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## **Childhood Conditions in the Developing World**

Edited by KUDO, Yuya

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# Childhood Conditions in the Developing World

Seiro Ito and Yuya Kudo  
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The aim of this research is to improve the understanding of childhood conditions in the developing world. To meet this research objective, two empirical studies using micro-level data are conducted.

## **Female Genital Cutting and Long-term Adjustment of Marriage Markets: Evidence from West Africa (Yuya Kudo)**

Female genital cutting (FGC) is a traditional practice that involves partial or total removal of external female genitalia or other injury to female genital organs for cultural or other non-medical reasons. With more than three million infants and children being exposed to FGC every year, currently, more than 200 million women are believed to have undergone this procedure in 30 countries across Africa, the Middle East, and Asia (WHO, 2016). This practice is seen as a fundamental violation of human rights, subjecting girls to both immediate (e.g., pain, hemorrhage, and urinary tract infections) and long-lasting traumatic health risks (e.g., infertility, sexual problems, and labor complications) (e.g., Berg and Underland, 2013; Obermeyer, 2005; Wagner, 2015; Whitehorn et al., 2002). Consequently, significant and increasing political effort has been made since the early 1990s at the international, national, and local levels to eliminate FGC (e.g., UNFPA and UNICEF, 2014). The Sustainable Development Goals set by the United Nations General Assembly in 2015 also include a specific target calling for the eradication of FGC by 2030 (Goal 5.3).

An implicit assumption underlying this global political effort is that the abandonment of FGC improves women's welfare, although political interest appears to have outpaced the understanding of the implications of this practice. On the one hand, eradicating FGC is likely to reduce unfavorable health consequences for women. Indeed, the present policy discourse is largely built on this consideration (Shell-Duncan, 2008). On the other hand, it has anecdotally been mooted that FGC is required for a proper marriage in Africa (see Shell-Duncan and Hernlund, 2000 for an overview). If FGC signals qualities of brides that grooms value, such as aesthetics, cleanliness, faithfulness, and virginity as often referred to in anthropological and sociological studies and, thus, improves women's marriage prospects (e.g., Chesnokova and Vaithianathan, 2010), their welfare may not necessarily increase owing to the abandonment of FGC.

While an emerging body of economic research has recently begun exploring FGC (e.g., Bellemare et al., 2015; Camilotti, 2015; Coyne and Coyne, 2014; Efferson et al., 2015; Poyker, 2018; Vogt et al., 2016), there is still a lack of clarity on the welfare implications of this practice. To fill this knowledge gap, the present study explores whether and how the abandonment of FGC is associated with women's marriage in the long term.

To address this question, first, a simple model is developed to formalize the widely known theory of marriage convention, as proposed outside the field of economics by Mackie (1996). While recent studies both support and reject the marriage convention hypothesis (e.g., Efferson et al., 2015; Hayford, 2005; Shell-Duncan et al., 2011), or even doubt the idea of social convention (e.g., Bellemare et al., 2015), the decline in FGC in the well-known Senegalese Tostan Project is still seen as proof of this hypothesis, and has attracted significant interest from relevant policymakers and practitioners (e.g., Diop and Askew, 2009; Mackie, 2000). Therefore, it is suggested that it can be meaningful to analyze the relationship between FGC and women's marriage based on this influential theory.

Mackie (1996) proposed a conceptual game-theoretic framework to explain the presence of FGC, wherein this practice persists as a social convention in Africa's typical intra-marrying communities when men believe that uncircumcised women are not faithful and women believe that men will not marry uncircumcised women. This insight suggests that FGC corresponds to a within-economics

concept of “social norms” as defined in [Young \(2008, 2015\)](#) (and adopted in the present study), namely a group-level behavior that is maintained as one of multiple self-enforcing equilibria in a suitably defined game, and as particularly supported by women’s motive to coordinate marital transaction.

To formalize this idea, the present study develops a normal-form game with two agents, i.e., men and women (or their parents), who play in an intra-marrying community, whereby women compete with each other when seeking their marital partners. In this game, when the health-impairment costs of FGC are not particularly large, two stable pure strategy Nash equilibria, i.e., FGC and no-FGC equilibria, arise, wherein all (no) females in a community are circumcised in the former (latter). The FGC equilibrium is inferior to the no-FGC equilibrium because community members in the former incur the cost of FGC impairing women’s health, which reduces a community’s total welfare.

Circumcised women solely suffer from the costly FGC if they fail to get married. Thus, a woman normally hesitates to undergo FGC. However, she may decide to do so if men compensate her by providing more livelihood support when she marries. This compensation facilitates “all” women to undergo FGC in the FGC equilibrium. Consequently, married (unmarried) women’s welfare is larger (smaller) in the FGC equilibrium than that in the no-FGC equilibrium.

According to the model, the abandonment of FGC implies a social change from the FGC to the no-FGC equilibrium. For example, an increase in the cost of FGC as perceived by community members induces the equilibrium shift. Because this shift keeps couples randomly matched in marriage markets with respect to an FGC decision, the abandonment of FGC would exhibit no relationship with female marriage probability. However, its consequence for married women’s welfare is ambiguous. First, this equilibrium shift may reduce their welfare by eliminating the aforementioned compensation given to them in the FGC equilibrium. That said, if the health-impairment costs of FGC (and, thus, the corresponding compensation) were previously negligible, married women’s welfare would not change in a significant manner. Furthermore, if people previously undervalued the costs of FGC due to cognitive limitations, it is also possible that married women’s welfare would improve.

The theoretical analysis yields two important implications for the subsequent empirical analysis. First, no causal relationship between FGC and women’s marriage is likely to exist in the long term. Second, people’s perceptions about the benefits and costs of FGC causally determine these two practices in a simultaneous manner. These two implications provide the motivation behind the present study to identify a policy shock that raises people’s awareness about the costs of FGC (relative to its benefits) and to empirically analyze the impacts of this shock on both FGC and women’s marriage (rather than examining the theoretically unlikely causal effects of FGC on women’s marriage).

In its empirical analysis, this study exploits a unique setting characterized by two factors. First, Burkina Faso is one of the pioneering African states engaging in the fight against FGC with a strong political commitment thereof and success in reducing its prevalence ([Colombo, 2013](#); [Diop et al., 2008](#); [UNFPA, 2010](#)). Second, most of Africa’s national boundaries were arbitrarily drawn during colonial times and often partition people belonging to one ethnic group, and, thus, the same culture is often shared in two or more countries (e.g., [Herbst, 1989](#); see also [Zartman, 1965](#) for West Africa). Consequently, cross-border social interactions such as marriage and market meetings commonly take place in this region. Taken together, it is hypothesized that Burkina Faso’s political efforts increased the relative cost of FGC as perceived by those who reside in communities (located close to Burkina Faso) of its neighboring countries due to cross-border social interactions and the resulting FGC-relevant knowledge spillovers, while reducing the rate of FGC in the borderlands. My field observations in one of these borderlands also supported this possibility.

Accordingly, exploiting data pertaining to female respondents aged 15-49 drawn from multiple rounds of the Standard Demographic and Health Surveys (DHS) in four countries bordering Burkina Faso, i.e., Benin (2001, 2011-12), Côte d’Ivoire (1998-99, 2011-12), Mali (2001, 2006, 2012-13), and Togo (2013-14), this study compares the prevalence of FGC between communities located close to Burkina Faso and the inland communities before and after this country engaged in political efforts to eradicate FGC. Because such efforts have been expended since 1990, the data permit analysis of

policy consequences on FGC and women's marital outcomes more than 20 years later.

The findings yielded by this difference-in-differences (DID) approach are consistent with the view that the practice of FGC declined in borderlands due to spillover effects stemming from Burkina Faso's political efforts. This conclusion is robust to alternative controls (e.g., border conflict, household fixed effects), linear time trends specific to each community, analyses exploiting separate subsamples (e.g., each country, similar sub-groups), assessment of bias attributable to unobservables (Oster, *forthcoming*), an alternative treatment indicator based on ethnic homelands by Murdock (1959)'s classification, nonlinear model specifications (i.e., logit, ordered logit), multiple-hypothesis testing, selection concerns (i.e., health, relocation), and so on. Decline occurs fast; this century-old practice only started to exhibit a downward trend in the past 20 years in the borderlands. In contrast, as revealed from a similar DID approach, this external policy effort did not influence the probability of young females forming a marital union, while having no distinct adverse impacts on the resulting marital outcomes, as measured by a husband's education and age, the number of co-wives, a spouse's ethnicity, family assets, intrahousehold decision-making (DM) power, likelihood of intimate partner violence (IPV), and so on. This study also shows no noticeable changes in a range of health outcomes (e.g., genital problems) of young women residing in those borderlands.

These findings cannot necessarily be generalized to wider spatial and temporal contexts. The practice of FGC varies across societies and ethnic groups in terms of age of circumcision and the manner of performance (e.g., Ahmadu, 2000; Gosselin, 2000b). The mechanisms sustaining FGC may also change over time.<sup>†</sup> Nevertheless, the areas and time periods studied in the present research are still larger and longer than those utilized in prior case studies, and, thus, the reported findings may attain a certain level of external validity. The high prevalence of FGC in West Africa also increases the economic significance of research focusing on this area (e.g., Sipsma et al., 2012).

Finally, the above findings are not inconsistent with the view that FGC is a marriage convention or at the very least, a normative equilibrium. Relying on the marriage convention interpretation, it may appear that the present study opposes (too) costly political effort (only) to eliminate FGC because the welfare improvement arising from the abandonment of FGC is apparently insignificant. However, infibulation, which may most seriously undermine women's health, is not common in the studied areas. There are also other welfare outcomes that have not been addressed in this study (e.g., mental health, mortality and morbidity of children born to mothers refusing FGC, self-esteem, social capital), particularly if FGC is not a marriage convention. Moreover, this study found a delay in young women's marriage and their reduced fertility in the borderlands in some specifications, although its interpretation is not necessarily straightforward. Thus, it is still important to improve the understanding of the theoretical mechanisms sustaining FGC while exploring the relevant welfare consequences. This importance holds true because policy interventions pertaining to FGC have not always resulted in significantly reducing its prevalence (Berg and Denison, 2012, 2013) and different theoretical mechanisms recommend different strategies to put an end to it (Shell-Duncan et al., 2011). Presuming that FGC is a social norm, identifying the norm-supporting mechanisms (e.g., coordination, peer pressure, and symbolic signaling) and the corresponding key players (e.g., males, females, elders, and peers) may be a fruitful avenue for future research. When the elimination of FGC is a policy goal, this future work, possibly involving "community-wide" randomized controlled trials that have particular target groups and aspects to educate (e.g., health consequences, human rights), would also improve the effectiveness of the relevant policy interventions.

家計内死亡ショックと子どもの身体発達 (伊藤成朗)

民主化後 25 年を過ぎても南アフリカの経済格差は縮まる気配がない。本稿は、所得階層上昇

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<sup>†</sup> As found for some Malian Mande groups, for instance, the recent declining age at FGC may indicate a loss of the meaning of puberty rituals previously surrounding this practice (Gosselin, 2000a).

の前提ともなる子どもの身体発達が家計レベルのショックによってどれだけ影響を受けているか明らかにした。本稿は家計成員死亡のうち犯罪犠牲と事故による死没を外生ショックと見做して影響を識別しようと試みている。本稿の推計では事故死以外の要因を含めた死亡は身体発達に影響しないのに対し、事故死のみが影響することが示されている。さらに、標本を一定の基準で分割して効果の多様性を詳しく検証してどのような属性に負の効果が集中しているか明らかにし、標本欠損についても識別の脅威とならないことを確認した。

胎児、乳幼児、母親をストレスから守ることの重要性は、経済学でも繰り返し指摘されてきている。南アフリカは公的高齢年金(月額 R1700、約 13600 円)、子ども手当(月額 R410、約 3300 円)、孤児里親手当(月額 R960、約 7600 円)などの社会保障給付が手厚いと見做されているが、成人成員死亡ショックへの耐性という社会保障機能を提供しているのか検討されたことはなかった。とくに、保護対象の子どもを受給者にしていないために、手当をどのように使っているのか明らかではないし、使途に条件も付いていないので政府は制御もできない。本稿では、南アフリカにおいて家計成員死亡ショックに対して、子どもがどれだけの影響を被っているのか現状を確認し、被っているとすれば、どのような属性の子どもがより強く影響を受けているのか実証的に明らかにすることを目的としている。家計成員死亡という家計レベルのショックが子どもの身体発達に与える影響を途上国のデータを用いて検討したのは、筆者の知る限り同じデータを使った [Ardington and Little \(2016\)](#) だけである。

標本欠損率は高いものの、曝露状態と欠損率の間に違いがあったのは一部であり、曝露状態と共変数との交差項は多くの場合にゼロと見做すことが出来たため、逆ミルズ比を使いながら効果を推計した。結果からは、事故死が子どもの身長発達を 1cm 前後減らすことが分かった。負の影響は、身長発達が遅いグループ、非家長の子ども、男子、5 歳未満、黒人、父親と同居していない子どもに強く出ている。こうしたグループはショックに脆弱なため、今後の政策はこうした側面に注目して社会保障給付の設計改善に努める必要があるだろう。

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