merged datasets from, for instance, 2015, there would only be a few countries that had a DHS conducted during that year. Thus, it would have been more difficult to create a cross-continental study. I followed the same line of reasoning as The DHS Program, which determines that a five-year period is an appropriate time interval between DHS phases in specific countries (2017). Thus I determined that a five-year period of time would be a long enough temporal scope to allow me to use the largest number of country specific DHS Program datasets. It was also short enough that there would not likely be significant demographic and health changes for women from country to country throughout my five-year time period.

Dependent Variable

The dependent variable in this study was women's perceptions of intimate partner violence. As the proxy for my dependent variable, I used a question asked in the DHS V and VI. Coded variable *v744a* asked women if they believed beating was justified if a wife went out

without telling her husband. Women's responses to this variable were either yes or no. In my dataset I dropped all answers from women who respond "don't know" or "not applicable". I then recoded the variable as "0" or "1", with "0" representing a "no" response, and "1" representing a "yes" response.

I likewise created an ordinal composite dependent variable that combined five surveys questions from the DHS that asked women's opinions on the appropriateness of IPV. Variables *V744a-e* asked women whether they believed beating was justified if a wife: went out without telling her husband, neglected the children, argued with the husband, refused to have sex with the husband, or burned the food. When I used purely *v744a* as my dependent variable, versus the composite variable that included *v744a-e*, my results were consistent. Because there was not a significant change in my results when I used the single variable as a proxy versus the ordinal composite, I used *v744a* solely for my dependent variable. Likewise, after testing each variable separately, almost all the effect in the composite variable was driven by *v744a*. This variable seemed to be the most significant and also the most related to sexual loyalty and FGM/C. Thus, I recoded *v744a* as *DVa2*. In this new recoded variable, I omitted any observations where the interviewer reported that someone was listening to the interview. I also omitted any observations where the interview was interrupted by the husband's presence, or an adult male or female's presence.⁸

Independent Variable

⁸ I removed these observations to account for potentially untruthful answers given by women who may have felt pressured to respond to this question in a certain way.

The independent variable in this study was the age at which a woman underwent FGM/C. I used the coded DHS variable *g106* as a proxy for my independent variable and renamed it *AgeAtFGC*. The DHS Program describes this variable as “woman’s age at circumcision in years” (The DHS Program 2017). To generate my independent variable, I first dropped all “Non-responses” and “Don’t knows”. Then, after omitting these observations, I examined age distribution. While the majority of women gave a specific age they were cut, some answered in “infancy”. After analyzing The DHS Program Guide, I determined that infancy could be coded as zero (Rojas and Rutstein 2006).⁹

Once *AgeAtFGC* was recoded to exclude all unsure or non-responses and to record an infancy response as zero, I then generated a categorical age independent variable. The new variable, *AgeFGCCat*, broke the observations into five age categories. I mirrored the clustering method used by UNICEF. They clump their data into four age groups: four years or younger, five to nine, ten to fourteen, and fifteen to forty-nine. In addition, I changed their final category to fifteen through nineteen and added a grouping for those twenty years or older. I replaced *AgeFGCCat* with “1” if the previous independent variable *AgeAtFGC* was less than 5. I replaced *AgeFGCCat* with “2” if *AgeAtFGC* was greater than 4 and less than 10. I replaced *AgeFGCCat* with “3” if *AgeAtFGC* was greater than 9 and less than 15. I replaced *AgeFGCCat* with “4” if *AgeAtFGC* was greater than 14 and less than 20. Finally, I replaced *AgeFGCCat* with “5” if *AgeAtFGC* was greater than 19.

This categorization of the independent variable also accounted for any potential problems relating to an “infancy” response. Women who may have stated “infancy” as their age at

⁹ I also created an independent variable with “infancy” dropped, but later determined that recording infancy as zero was best when sorting the age at FGM/C into categories.

circumcision would fall under the first category and be coded as a “1”. If I used just the variable *AgeAtFGC*, coding infancy as zero may not have been completely accurate for each observation as some women may have responded with “infancy” and meant one year old or even older. The first age category, which reflected age at circumcision four years or younger, likely covered all potential interpretations of the answer “infancy” by the respondents.

Controls

After coding my dependent and independent variables, I applied a variety of controls in an attempt to mitigate potential confounding factors. I first created an education control which accounted for a woman’s education level. The prevailing assumption in FGM/C research is that women with little or no education, in comparison to more educated women, are more likely to have their daughter’s cut (UNICEF 2013). Educational settings likewise may provide an opportunity for discussion and the formation of new ideas that challenge the traditional practice of FGM/C. Genital cutting most often occurs before a girl finishes her schooling so the level of education she reaches will likely not affect her FGM/C status (UNICEF 2013). However, DHS data shows that in both high and low prevalence countries, FGM/C is usually highest among daughters of uneducated women, and tends to decrease as the mother’s education level increases (UNICEF 2013).

While the education levels of the women in my study may not have majorly affected my results, including an education control was important because my dataset did include women, however few, who were cut post-schooling age. This may have related to the age at which they were cut, and in turn their perception of IPV. With this in mind, I used a DHS Program variable, *v106*, and recoded education. A survey answer of “no education” was recoded to a “0”. An

answer of “primary” was changed to a “1”. An answer of “secondary” became a “2”. Finally, a response indicating “higher education” was recoded to “3”.

I next controlled for literacy. Literacy is an important aspect of a woman’s autonomy. Women who can read and write are able to be more individually successful and self-sufficient. They are less likely to rely on their husbands and perhaps have a stronger position in the home. Literacy may in turn impact a woman’s independence and affect her answers to survey questions *v744a-e* relating to female perceptions of domestic violence. To insure this factor did not affect my data, I assigned a “0” to all observations where a woman answered that she “cannot read at all”. I then assigned a “1” when a woman was “able to read only parts of a sentence”. Likewise, I coded a “2” when a woman was “able to read a whole sentence”.

After controlling for literacy, I then accounted for news and media consumption. Women who are exposed to different forms of media likely have less traditional viewpoints relating to IPV and FGM/C. Exposure to different ideals, western media influences, etc., may significantly affect a woman’s perceptions. To allay this potential effect, I recoded DHS variables *v157* and *v158*, which asked women if they watch the news and listen to the radio respectively. I assigned a “0” when a woman responded “not at all”. I assigned a “1” when a woman answered less than once a week”. Then I coded a “2” when a woman replied “at least once a week”. Lastly I assigned a “3” when a woman responded “almost every day”.

Next, I controlled for wealth using income proxies. Family wealth was an important factor to mitigate because in most cases prevalence of FGM/C is lower in relatively wealthier households (UNICEF 2013). Moreover, improved economic status is believed to lead to a decline in the practice of FGM/C. To assuage this potential effect on my results, I created income scales mirroring The DHS Program’s variable *v190*. I employ the same quintile scale The DHS

Program uses. The higher the assigned number on a 1-5 scale, the wealthier the woman/family. I assigned a “1” where The DHS Program assigned a “1” and continued on this pattern and finished by assigning a “5” when The DHS Program did so as well.

Like wealth, I also controlled for the age of the respondent at the time of the survey. Age is important because large age gaps between the women in the survey could adversely affect my results. A 40-year-old woman who participates in the survey, who was cut approximately 30 years prior may have an entirely different experience from a 15-year-old respondent who was cut 5 years prior. Controlling for age ensured that time did not influence my findings. I used the DHS age variable *v102* in my control.

I likewise accounted for women’s age at first sex to ensure a woman’s sexual history didn’t affect my results. This was a significant factor to control for because it revealed the first time a woman had intercourse and whether this was before or after she underwent FGM/C. This likewise acted as a proxy for age at first marriage. To control for this, I used the DHS variable *v531*, which asked women when they first had intercourse.

I likewise controlled for a respondent’s history of abuse and if they were victims of sexual violence or IPV. Women who were or had been abused could potentially respond erratically to the questions pertaining to perceptions of domestic violence. Some victims of violence may have been less tolerant of further violence, while others might have been more resigned and accepting of spousal abuse. Because of the uncertainty of this factor, I deemed it necessary to neutralize its potential effect on my data. I used DHS variable *d125*, which asked women if they were ever forced to have sex. I also combined a series of DHS variables pertaining to spousal abuse. I used variable *d104*, which asked women if they had experienced emotional violence. I also employed *d106*, *d107*, and *d108*, which asked respectively if a woman

had experienced any less severe violence by her partner, experienced any severe violence by her partner, or experienced any sexual violence by her partner.

Further pertaining to history of violence, I accounted for whether a respondent's mother experienced spousal abuse. Women who witnessed their mother being abused may be more inclined to accept and support domestic violence in adulthood. Likewise, this form of violence may have been ingrained into their lifestyles for a longer period of time, which may have made them more tolerant of IPV. I used DHS variable *d121*, which asked respondents if their mother was ever beaten.

Finally, I controlled for the ethnicity of the respondents. According to UNICEF, "variations in FGM/C are best understood by the ethnic compositions of the populations in each area" (2013). FGM/C is particularly important to certain ethnic groups and there is a strong link between ethnicity and the persistence of FGM/C. Ethnicity is likewise believed to be a proxy for shared norms relating to marriageability, sexual restraint, and other common values and mores (UNICEF 2013). However, difficulty arises when attempting to trace ethnicity from survey data. UNICEF argues that migration, mixing, and social, economic, and political change can "lead to new ethnic definitions" that may actually contribute to the spread of FGM/C (2013). Because of the significant role ethnicity plays in FGM/C, controlling for ethnicity was vital. However, controlling for this factor across 13 countries was difficult, as the respondents in my merged data set belonged to hundreds of different ethnic groups. To operationalize this control, I used DHS variable *v131* and coded all small ethnic groups within each country as "other". I calculated the ethnic proportion of respondents within each country then generated a new ethnicity variable that accounted for a share of less than five percent of the population. The ethnicities in each country

with less than five percent became “other”. This significantly reduced the total number of ethnicities and simplified the control.

In addition to my controls pertaining to education, media, wealth, age, first sex, history of abuse, and maternal abuse, I also added country and ethnicity fixed effects. I controlled for both of these fixed effects by creating dummy variables for each country and ethnicity. Furthermore, I included clustered standard errors by country and region in my regression.

Chapter 5: Results

For my statistical analysis, I collected a total of 18,442 observations from women residing in 13 countries. After dropping all responses where women answered they were “unsure” or had “no response” to the survey questions, I used this large sample size to conduct my regressions. After running a preliminary logistic regression analysis on my two relevant variables, I then incrementally added controls. After adding these elements, I next included country and ethnicity fixed effects and also country and region standard errors. Once I incorporated these factors, my sample size considerably dropped, resulting in a final sample of 2,818 women.

Variables

I began by examining the distribution within my independent variable. After looking at purely distribution of age at FGM/C within the 13 countries in my merged dataset, I observed sizeable cross-continental variation. While approximately half of the women who reported their age at circumcision responded age “zero” or in “infancy”, another half of the sample stated widely disparate ages. Large numbers of respondents appeared to have also been cut between ages one through twenty. Second only to age zero, age nine appeared to be the next most common age at excision.

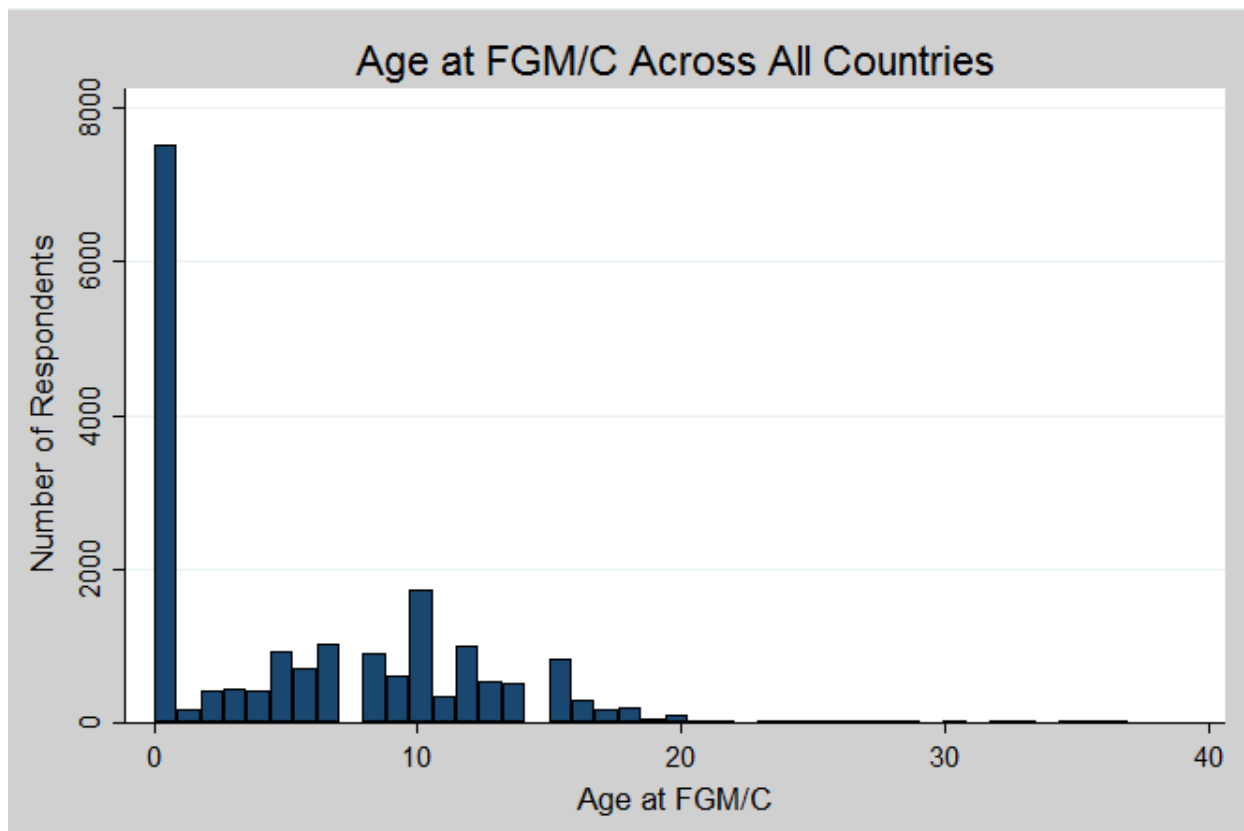


Figure 1: Age at FGM/C Across All Countries.

Source: The DHS Program 2010-2015.

The Y-axis is the number of female respondents, while the X-axis is the age at FGM/C.

Figure 1 displays the wide variation in age at FGM/C amongst the 13 countries included in my dataset. Approximately 7,500 women, of the 18,442, say they were cut as infants. This is approximately 40 percent of the sample size. In order to more closely examine the rest of the age distribution, I created another figure that excluded the infancy response and observed the age at FGM/C rates for those who responded with a definitive age of zero to forty.

Figure 2 displays this variation, with the X-axis beginning at age zero. The shape of the graph is similar to a bell curve, and reveals a normal distribution of age at excision within my merged dataset. By taking out the infancy response, the variation in my independent variable was considerably more pronounced. One reason for the high infancy response is that within my dataset, countries with larger DHS sample sizes tended to on average cut their daughters

younger. This trend is observed in countries such as Nigeria and Mali, which contributed a large number of responses to the dataset and also had the highest number of women report cutting in infancy.

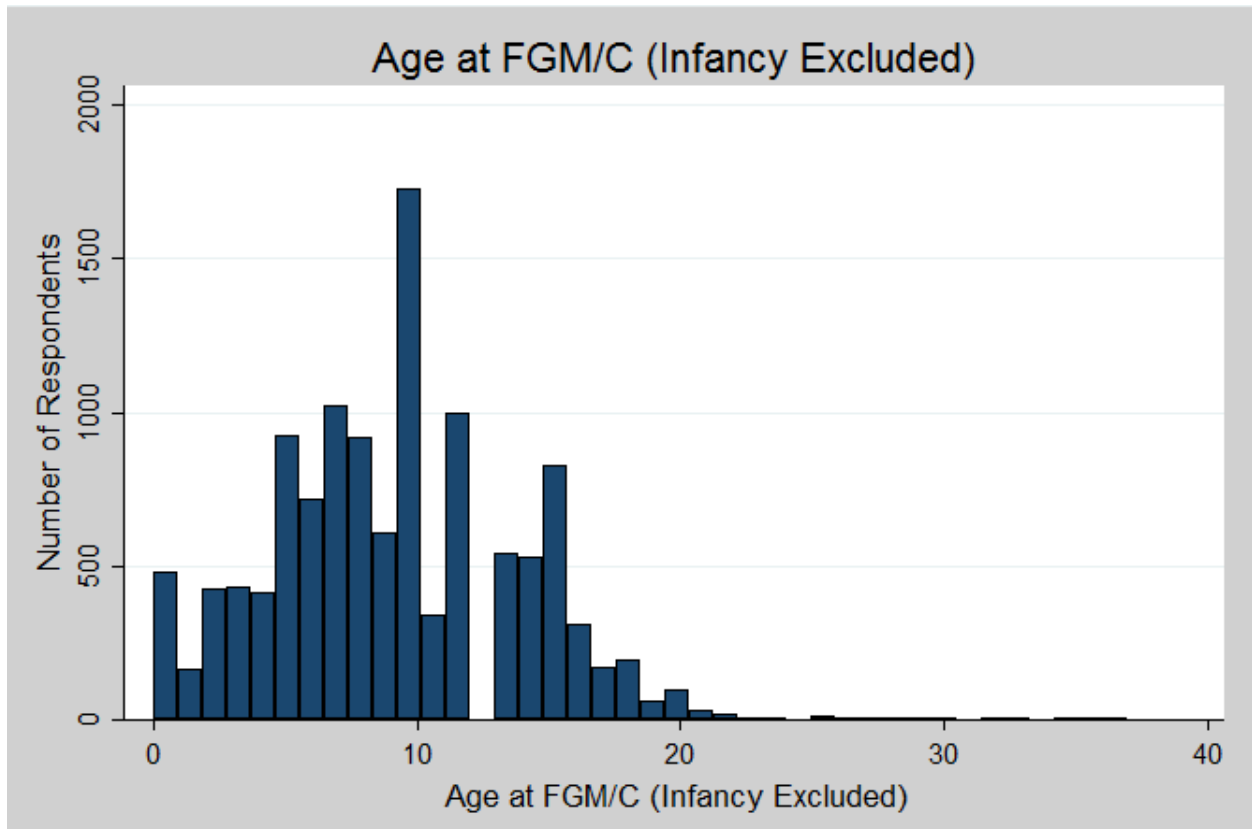


Figure 2: Age at FGM/C Across All Countries Excluding Infancy.

Source: The DHS Program 2010-2015

The Y-axis is the number of female respondents, while the X-axis is the age at FGM/C excluding all responses of “infancy” and beginning at age “zero”.

While Figures 1 and 2 represent the individual distribution of my independent variable, they fail to portray the country-wide variation discussed in my third hypothesis. In order to observe the distinct variation within each country, regardless of their sample size, I created box and whisker plots that displayed the medians, the quartiles, and the outliers for all 13 countries. This plot, seen in Figure 3, allowed for a more specific view of the variation in the independent variable.

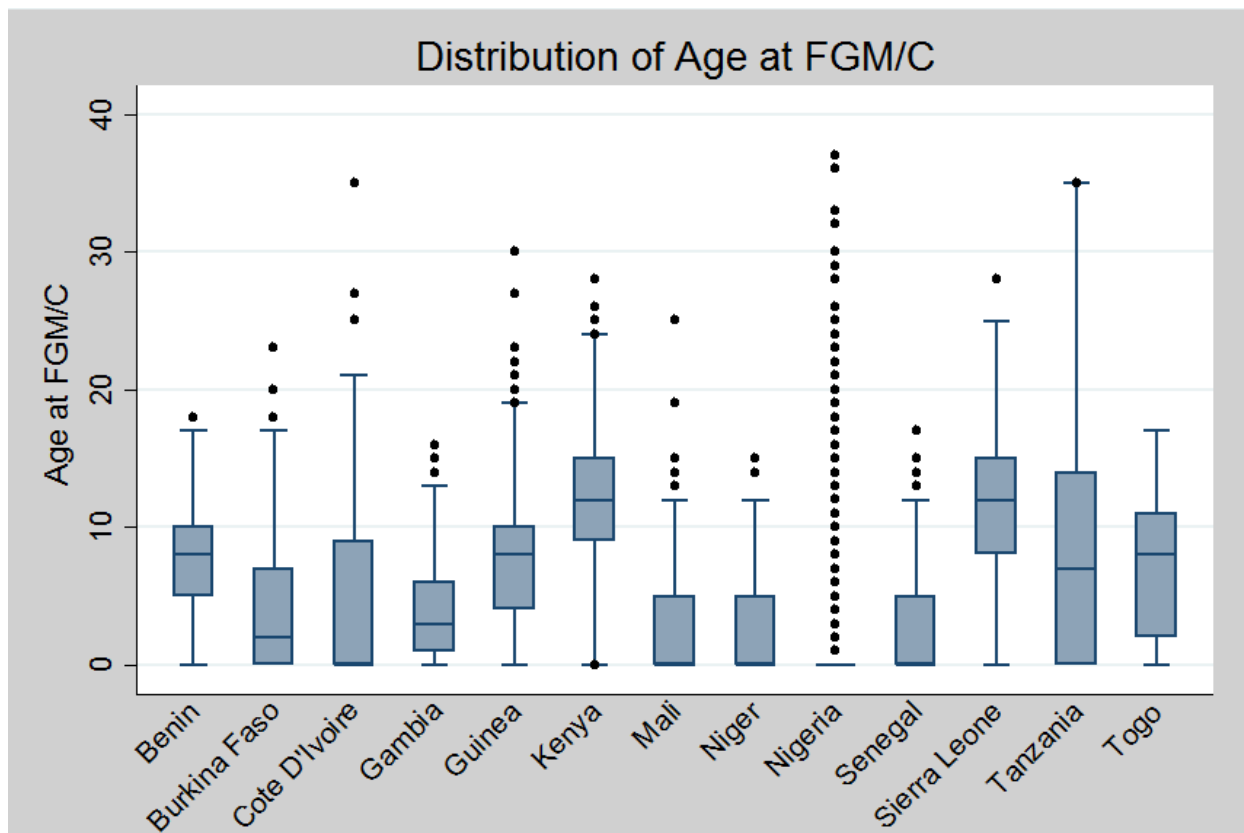


Figure 3: Cross-Country Distribution of Age at FGM/C.

Source: The DHS Program 2010-2015

The Y-Axis of this graph is the age at which a female undergoes FGM/C. The X-axis is the 13 countries that are included in my dataset.

Figure 3 most starkly indicates the country wide deviation in my independent variable. In these box and whisker plots, the ends of the boxes are the upper and lower quartiles and span the interquartile range. The median age is marked by the horizontal line inside of the boxes. The whiskers are the two lines outside the boxes that extend to the upper and lower extremes, while the circles expanding past the whiskers indicate age outliers and the highest or lowest observations. These plots reveal that some countries, like Nigeria, have markedly low FGM/C majority ages. Nigeria's ages are so low that the box and its whiskers are all at zero. Mali and Niger also have lower cutting ages. Both have medians of zero as well, although they have higher interquartile ranges, at five years. Others, such as Kenya, have even higher interquartile

ranges. Most girls in Kenya appear to have been cut between ages 8 and 15, with a range of 7 years. Likewise, in Tanzania, the range is even wider, at 14 years.

Like the age at FGM/C, my dependent variable also had noticeable variation between the 13 nations. I used my recoded proxy variable, *DVa2*, representing women’s responses to the question: is a husband justified in beating his wife if she goes out without telling him, to display this continent wide disparity. Figure 4 illustrates women in each of the 13 countries answers to this question. A response of “0” indicated that a woman believed a husband was not justified in beating his wife if she goes out without telling him. A response of “1” indicated that a woman believed a husband was justified.

Response to DV	0 (No)	1 (Yes)	Total
Benin	2,613	201	2,814
Burkina Faso	3,320	1,627	4,947
Cote d'Ivoire	1,308	769	2,077
Gambia	722	649	1,371
Guinea	261	1,866	2,127
Kenya	3,774	1,418	5,192
Mali	1,204	1,725	2,929
Niger	1,639	1,015	2,654
Nigeria	5,871	2,491	8,362
Senegal	642	869	1,511
Sierra Leone	1,449	2,128	3,577
Tanzania	870	679	1,549
Togo	1,704	526	2,230
Total	25,377	15,963	41,340

Figure 4: Country Wide Women’s Responses to the Dependent Variable

Source: The DHS Program 2010-2015

This table displays the country wide responses of women who were asked: Is a husband justified in beating his wife if she goes out without telling him. A “0” indicates a “no” answer, while a “1” indicates a “yes” answer. The final column shows the total number of women asked this question in each country, and the final row shows the total number of “0” responses, “1” responses, and overall responses.

Figure 4 shows that women in certain countries strongly believe a husband is not justified in beating his wife if she goes out without telling him. For example, in Benin, 2,613 women of 2,814 answered no to the question. Only 201 answered yes. Guinea's responses are markedly different. The vast majority of respondents, 1,866, answered that a husband was justified, while only 261 responded that a husband was not. Other countries like Mali have less disparate answers. Within Mali, 1,204 women answer "no" and 1,725 responded "yes". Perceptions of domestic violence, as measured by this specific survey question, seem to fluctuate within countries and across nations.

Regression Results

After examining the variation in my variables of interest, I performed a multivariate logistic regression. Data analysis was performed using STATA software and datasets downloaded and merged from The DHS Program. To test my hypotheses, logistic regression analysis was conducted to estimate the association between my dependent variable, perceptions of IPV, and my independent variable, age at FGM/C.¹⁰ All covariates that were reported in the preceding literature and found to be significant factors relating to either relevant variable were also included in the regression. These covariates were education, age, media, wealth, age at first sex, history of abuse, and maternal spousal abuse. Moreover, I added country and ethnicity fixed effects and standard errors. The reported sample sizes referred to the number of people who were asked the targeted questions pertaining to IPV and age at circumcision and decrease as the controls increase. In my regression, a finding of statistical significance is reported when the p-

¹⁰ Because the dependent variable was dichotomous and coded as "0" or "1", linear regression was not appropriate. Instead I used a logistic regression.

value is less than 0.1. Greater statistical significance occurs when the p-value is less than 0.05, and the highest significance is seen when the p-value is less than 0.01. Figure 5 illustrates my incremental multivariate logistic regressions. The controls are added as the columns progress.

	Dependent variable: "Approval for Domestic Violence"					
	(1)	(2)	(3)	(4)	(5)	(6)
Age at FGC/M	0.074*** (0.014)	0.086*** (0.022)	0.118*** (0.029)	0.136*** (0.045)	0.114** (0.057)	0.114** (0.065)
Education		-0.340*** (0.039)	-0.366*** (0.048)	-0.294*** (0.081)	-0.283*** (0.091)	-0.283*** (0.109)
Age		-0.035*** (0.003)	-0.020*** (0.003)	-0.024*** (0.006)	-0.025*** (0.007)	-0.025*** (0.006)
Media		0.110** (0.052)	0.146** (0.057)	0.169* (0.091)	0.173* (0.096)	0.173** (0.082)
Wealth		-0.131*** (0.020)	-0.184*** (0.023)	-0.180*** (0.038)	-0.169*** (0.042)	-0.169*** (0.049)
Age at First Sex				-0.039** (0.015)	-0.046*** (0.016)	-0.046*** (0.014)
History of Abuse				0.133*** (0.042)	0.124*** (0.046)	0.124** (0.051)
Mother was Beaten				0.194** (0.098)	0.121 (0.110)	0.121 (0.125)
Constant	-0.184*** (0.031)	1.278*** (0.124)	0.389** (0.162)	0.973*** (0.328)	2.487*** (0.588)	2.487*** (0.653)
Country Fixed Effects	No	No	Yes	Yes	Yes	Yes
Ethnicity Fixed Effects	No	No	No	No	Yes	Yes
Clustered SEs by Country-Region	No	No	No	No	No	Yes
<i>N</i>	18,442	6,883	6,883	2,978	2,818	2,818
Log Likelihood	-12,765.1	-4,453.20	-4040.03	-1,639.60	-1,492.96	-1,492.96
Wald chi ²	27.970	356.31	984.27	322.97	335.60	
Pseudo R ²	.0011	.0415	.1304	.0981	.1172	.1172

*p<0.1; **p<0.05; ***p<0.01

Figure 5: Logistic Regression Analysis

Controls are added as the logistic regression progresses from columns 1-6. One star indicates p<0.1. Two stars indicate p<0.05. Three stars indicate that p<0.01. Stars likewise represent statistical significance.

The results for the preliminary regression, as seen in column one, indicated a highly significant positive association ($p < 0.01$) between FGM/C and attitudes towards IPV. As the regressions progressed and controls were added, there remained a highly significant positive association. Column two added to the regression: education, age, media, and wealth controls. The p-value continued to be less than 0.01. Column three included the same controls but added dummy variables via country fixed effects. The association remained highly significant. Furthermore, column 4 added the rest of the controls, age at first sex, history of abuse, and whether the mother was beaten. There still remained a highly significant relationship. Column five included all controls and country fixed effects, but also added ethnicity fixed effects. While the significance slightly dropped, the association was still statistically significant, with a p-value less than 0.05. The final column added all controls and fixed effects and incorporated clustered standard errors by country and region. After adding all controls, fixed effects, and variables, there remained a highly significant ($p < 0.05$) association between women's perceptions of IPV and age at FGM/C.

While the association between my variables of interest stayed highly significant despite the controls I included, the controls themselves likewise continued to be statistically significant. Education, age, media, wealth, age at first sex, history of abuse, and maternal abuse status all remained significant as each column was added to the logistic regression. The only exception was my control relating to maternal abuse, which was no longer significant in the final stages of the regressions. Some of the controls, such as education, age, and wealth remained at the highest level of significance ($p < 0.01$) throughout all stages of the regression.

Chapter 6: Analysis and Discussion

Regression

While the association between perceptions of domestic violence and IPV was highly significant, this finding is the opposite of what I predicted. I hypothesized a significant negative association between my variables, and I found a highly significant positive relationship. I argued that women were more likely to support domestic violence the younger they were cut. Moreover, I posited that the older a woman was when she was cut, the less supportive she would be of domestic violence. These results indicate the opposite of my hypotheses and show that as a woman's age at FGM/C increases, her approval of domestic violence likewise increases. Women who underwent FGM/C at an older age appear to be significantly more likely to support domestic violence in adulthood. Furthermore, my results show that the younger a woman was cut, the less likely she is to support IPV.

Hypotheses

For my first hypothesis, I anticipated that the younger a woman underwent female genital mutilation/cutting, the more likely she was to accept and support domestic violence. My regression results demonstrated an opposite correlation and caused me to reject this hypothesis. The findings indicated that the older a woman underwent FGM/C, the more likely she was to accept and support domestic violence. Because my regression showed a highly significant positive association between age at FGM/C and IPV ($p < 0.01$), instead of a negative relationship, my hypothesis was invalid. The significant relationship found in my data analysis instead signified that as a woman's age at circumcision increased, so too did her approval for domestic violence.

The driving theory behind my first hypothesis centered on the idea that FGM/C is a form of sexual violence against women. I theorized that the younger a woman was cut, the longer violence, in the form of FGM/C, had been ingrained into her lifestyle. I argued the longer a woman had been exposed to sexual violence, the more likely she was to consider violence a normal aspect of life (Afifi and Bothmer 2007; Salihu et al. 2012; UNICEF 2017).

My regression findings disproved this theory and suggested an alternative explanation for these results. Based on the highly significant positive association between my sexual history and maternal abuse controls against my dependent variable, my findings should have conformed to this theory. The positive relationships between these two controls and perceptions of IPV support the idea that ingrained violence contributes to greater acceptance of domestic violence. An alternative explanation that explains the high significance for these two controls and the opposite negative relationship between age at FGM/C and perceptions of IPV may be that these women do not consider FGM/C a form of ingrained violence. Perhaps they believe FGM/C is a rite of passage, or a traditional process that is unavoidable or even acceptable. While outsiders might deem this practice as a violence equivalent to spousal abuse, forced sex, etc., these women may not see it as such. I believed that the younger a woman was cut the longer violence was ingrained into her lifestyle; thereby the more likely she was to support IPV. My findings did not back this theory, as the results showed that the older a woman was circumcised, the more likely she was to condone IPV, regardless of how long she had been exposed to sexual violence in the form of FGM/C.

For my second hypothesis, I argued that the older a woman was subjected to female genital mutilation/cutting, the more apt she was to oppose intimate partner violence. Like my first theory, this hypothesis was also incorrect. My regression results revealed that the older a

woman was circumcised, the more apt she was to support, not oppose, IPV. My primary reasoning for this hypothesis was that the older a woman was when she was excised, the more potentially traumatic the experience was. I contended that the older a woman was cut, the more likely she was to remember the pain and trauma associated with the sexual violence, FGM/C, and the less apt she would be to tolerate further forms of violence. Moreover, I postulated that women who were older when they were subjected to FGM/C were more likely to have cognizant memories of the procedure. I argued that these memories were potentially distressing and triggering and also may have caused women to be less accepting of IPV.

This theory was likewise inadequate and unsubstantiated by the findings. An alternative explanation for why women who were older at FGM/C were more prone to approve of domestic violence may be because women who were cut at older ages may have had a say in the procedure. They might have been able to choose some aspects of the practice, such as when they wanted to have it done, who would perform the procedure, or even if they would have it all. I posit that the type of woman who is involved in choosing to have the procedure, may also be the type of woman who is more prone to support traditional values, such as subservience to one's husband. While this alternative hypothesis may explain this relationship, it does assume that women are given a choice at all in the matter.

Another explanation for this theory is that the older a woman is cut and the more she is able to remember it, the greater the likelihood she accepts violence as a normal part of life. Furthering the alternative explanation from hypothesis one, perhaps women who were cut later, become more resigned to the fact that they are powerless against entrenched social norms such as FGM/C and domestic violence.

My hypothesis three, which posited that my study's findings would still conform to H1 and H2 despite cross-regional variation in the dependent and independent variable throughout the 13 countries, was also incorrect. Because I rejected both hypothesis one and hypothesis two, this position likewise did not hold up. Nevertheless, even with the merged dataset from countries with extreme variation in the independent and dependent variables, I still found highly significant results, just in the opposite direction than what I proposed. This was likely because despite the variations in age at FGM/C and acceptance of domestic violence from nation to nation, social norms remain deeply embedded throughout the region, regardless of country. In order to have variation, there must be occurrence. The fact that these countries have large populations that practice FGM/C and support IPV show that they have some shared traditional values with other nations in the region.

Additional Analysis

Despite their significance, some of my controls showed a negative association with my dependent variable and differed from the variables of interest's positive relationship. Education, age, wealth, and age at first sex all had highly significant ($p < 0.01$) negative relationships with women's perceptions of domestic violence. Likewise, some of my controls had a significant positive relationship with the dependent variable, mirroring the association between my variables of interest.

The results for my education controls displayed that less educated women were more likely to approve of domestic violence. This finding is supported by the literature and previous research and was an expected result. Studies show that the more educated a woman is, the less tolerant she will be of abuse (UNICEF 2013; Salihu et al 2012; Refaat et al. 2001). My findings

similarly indicated that the less wealthy a woman or her family was, the more apt she was to support IPV. This result was also reflected in the previous research (Salihu et al. 2012). The relationship between age at first sex and approval for domestic violence likewise revealed a negative association. The younger a woman was when she first had sex, the more likely she was to support domestic violence. I also anticipated this finding, as I posited that women who had sex for the first time at a younger age were likely to have been married younger, abused earlier, or both. This violence in turn may have influenced their perceptions of domestic violence in adulthood. The most surprising negative association was between age and approval of domestic violence. My results revealed that the younger the respondent was, the more likely she was to approve of domestic violence. This is different than what I expected, as I believed the younger generations of African women would be less tolerant and more empowered than the previous generations. An alternative explanation for this relationship is that younger women may be too young to have experienced domestic abuse and because of lack of experience don't have a more liberal or empathetic view of IPV.

The media control also revealed an interesting correlation to the dependent variable, but had positive significance. The more media a woman was exposed to, the greater the likelihood she approved of domestic violence. This finding was also unexpected, because I believed that women who listened to the radio, watched television, and read the newspaper would be more cosmopolitan and liberal-minded. My controls relating to history of abuse and mother's abuse status similarly demonstrated a positive relationship. These associations were also anticipated and helped to inform my original hypotheses regarding the effect of ingrained violence on perceptions of domestic violence in adulthood.

Chapter 7: Conclusion

The primary goal of this thesis was to test if there is an association between the age at which a woman undergoes female genital mutilation and cutting and her perceptions of domestic violence. I also wanted to see if in particular, a woman's age at circumcision, rather than solely her FGM/C status, made her more accepting of IPV. While previous studies linked FGM/C and IPV, little research was devoted to age at FGM/C and attitudes towards IPV. Furthermore, these prior studies investigated relationships within specific countries and did not run cross-national analyses. I contributed to the existing research a link between two previously unexplored variables and findings that pertain to a wider geographic scope. While my findings did not support my hypotheses, I nevertheless found a highly significant relationship between age at FGM/C and women's perceptions of domestic violence.

While I hypothesized a negative relationship between my variables of interest, my findings indicated a positive relationship. I argued that the younger a woman was cut, the more likely she was to accept IPV. The results depicted a different, albeit highly significant relationship: the younger a woman was cut, the less likely she was to support IPV. Moreover, the findings revealed that the older a woman was cut, the more apt she was to accept domestic violence. Despite my incorrect hypotheses, the highly significant results of my study lend credence to the idea that a woman's age at cutting significantly affects her outlook on violence.

Implications

The results of this study indicate a need for broader research pertaining to not only occurrence and prevalence of FGM/C, but also age at which women are cut. Likewise, these findings suggest that multiple new strategies are needed to reduce FGM/C, and in doing so,

lessen positive perceptions of domestic violence. In an attempt to end this practice, numerous NGOs and governmental organizations have conducted extensive research and provided huge sums of capital (UNICEF 2017; WHO 2008, 2017). Despite this commitment, little research has been devoted to the effect of specifically age at cutting. Organizations committed to eliminating FGM/C ought to focus their resources on awareness amongst the female populations, and disseminate information regarding the detrimental effects FGM/C may have on women's autonomy in the home and overall status. If women are more prone to accept domestic violence the older they are cut, perhaps strategies that focus on circulating the implications of age might also help. This may appeal to mothers and, at the very least, influence them to have their daughters cut when they are still infants. While the ultimate goal is to eliminate the practice, this may be a practical, albeit compromising way, to partially diminish positive perceptions of domestic violence amongst African women.

Although my findings pertain to the 13 countries in my dataset, I argue that these findings can be generalized beyond my empirical scope. All 13 countries had notable variation in both my variables of interest. Despite this variation, I still found a highly significant relationship between age at FGM/C and perceptions of domestic violence. I assert that adding more countries to this study would yield the same result. Because the countries in my dataset are already so disparate across my variables of interest, I do not believe that including other heavily practicing FGM/C nations would affect the outcome of the study. Moreover, many of the entrenched social norms that contribute to both positive attitudes towards IPV and FGM/C's endurance, are prevalent across the region (Beegle et al. 2016). Because of these shared values and the already present variation between the 13 countries in my study, the result would likely be the same if my dataset included all countries within Africa with substantial practicing populations.

While my findings indicated a correlation between age at FGM/C and perceptions of IPV, these results did not reveal a causal relationship. Because of study limitations I could only conclude association. The primary limitation of this study was the highly sensitive nature of the survey questions. Despite the domestic violence module being conducted in a private setting, women may not have responded truthfully to the age at which they were cut or their opinions on domestic violence (Rojas and Rutstein 2008). While I attempted to mitigate this potential problem with the responses by eliminating all observations where a third party was listening or interrupted the interview, I cannot be sure that women answered truthfully to these questions. Moreover, despite the sound reputation of The DHS Program, as I was not the person administering the survey, I cannot be completely certain of the validity of the collected data.

Despite the cautious limitations to my study, my research indicated an association between age at excision and attitudes of domestic violence. Given limitations, promising new lines of research could focus on age at FGM/C as a relevant factor for women's status. While traditional aspects such as education and wealth have been posited as primary determinants for IPV, new research could test age at FGM/C's influence on prevalence of IPV as well as its affect on perceptions of gender based violence. New studies could also focus on male perspectives of FGM/C and how this in turn influences their views of domestic violence. For instance, if a man believes that FGM/C should end, would he be less likely to abuse his wife? Furthermore, as I believe this study can be generalized across the continent of Africa, future studies can employ these tests of significance on a larger and broader scale.

My results, while inconsistent with my hypotheses, nonetheless reflected a highly significant association that is worthy of further inquiry. These results have important implications that ought to be additionally explored beyond my study. My specific findings

bolster the current research, illustrate a new relationship, and in turn help to progress the campaign to end FGM/C and improve the overall status of women in Africa.

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