The Political Economy of Gender in Global Health: How International Actors Shape Women's Outcomes

by

Kelly Hunter

Public Policy
and
Department of Political Science
Duke University

Date: April 4, 2023
Approved:

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Sarah Bermeo, Advisor

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Livia Schubiger, Co-Advisor

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Kyle Beardsley

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Joseph Grieco

_____
Subhrendu Pattanayak

Dissertation submitted in partial fulfillment of
the requirements for the degree of
Doctor of Philosophy in Public Policy and the Department of
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ABSTRACT

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Abstract

This dissertation investigates the politics of global health and how international actors shape women's outcomes in low- and middle-income countries. Using a three-paper model, it consists of three separate studies that highlight the interconnectedness of gender, health, and international politics. The first paper explores the spillover effects of a randomized controlled trial (RCT) implemented in Migori, Kenya in support of the World Health Organization's cervical cancer elimination strategy. An original follow-up survey was administered to women living in the intervention and control villages to understand the RCT's impact on non-medical outcomes. The second paper focuses on the international politics of foreign aid for family planning and demonstrates that a country's response to dynamics within the international arena can determine how and why countries choose to contribute to policies that target women. Specifically, it investigates the international response when the United States, the largest aid donor, withdraws funding for family planning through its Mexico City Policy, better known as the "global gag rule." The third paper looks at foreign aid termination more broadly, and how the use of this sanction instrument by the United Nations, United States, and European Union affects women's health and safety in the target countries. These papers employ quantitative methods on a variety of data sources, ranging from original survey data collected in rural, western Kenya, to observational data on a range of indicators for multiple countries. Taken together, these studies show that women in low- and middle-

income countries are subjected to consequences that stem from the political actions of international players.

Dedication

For my crew: Eve, Portia, Jude, Theo, and Ben.

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Thank you to my lifelong friends who believed in me and cheered me on when I decided I was reclaiming my time and going back to graduate school to fulfill this dream. Your continued support has helped sustain me and ground me.

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Chapter 1. Introduction

This collection of papers highlights some of the ways in which women are impacted when international politics intersect with global health. The first paper employs a micro-approach by investigating lasting positive changes in rural communities after women participated in a randomized controlled trial to increase cervical cancer screening (in line with the World Health Organization's cervical cancer elimination strategy) and tries to identify mechanisms that can be included in other health campaigns to help women claim empowerment. Fostering empowerment in women and girls living in low- and middle-income countries is essential for sustainable development, yet persistent gaps remain in gender parity worldwide. Identifying mechanisms aimed at increasing women's empowerment and incorporating them into existing and future development projects is one potential solution to close the gender gap. What mechanisms produce lasting increases in women's empowerment? This paper investigates this question using survey data collected as part of a follow-up to a randomized controlled trial (RCT) health intervention in Western Kenya. I disaggregate empowerment as a concept that expands the capacity of a person to exercise their agency and make strategic life choices. Various empowerment outcomes consistent with this notion of agency are measured, including health self-efficacy, attitudes towards intimate partner violence, and adherence to traditional patriarchal gender norms. By leveraging the RCT study design and employing novel survey experiments, this research evaluates the long-term consequences of the RCT and tests two potential and distinct mechanisms that support women's empowerment and foster agency: improvement in health knowledge and change in community gender

norms. A third survey experiment tests if the acquisition of personally relevant political rights knowledge conditions the impact of the intervention in shaping gender norms. Contrary to expectations, my findings show that health empowerment did not increase in the intervention villages following the health intervention, signaling that empowerment through health knowledge did not occur in the RCT. While other aspects of empowerment increased in the intervention villages, such as disapproval of intimate partner violence and a revealed preference for jobs with progressive attributes, these results do not differ from results in the control villages in a statistically significant way. Nevertheless, this paper makes contributions to the field of empowerment research by introducing theoretically grounded novel survey experiments that link empowerment mechanisms with agency outcomes.

The second paper uses a more macro approach and draws on classic international relations theory to explain how countries decide to fund programs that protect and support women's health. Is a lead donor necessary for the provision of global public goods? How do countries respond to a known leader decreasing its spending? This paper uses the implementation of the US's "global gag rule," a policy that blocks federal funding to NGOs performing or promoting abortion care, to examine these questions in the context of foreign aid. Scholars of international cooperation have posited three ways in which the decline of a leader affects public goods provision: i) Under-provision of public goods as non-leader states lose incentives to cooperate, ii) Emergence of a new selective leadership group to replace the single leader, or iii) Increase in public goods contributions from other, non-leader states as opportunities to free-ride decline. By

employing a dataset of 27 Organisation for Economic Cooperation and Development (OECD) Development Assistance Committee (DAC) countries' aid contributions to the family planning sector from 1997-2012 and through examining the donor response to the global gag rule in 2017, this paper finds support for the first argument historically and the second argument in 2017, suggesting that cooperation is more likely with some type of a lead donor. However, that lead donor need not be a single actor. When a single leader declines, cooperation can also be achieved if a selective leader group steps up to facilitate the provision of public goods. These findings also suggest that the decline of a lead donor may elicit different responses at various points in time. A formal model posits how and why these variations in donor responses occur across countries and/or time periods. These results have implications for the global provision of health-related and other types of public goods.

The third paper examines the unintentional consequences of international actors' economic statecraft on women's health and security. What is the impact of aid sanctions on women's rights in the recipient country? While prior research has demonstrated that sanctions can negatively impact women's rights and health, we still have a poor understanding of the effects of specific forms of sanctions, such as the withdrawal of foreign aid. As sanction-sending countries increasingly employ sanction instruments that are designed to be less punitive for the target country's population, it is imperative to ascertain if reality mirrors the intent. We argue that aid sanctions, when applied indiscriminately, negatively impact women's rights through both direct and indirect means. Governments faced with aid cuts may be forced to direct funds away from social

and health spending. Furthermore, in the civil sector, the termination of aid creates a more costly landscape for nongovernmental organizations that provide services to marginalized populations. We expect this impact to be exacerbated in aid dependent countries. Women, on the periphery of society, are more likely to be impacted by these cuts than men. When sending states employ aid sanctions with the intent to curb human rights violations, we posit that these negative outcomes for women are mitigated. Using data on sanctions from 1989-2015, and indices on various dimensions of women's bodily rights, we employ OLS models with country-year fixed effects to examine how aid withdrawal impacts women's security (freedom from physical and systemic harm), life expectancy, and maternal mortality. Overall, our results show that coordinated, universal aid sanctions that include involvement from the UN tend to be less harmful that other types of sanctions. We find a weak relationship between women's security and aid sanctions. But there is stronger evidence to support a link between health outcomes such as life expectancy and maternal mortality. In many cases, women's right to health (life expectancy and maternal mortality) is negatively impacted, indicating that aid sanctions, despite their frequent inclusion of exemptions for humanitarian aid, can still have detrimental effects on marginalized groups. Our paper shows that the impact of aid withdrawal on women is complex, as it is dependent on the number of entities involved and target country aid dependence. These findings have policy implications for donor countries wishing to utilize this tool of economic statecraft to coerce the target government without punishing marginalized populations.

A note on the final paper. This paper was co-authored with my colleague Pei-Yu Wei, another graduate student in the political science department at Duke University. Pei-Yu and I have a joint research agenda on various sanction types and their impact on women's rights and the operations of non-governmental organizations and civil society organizations in target countries. We have compiled an original detailed dataset of US sanctions through 2021 and have presented multiple co-authored papers at major conferences, including the American Political Science Association (APSA), Midwest Political Science Association (MPSA), and International Political Economy Society (IPES). This particular paper stems from our participation in a research workshop on aid withdrawal. We work on all research projects collaboratively, discussing theory, formulating hypotheses, and making joint decisions about data and methods. For this paper, we each spent time individually with the data running multiple types of models. After working with the data separately, we ran the models together over zoom, deliberated, and reached a decision together. Prior to writing, Pei-Yu did most of the data cleaning and made the figures. For the article, she wrote about contemporary examples of aid sanctions in the news and wrote some of the theory section. I wrote the rest of the theory section and the remaining sections of the paper and created the results tables. I also edited the entire paper for consistency.

Chapter 2. Understanding mechanisms and outcomes of women's empowerment: Experimental evidence from Kenya

2.1 Introduction

The empowerment of women and girls in low and middle-income countries has long been recognized as a cornerstone of sustainable development (Cornwall 2016). Yet the international community is falling short on its commitment to achieve gender equality, as outlined by the United Nation's sustainable development goal (SDG) 5. According to the UN, as of 2019 women in low and middle-income countries are underrepresented in political leadership and business management positions, spend three times more hours a day on unpaid work than men, are subjected to child marriage, female genital mutilation, and intimate partner violence at rates higher than their peers in high income countries, and are less likely to be able to make independent decisions about their sexual and reproductive health (UN Women 2022).

The COVID-19 pandemic has increased these inequities. This crisis has further exposed the structural inequalities that exist between women and men. Emerging research indicates that the burden of unpaid care work has increased (Power 2020), particularly for women, as have other gendered burdens such as frontline work and community activities (McLaren et al. 2020). Scholars have documented significant economic and health effects such as a decrease in paid work hours (Collins et al. 2021), an increase in gender-based violence (Cousins 2020), and a decrease in access to essential health services such as sexual and reproductive health resulting in lower rates of contraceptive use, a rise in

unwanted pregnancies, and negative maternal health outcomes (Hunter, Hubner, and Kuczura 2021) (Hall et al. 2020). The UN acknowledges that the gendered implications of the COVID-19 pandemic have the potential to create significant setbacks towards fulfilling the sustainable development goals (Azcona et al. 2020). However, incorporating mechanisms aimed at increasing women's empowerment into existing and future development projects is one potential solution to close the gender gap.

Identifying interventions and associated mechanisms that lead to attitude and behavioral shifts, such as women's empowerment, is difficult in social science research without relying on causal inference methods such as experiments or randomized control trials (RCT). I seek to identify the long-term effects of a health intervention on women's empowerment by leveraging a previously conducted human papillomavirus (HPV) and cervical cancer community-based education, screening, and treatment RCT in Migori County, Kenya. By administering a follow-up survey to women living in the original study's intervention and control villages, I test potential mechanisms linking the RCT intervention to empowerment outcomes, operationalized as dimensions of agency. Survey experiments (conjoint experiment and double list experiment) within the follow-up survey provide opportunities to conduct a secondary analysis on one of the proposed mechanisms and measure additional dimensions of agency.

The research design permits the measurement of non-medical outcomes in intervention communities. The findings contribute to an emerging field of scholarship examining downstream effects of international development programs and interventions. Scholars have investigated the positive spillover effects from development initiatives,

such as how the promotion of gender equality cultivates reduces economic inequality (Nelson and Goel 2022); how international trade and investment support human development in the Middle East (Benmamoun et al. 2016); and how broadening women's access to land titling increases their food security (Holden and Ghebru 2016). A growing body of research shows that the interdependencies of the sustainable development goals (SDG) encourage positive externalities (Castañeda, Chávez-Juárez, and Guerrero 2018) (Guerrero and Castañeda 2021). This paper explores this idea of interconnectedness and examines how the spillover effects of a women's health intervention focused on cervical cancer screening in Western Kenya in 2016 impacted the participants' sense of empowerment. It also theorizes additional mechanisms, or links between treatment and outcome, that encourage women to exercise their agency and demonstrates experimental ways to empirically test these mechanisms by measuring evidence of empowerment, operationalized as various dimensions of agency. To that end, the survey instrument included survey experiments evaluating support for gender norms: a double list experiment (a method to estimate sensitive information while avoiding social desirability bias) to measure support for intimate partner violence and a conjoint experiment (a method to identify preferences) to measure support for jobs with more progressive attributes. This paper examines two potential and distinct mechanisms to foster women's empowerment, thereby expanding their agency: acquisition of health knowledge and change in community gender norms. It also examines how the acquisition of personally relevant political rights knowledge, might jointly impact attitudes on traditional gender norms. Drawing on these survey data, this paper isolates mechanisms for increasing

empowerment, quantifies the spillover effects of a RCT, and reveals which, if any, of these dimensions of empowerment have tempered the gendered effects of the COVID-19 pandemic.

2.2 Women's Empowerment

Past studies have adopted different definitions of empowerment, examined various ways in which it is manifested, and relied on numerous indicators for measuring its existence. Because empowerment is multi-faceted, there are a number of valid ways in which to research this concept. For clarity, this section defines empowerment as it is used in this study and discusses two theoretical mechanisms through which empowerment may increase. Many definitions exist, but one that is highly influential in the literature defines empowerment as "the expansion in people's ability to make strategic life choices in a context where this ability was previously denied to them (p. 437)" (Kabeer 1999). Kabeer's framework for assessing empowerment is widely recognized as a useful tool for understanding and measuring empowerment (Richardson 2018). It includes three inter-related realms: resources (access to/acquisition of materials such as knowledge attitudes and preferences that augment one's ability to exercise choice), agency (identifying goals and working to achieve them; this is done through increasing participation and influence in decision-making), and achievements (improvements in well-being in various dimensions including but not limited to health, economic opportunities, rights, education, political participation, etc.) (Glennerster, Walsh, and Diaz-Martin 2018). While all three aspects are integral to empowerment, agency or autonomy is the key component. As Richardson states "agency provides direct evidence of empowerment, whereas resources

and achievements are indirect (i.e., proxy) measures (p. 542)" (Richardson 2018). In accordance with this understanding of agency as evidence of empowerment, this paper utilizes various dimensions of agency as measurable outcomes for empowerment.

By what process(es) do women become empowered and exercise agency? As empowerment is recognized as a multi-dimensional concept (Bayissa, Smits, and Ruben 2018), there exist many proposed paths to empowerment. These include access to credit (Pitt, Khandker, and Cartwright 2006), participation in self-help groups (Brody et al. 2017), and gender quotas in political representation (Verge and De la Fuente 2014), among others. Two mechanisms central to this project are described below.

Mechanism 1: Acquisition of health knowledge: Studies have shown that interventions including a component on disseminating health knowledge, particularly knowledge related to sexual and reproductive health, can have lasting impacts on outcomes typically used to proxy empowerment. For example, four years after a vocational training and sexual and reproductive health campaign aimed at adolescents in Uganda, treatment communities saw a drop in teen pregnancy, early marriage, and sexual assault (Bandiera et al. 2020). In Cameroon, a school-based HIV prevention course yields an increase in condom usage and decrease in childbearing (Arcand and Wouabe 2010). Evaluation of HIV curriculum in Kenya reports that exposure to the curriculum results in a reduction in teen pregnancies one year later (Dupas 2011). Knowledge about HPV, and its link to cervical cancer, has the potential to be particularly empowering as it is literally lifesaving. Cervical cancer differs from other forms of cancer in that it is a preventable illness if detected early through HPV screening and treatment, and yet it remains the

leading cause of cancer deaths in Kenya (Mwenda et al. 2022). Women who understand that early detection and treatment is key to preventing unnecessary death are equipped with the power to potentially save their own lives. I hypothesize that women in the intervention villages will exhibit greater health self-efficacy than women in the control villages.

Mechanism 2: Change in community gender norms: While many studies solely focus on the individualized components of empowerment, such as self-efficacy, women are often constrained by the normative and ideological systems in which they live and function (Mason and Smith 2003). Taking this context into consideration, some scholars have concluded that a transformation of community and social norms surrounding gender behaviors is essential for true empowerment, not merely small shifts in individual attitudes and behaviors (Assaad, Nazier, and Ramadan 2015). Thus, a change in community gender norms is a mechanism for increasing women's empowerment, not just at the community level, but at the individual level as well. Centering women's health and mobilizing a community around this issue through a community health campaign, is one way to focus on the value of women. Elevating women's status has the potential to help women recognize their internal agency and also help other members of the community recognize women's health and well-being as a priority. I hypothesize that women in the intervention villages will hold more progressive attitudes about gender norms compared with women in the control villages.

Secondary Analysis of Mechanism 2: Improvement of political rights knowledge: While scholars have identified a correlation between women's empowerment and

political knowledge (Bleck and Michelitch 2018), we lack robust information about this positive relationship. This area is undertheorized and there has not been an attempt to test personally relevant political rights knowledge as a way to impact empowerment. When conducting fieldwork in Kenya in preparation for this survey, my interviews with local stakeholders revealed that leaders in Migori hypothesize that political knowledge is a mechanism to increase empowerment in their communities. As women understand more about their political rights and protections under the law, they become more emboldened to exercise their agency. Based on this theory-building qualitative research, I developed an experiment to test the impact of political rights knowledge on the way women in the intervention and control villages perceive traditional gender norms in their community. This experiment, which serves as a secondary analysis for mechanism 2, is described in detail in the following section. I hypothesize that women in the intervention villages who are informed of their political rights will hold more progressive attitudes than women in the intervention villages who were not told about the local policy to protect women from gender-based violence.

2.3 Study Design, Survey Methodology, and Hypotheses

This research builds on a two-phase cluster-randomized trial conducted in 2016 to evaluate the effectiveness of a community-wide HPV screening intervention in promoting follow-up care in Migori County, Kenya (Huchko et al. 2018). Women in both the intervention and control groups received HPV and cervical cancer education and outreach from community health volunteers over a 2-week dedicated community health campaign. After this health campaign, all women who chose to undergo HPV testing used self-

collected HPV tests. The main difference between the intervention and control groups was the location of the HPV screening. Half of these women lived in the intervention villages where this HPV screening occurred in a centralized location within their village (large tents erected solely for this purpose). The other half of the women lived in the control villages and were encouraged to utilize the local government health facility for their HPV screening.

All women in both intervention and control villages who tested positive for HPV were referred to the Migori County Hospital (11-94 kilometers away from the villages) for cryotherapy treatment, a procedure that destroys abnormal, precancerous tissue through the use of extremely cold temperatures. When detected early, the HPV virus that causes precancerous lesions that lead to cervical cancer can be effectively treated using this method.

During 2016 when the 9 months-long study was conducted, 4944 total women were screened for cervical cancer, with a significantly higher uptake by women in the intervention villages. The breakdown by intervention and control villages is recorded in the table below (Huchko et al. 2018).

Table 1. 2016 RCT Uptake by Women in Intervention and Control Villages

Parameter	Intervention Villages	Control Villages
Eligible	4868	5524
Screened	2898 (60% of eligible women)	2046 (37% of eligible women)
HPV positive	567(20% of women screened)	476 (23% of women screened)
Treated @ Hospital	222 (39% of wmn. who tested HPV+)	150 (32% of wmn. who tested HPV+)

Following their cryotherapy treatment at Migori County Hospital, women were given the opportunity to participate in an in-depth interview with the research team. In

total 273 women, roughly 75% of the 372 treated women, consented to the interview (Huchko et al. 2019).

Although the aim of the 2016 study was to increase the uptake of cervical cancer screening and treatment, these qualitative interviews conducted after the RCT in Kenya revealed that women who had participated in the study reported feeling empowered (Huchko et al. 2019). Researchers state "many women expressed a sense of personal empowerment from the process of either undergoing treatment or from gaining an understanding of the impact of HPV on their health (p. 6)" (Huchko et al. 2019). This suggests that women's empowerment may have been a spillover effect from the intervention. This study seeks to establish if this reported empowerment effect was systematically experienced throughout the intervention villages and if so, what mechanisms present in the RCT intervention would explain this increase. The survey instrument described below was designed to investigate this by homing in on two mechanisms and testing their impact on various dimensions of agency.

2.3.1 Survey Instrument and Implementation

A follow up survey administered by in-country enumerators was conducted with 1080 women in Migori County in July 2022.[1] To leverage the original RCT design, the research team returned to the communities that participated in the 2016 study. Since the intervention (HPV screening at a tent centrally located in the village) occurred at the

[1] The survey was initially intended to be administered in summer 2020 but was postponed until 2022 due to COVID-19. In a separate section, I address some of the limitations brought about by this delay. While a shorter interval between RCT and follow-up would have been ideal, the delay in survey administration allowed me to ask questions related to participants' experiences during the COVID-19 pandemic.

village level, we surveyed women from each of the 54 intervention villages and 54 control villages. Surveys were conducted in 54 intervention villages and 54 control villages using a randomly ordered list of households from existing village census data. Enumerators visited the households in order, starting at the top of the randomly generated list of households. At each household, one enumerator, accompanied by a local community health volunteer, approached the household, and used a script to introduce the study and consent the eligible woman. If an eligible woman did not live at that household, the enumerator proceeded to the next household on the list and continued down the list in that manner until obtaining survey data from a total of 10 eligible women in each village. For the follow-up survey, women ages 31-71 who lived in one of those 108 village since 2016 were eligible. This age range and residency requirement was meant to capture as closely as possible the target population for the 2016 RCT (at that time the eligible women were ages 25-65). The survey was administered in July 2022 in three target languages (English, Kiswahili, and Dholuo) to 1080 women.

The survey instrument was developed in 2021 and 2022 in consultation with Migori County health officials and local researchers and followed ethical protocols, having received approval from both Duke Campus Institutional Review Board in April 2022 and Kenya Medical Research Institute's Scientific Ethics Review Unit in July 2022. Although agency is the most direct indicator of empowerment (Richardson 2018), it is more difficult to measure than indirect indicators such as resources and achievements. In order to overcome the challenge of measuring decision-making directly, best practices in survey design include asking people about their decision-making process, measuring

psychological aspects of agency through the use of self-efficacy scales (which probe respondents about their confidence in achieving goals, or producing desired outcomes through their behavior), and observing choices directly by creating a scenario where people make decisions during a survey (Glennerster, Walsh, and Diaz-Martin 2018) (Bandura, Freeman, and Lightsey 1999). The survey instrument incorporates these strategies to test the salience of the theorized mechanisms in fostering agency among women in Migori County.

Mechanism 1: Acquisition of health knowledge: The original 2016 RCT did not systematically conduct any tests to measure empowerment. Self-reported increases in empowerment were revealed in open ended questions posed by exit interviewers that same year. The qualitative evidence suggests that the participants' understanding of the impact of HPV on their health potentially led to empowerment. As one participant said, "I'm here to save my life (p. 1)" (Huchko et al. 2019). Another commented, "I have come to seek treatment for a better future; I want a future so I can continue taking care of [my children] (p. 6)" (Huchko et al. 2019). Since health knowledge is a prerequisite for health-seeking behavior, the survey incorporates questions from established instruments for measuring health empowerment, specifically two previously validated self-efficacy questionnaires to evaluate the health knowledge mechanism (McCabe et al. 2016) (EMERGE 2020). In the 2016 RCT, both intervention and control groups participated in a community education campaign about HPV and cervical cancer run by community health volunteers. Uptake in screening was higher in the intervention group where a community mobilization effort was implemented (compared with the control group where

women received HPV education when they went to the clinic for other concerns). I anticipate that women in villages with higher uptake will have learned more about reproductive health and will therefore be more proactive in their own health than women in the control group.

Hypothesis 1: Women in the intervention group will exhibit more health empowerment than women in the control group.

Mechanism 2: Change in community gender norms: In the 2016 RCT, the intervention group received HPV screening in a temporary clinic (screening tent) that was erected in the middle of the village. The 2016 control group was encouraged to receive HPV screening at their local health clinic. Since the intervention arm included screening the women at a central, communal location within the village, there was a communal component to the way the women were screened. They were screened surrounded by other women being seen for the same purpose. By adjusting the site and experience to a communal location and activity, the norms around this type of care (specifically reproductive and sexual health care) were changed within their community. As the literature suggests, a transformation of the community norms is one avenue through which genuine empowerment is achieved (Linos et al. 2013) (Lee-Rife et al. 2012) (Assaad, Nazier, and Ramadan 2015). The screening tent was a concrete intervention that centered women in the village, demonstrating that women were important to the community and that their needs should be met and prioritized. After witnessing this demonstration of support, I anticipate that women in this intervention group would embrace more progressive gender norms.

Survey experiments were conducted to establish potential changes in community gender norms. A double list experiment measures support for intimate partner violence in an anonymous way, and a conjoint experiment simultaneously creates a decision-making scenario and measures support for jobs with more progressive attributes. These survey experiments are described in detail below.

Survey Experiment Method 1: Double List Experiment: A list experiment is a survey technique employed to obtain sensitive information, in this case the respondent's feelings on intimate partner violence, by reducing response bias (Kuklinski, Cobb, and Gilens 1997). A standard list experiment presents one half of the respondents with a list of non-sensitive items (for example, 4 items) and the other half of the respondents with a sensitive item embedded in that same list of non-sensitive items (for a total of 5 items). Respondents are then asked how many items they agree with, and by estimating the difference-in-means between the two groups, one can extrapolate the proportion of the population that agrees with the sensitive item. While this affords the respondent privacy, the estimates from standard list experiments have high variance because the sensitive item is included with non-sensitive items (Glynn 2013). Utilizing a double list, which entails exposing each respondent to two distinct lists, only one of which contains the sensitive information, provides a control group for each list, and increases the accuracy of the findings by decreasing the variance of the estimators (Droitcour et al. 1991).

Although list experiments can reduce response bias, their complexity demands more effort from respondents, which can lead to inflated or deflated estimates. To address this issue, the enumerators followed the private tabulation procedure, piloted in Kenya,

which has been demonstrated to increase accuracy by providing respondents with a way to privately tally their response while the enumerator turns their back and reads the statements aloud (Kramon and Weghorst 2019). This study design incorporates the double list and the private tabulation procedure along with non-sensitive statements similar to those that were used and validated in Kramon and Weghorst's study in Kenya. Each list incorporated two low-variance items (Tourangeau and Yan 2007) and two negatively correlated items (Glynn 2013) to further reduce bias and variance in estimates.

As previously discussed, agency is multi-dimensional. Through this agency lens, the empowerment literature studies intimate partner violence (IPV) in two distinct ways: experiencing IPV (Lee-Rife 2010), and attitudes about IPV (Gupta and Yesudian 2006) (Sandberg and Rafail 2013). Results demonstrating the impact of empowerment on experiencing intimate partner violence are inconclusive due to endogeneity. For example, some women experience an increase in intimate partner violence as they begin to exercise more agency economically and their male partners are threatened by this empowerment and attempt to assert dominance (Bulte and Lensink 2019) (Hadi 2000). The purpose of this study is to understand a woman's internalization of changing gender norms. Accordingly, this experiment focuses on the second aspect of IPV: a woman's attitudes about intimate partner violence and not any IPV she may experience, since the latter is often beyond her control and not a reflection of her own agency.

List experiments have been used to measure intimate partner violence (Lépine, Treibich, and d'Exelle 2020) (Porter et al. 2021), with researchers finding this indirect method is preferred to direct methods (Cullen 2020) (Bulte and Lensink 2019). In

consultation with local researchers in Kenya and Migori County's Sexual Harassment and Gender Based Violence Coordinator, modified questions from the Survey-based Women's Empowerment (SWPER) Index were used to produce the sensitive statement for this experiment (Ewerling et al. 2017). To measure attitudes toward intimate partner violence, "a man has the right to beat his wife" was included as the sensitive item for both question 1 and question 2. The instructions and questions are included below.

Table 2. Double List Experiment (DLE) Instructions and Questions

Here is a notebook and a pen. For the next 2 questions, I'm going to turn around and read you several statements. Each time I read a statement, put a mark on the paper if you agree with it, like this (demonstrate). If you disagree with the statement, do not leave a mark. After I've read all of the statements, I want you to count the marks on your paper and tell me how many marks there are. Then you may tear the sheet out and dispose of it (demonstrate).		
	Group 1 (randomly selected)	Group 2 (randomly selected)
Question 1 (statements appeared in randomized order)	The government should close news stations that report lies	The government should close news stations that report lies
	Other Kenyans are not at all trustworthy	Other Kenyans are not at all trustworthy
	In line with our customs, we should respect our elders	In line with our customs, we should respect our elders
	News stations should be free to report whatever they want	News stations should be free to report whatever they want
	A man has the right to beat his wife.	
Now please count the marks on your paper and tell me how many statements you agreed with. Please turn the sheet of paper over so you are looking at the unmarked side. We are going to do this process again with different statements. Each time I read a statement, put a mark on the paper if you agree with it. If you disagree with the statement, do not leave a mark		
Question 2 (statements appeared in randomized order)	It is better if all children go to school, even if there are not enough books	It is better if all children go to school, even if there are not enough books
	For safety, matatu drivers should do driving exams from time to time	For safety, matatu drivers should do driving exams from time to time
	It is better if all children who are in school have their own books, even if that means some children without books may not attend school.	It is better if all children who are in school have their own books, even if that means some children without books may not attend school.
	In line with our customs, we should take care of our relatives who are not able to care for themselves	In line with our customs, we should take care of our relatives who are not able to care for themselves
		A man has the right to beat his wife.
Now please count the marks on your paper and tell me how many statements you agreed with. Now you may tear out the sheet of paper and return the notebook to me.		

Faced with this set of questions where every respondent receives the sensitive item in either question 1 or question 2, women exhibiting empowerment conceptualized as attitudes towards IPV would disagree with the statement "a man has the right to beat his wife" and would report their support for fewer statements. Consistent with the hypothesis that the RCT yielded empowerment, we would expect a significant difference in the number of statements with which respondents in the intervention villages and respondents in the control villages are in agreement. The hypothesis for the double list experiment is as follows:

Hypothesis 2: Acceptance of IPV will be lower in intervention villages than in control villages.

Survey Experiment Method 2: Conjoint Experiment: A conjoint experiment is an appropriate method for measuring agency because it allows researchers to observe choices directly by creating a scenario where people make decisions within the survey. Despite this advantage, there have been few studies on empowerment that utilize this experiment design. Its strengths include allowing the researcher to identify the effect of various factors on the respondent's choice (Hainmueller, Hopkins, and Yamamoto 2014) and strong external validity due to it realistic properties (Hainmueller, Hangartner, and Yamamoto 2015). Respondents are asked to choose between two scenarios with attributes that display different, randomly selected levels. Calculating the average marginal component effect (AMCE) estimates the effect of an attribute on the probability of selecting the outcome, compared to the baseline (Bansak et al. 2022). In this paper, the

AMCE represents the amount the probability of selecting Job A or Job B would change on average if the attribute level of one job changed.

This experiment draws from a conjoint on women's empowerment in Jordan that measured women's job preferences under the constraints of patriarchal norms (Barnett, Jamal, and Monroe 2021). Scholars have found that community gender norms impact a woman's relationship with the labor market. Traditional patriarchal gender norms internalized by men within a community limit the extent to which women in that community engage with the labor market (Field et al. 2021). A change in community gender norms could be reflected in women exercising their agency to accept jobs with progressive attributes. This conjoint describes two hypothetical jobs, using a total of 5 attributes and 10 levels that randomly vary (2 levels per attribute). In this design, three of the attributes represent progressive gender norms (leader of a team, work alongside men, share opinions in public). As community that adheres to traditional gender norms could influence women's employment preferences, this experiment tested whether women would prefer these progressive job attributes, while also varying other employment factors such as wages and the presence of childcare facilities. After seeing descriptions for both jobs listed, respondents were asked to select their preference for either Job A or Job B. The instructions and questions respondents received are included below.

Table 3: Conjoint Experiment

Now I'm going to ask your opinion about a job in Migori. Imagine the Migori County government is investing in the creation of many new community jobs for women, and you are looking for employment. You see 2 positions announced with the following characteristics. After learning about both jobs, we will ask you to rate each employment option.	
ATTRIBUTE	**LEVELS (randomized)**
Job A/B:	is the leader of a team is not the leader of a team
The job	pays above-average wages pays below-average wages
Women who get this job	will work alongside men will not work alongside men
The job	has childcare facilities does not have childcare facilities
The job	requires sharing your opinions at public/community meetings does not require sharing your opinions at public/community meetings

Given that the remote rural villages in the study area largely adhere to patriarchal gender norms, the hypotheses for each of the attributes are as follows:

Hypothesis 3a: Leadership roles will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

Hypothesis 3b: Higher wages will have a positive effect on the probability of selecting a job overall.

Hypothesis 3c: Co-ed jobs (jobs working alongside men) will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

Hypothesis 3d: The presence of childcare facilities will have a positive effect on a job being preferred overall.

Hypothesis 3e: Public speaking will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

Table 4: Conjoint Example with Randomized Attribute Levels

Job A:	Job B:
• Is not the leader of a team • The job pays below average wages • Women who get this job will work alongside men • The job has childcare facilities • The job requires sharing your opinions at public/community meetings	• Is the leader of a team • The job pays below average wages • Women who get this job will work alongside men. • The job does not have childcare facilities • The job does not require sharing your opinions at public/community meetings
Which of the 2 jobs would you choose if it were necessary to choose between them?	

Secondary Analysis of Mechanism 2: Improvement of political rights knowledge: To test the theory that women's empowerment increases with knowledge of personally relevant political rights, the instrument includes another survey experiment within the conjoint by utilizing a prime that was read to half of the randomly selected respondents prior to learning about Job A and Job B. The vignette informed them of a new local law (Sexual Harassment and Gender Based Violence Policy) in Migori County that strengthens rights and protection of women who face sexual and gender-based violence (included below). Although Job A and Job B in the conjoint are hypothetical jobs, the vignette is a true statement about a policy that was implemented in 2021. I argue that the combined impact of political knowledge with the health intervention centering women has the potential to produce a stronger effect on women in the intervention villages.

Table 5: Vignette Policy Prime

The following introduction was read to randomly selected respondents (535 total)
In 2021, Migori County launched a Sexual Harassment and Gender-Based Violence Policy that guides the county government on how to provide additional rights and strengthen protections to all women living in Migori County. This new initiative will help women who are survivors of gender-based violence, increase accountability for those who harm women, and help prevent future gender-based violence against women.

Hypothesis 4a: Leadership roles will have a stronger positive effect on a job being preferred for women who received the policy prime, compared with women who did not receive the policy prime. This effect will be stronger in the intervention villages than in the control villages.

Hypothesis 4b: Higher wages will have a positive effect on the probability of selecting a job overall.

Hypothesis 4c: Co-ed jobs (jobs working alongside men) will have a stronger positive effect on a job being preferred for women who received the policy prime, compared with women who did not receive the policy prime. This effect will be stronger in the intervention villages than in the control villages.

Hypothesis 4d: The presence of childcare facilities will have a positive effect on a job being preferred overall.

Hypothesis 4e: Public speaking will have a stronger positive effect on a job being preferred for women who received the policy prime, compared with women who did not receive the policy prime. This effect will be stronger in the intervention villages than in the control villages.

Table 6 lists each of the theorized mechanisms for promoting empowerment. The table also outlines which dimension of agency would be impacted by the mechanism (outcome variable), the survey methodology utilized to measure each agency dimension, and the observable implications of increased empowerment via the hypothesized mechanism.

Table 6: Summary of Research Design to Test Mechanisms for Increasing Agency/Empowerment

Agency Dimension (Outcome Variable)	Mechanism	Survey Design	Comparison Groups	Observable Implications
Self-efficacy	Improvement in health knowledge	Validated health self-efficacy questions	RCT intervention villages and control villages	Higher scores on self-efficacy questions for intervention villages
Attitudes about IPV	Community change in gender norms	Double list experiment providing anonymity to reveal true preferences.	RCT intervention villages and control villages	Lower support for IPV from intervention villages.
Attitudes related to traditional gender norms	Community change in gender norms	Conjoint experiment to observe choice	RCT intervention villages and control villages	Revealed preference for jobs with progressive attributes (leadership, working with men, speaking in public) by intervention villages
Secondary analysis of mechanism 2: How does improvement in political rights knowledge condition women's internalization of community gender norms?				
Attitudes related to traditional gender norms		Conjoint experiment to observe choice after exposure to policy prime vignette.	Randomly selected groups: 1. exposure to policy prime and 2. no prime	Revealed preference for jobs with progressive attributes (leadership, working with men, speaking in public) by policy prime group

2.4 Estimation Strategies and Results

This section describes the estimation strategy used to analyze the survey data collected via the self-efficacy questionnaires and survey experiments described above. It also includes the results from these analyses. All survey data were analyzed using the intention-to-treat principle. Therefore, all outcomes were analyzed by assigned study arm, regardless of whether women in either arm participated in the self-screening procedure offered either in the health clinic or the centralized community location. Due to

the RCT study design, differences in scores between intervention and control groups are tested with the average treatment effect.

The average marginal component effect (AMCE), which is the marginal effect of each of the attributes averaged over the joint distribution of all other attributes, is used to test hypotheses associated with the conjoint experiment (Hainmueller, Hopkins, and Yamamoto 2014). This was estimated through OLS regression with indicator variables and standard errors were clustered by respondent. The hypotheses that presuppose a varying effect between groups (either intervention vs. control or prime vs. no prime) were also tested with interactions. The marginal means for each group (intervention vs. control; prime v. no prime), which "represent the mean outcome across all appearances of a particular conjoint feature level, averaging across all other features," were also computed (Leeper 2018) (Leeper, Hobolt, and Tilley 2020).

Mechanism 1: Sexual and reproductive health knowledge

Hypothesis 1: Women in the intervention group will exhibit more health empowerment than women in the control group.

To test the first mechanism and estimate the impact of sexual and reproductive health knowledge on the agency domain of health self-efficacy, the survey included two validated health empowerment questionnaires (McCabe et al. 2016) (EMERGE 2020). Respondents were read a series of statements related to health empowerment and asked to select their response from a 5-point likert scale, including a neutral option, with 5 indicating strong agreement/full control and 1 indicating strong disagreement/no control. Respondents were also offered the option to refuse to answer the question.

Each question was analyzed using OLS regression (Glewwe and Todd 2022), with the question response as the dependent variable and intervention as the independent variable (a binary variable where 0 is the control group and 1 is the intervention group). Standard errors were clustered by village (108 clusters). To correct for multiple hypothesis testing, in Stata 17.0, I calculated Romano-Wolf step-down adjusted p-values, which are reported in regression tables (Clarke 2021). This approach uses bootstrap resampling (set to 3,000 for this analysis) to control the familywise error rate (FWER), or the probability of making any type I error, and allows for dependence among p-values (Romano and Wolf 2005b) (Romano and Wolf 2005a) (Romano and Wolf 2016) for all 12 outcomes. Significant results for the treatment indicator (intervention village), including the Romano-Wolf p-value are included in the table below.

Table 7: Health Empowerment Results

Question (Dependent Variable)	Coefficient (Independent Variable: Intervention) (SE)	Romano-Wolf p-value	N
When I need medical care, I am able to visit the doctor or nurse at a clinic.	-.083* (.063)	0.09	1063
When I am at a medical clinic or hospital, I can ask the doctor or nurse questions about my health.	-.113*** (.065)	0.01	1061
I trust the health services offered to me.	-.109** (.064)	0.013	1063
Since the start of the COVID-19 pandemic (March 2020) do you have less control, more control, or the same control over this decision to seek healthcare for yourself?	-.203*** (.104)	0.004	1063

*p<0.10 **p<0.05 ***p<0.01
Note: The coefficient represents the average change in likert scale score (DV) for those in the intervention villages.

In the original RCT, both the control and intervention villages received identical sexual and reproductive health education campaigns and based on the qualitative data

from the exit interviews, researchers hypothesized that women may have felt empowered due to their increased understanding of how HPV impacts their health. If acquisition of sexual and reproductive health knowledge was the mechanism for fostering empowerment, we could expect this knowledge to translate to agency, or health seeking behavior as knowledge is a pre-requisite for health self-efficacy. Furthermore, we would expect higher scores in the intervention villages, particularly since women in the intervention villages were much more likely to follow through with the screening, thereby demonstrating an understanding of how early HPV detection and treatment impacts the probability of surviving the largest cancer killer in Kenya (as noted earlier in the original RCT, screening uptake as a proportion of total eligible women in the population was 60% for the intervention villages and 37% for control villages). However, contrary to expectations, on every health question with statistical significance, women in the intervention group demonstrated a lower score. This does not provide evidence in support of the notion that sexual and reproductive health knowledge acquisition is a mechanism for empowerment in the context of this particular study.

Mechanism 2: Change in community gender norms

Hypothesis 2: Acceptance of IPV will be lower in intervention villages than in control villages.

Data analysis from the double list experiment (DLE) was used to evaluate the second mechanism, change in community gender norms as a catalyst for empowerment. Two-sample t-tests with equal variances were used to calculate the difference-in-means for the treatment group (those shown the 5-item list) and control group (those shown the

4-item list) for question 1 and question 2 of the DLE. The average of those two differences-in-means was then used to determine the incidence rate of the sensitive item (Glynn 2013). Finally, the difference-in-difference (DID) technique was used to test for the significance of these differences-in-means (Angrist and Pischke 2009). Results from the double list experiment indicate that overall, 35% of respondents in Migori County believe a man has a right to beat his wife (results are significant at the p<.0001 level). When analyzing the responses from women in the intervention villages, that number decreases to 33%, and in control villages, it increases to 37% (results are significant at the p<.001 level). Overall, there is a high level of support for intimate partner violence (IPV). The DID estimates, however, do not provide support for Hypothesis 2, as these differences-in-means are not statistically significant.

Table 8. DLE Results: Approval for IPV among Women (standard errors)

	Group Mean Treatment List (4 items and IPV item)	Group Mean Control/baseline List (4 items)	Difference-in-Means Baseline minus treatment
Entire Sample			
Estimates Q1	3.250	2.888	-0.361
t=-5.6765; p<0.001; df: 1061	(.046)	(.044)	(.063)
	N=561	N=502	
Estimates Q2	3.116	2.774	-0.342
t=-6.0183; p<0.001; df 1061	(.047)	(.034)	(.057)
	N=502	N=561	
Overall mean estimate			-0.351
RCT Intervention Villages			
Estimates Q1	3.299	2.971	-0.328
t=-3.7240; p<0.001; df: 528	(.062)	(.062)	(.088)
	N=288	N=242	
Estimates Q2	3.144	2.812	-0.332
t=-4.2634; p<0.001; df: 528	(.065)	(.045)	(.078)
	N=243	N=287	
Overall mean estimate			-0.330
RCT Control Villages			
Estimates Q1	3.194	2.812	-0.383
t=-4.2084; p<0.001; df: 531	(.066)	(.061)	(.091)
	N=273	N=260	

Estimates Q2 t=-4.2988; p<0.001; df: 529	3.092 (.066) N=261	2.774 (.052) N=270	-0.359 (.083)
Overall mean estimate			-0.371

Table 9. Difference-in-Difference Results

	Question 1			**Question 2**		
	RCT Intervention Villages	RCT Control Villages		RCT Intervention Villages	RCT Control Villages	
Baseline mean	2.97 (0.06) N=242	2.81 (0.06) N=260		2.81 (0.05) N=287	2.73 (0.05) N=270	
Difference Coefficient	0.33** (0.09) N=530	0.38** (0.09) N=533		0.33** (0.08) N=530	0.36** (0.08) N=531	
Diff-in-Diff Coefficient			-0.06 (0.13) N=1063			-0.03 (0.11) N=1061
p<0.01**						

The second survey experiment, or conjoint, provides another opportunity to test Mechanism 2: Change in community gender norms, and introduce a secondary analysis of this mechanism. The secondary analysis seeks to determine if knowledge of political rights conditions the impact of the intervention in shaping these community gender norms. If women's empowerment is a spillover effect the RCT facilitated through a change in gender norms, we would expect to see increases in agency domains in the intervention villages.

The conjoint experiment asks women to select their preference between two different jobs with five different attributes. The three main attributes of interest are those that assess preference for a job with progressive gender norms: a job in leadership (vs.

not leading a team); a job that requires working with both men and women (vs. working solely with women), and a job that requires sharing opinions in public meetings (vs. not speaking in public). Results for the conjoint are presented in Figure 1 and described in further detail below. A description of the secondary analysis and accompany results will follow.

Hypothesis 3a: Leadership roles will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

In intervention villages, jobs with a leadership role had a 7% higher probability being chosen compared to jobs without a leadership role ($t= 2.33$; $p<0.05$). The difference between the intervention and control villages was not statistically significant.

Hypothesis 3b: Higher wages will have a positive effect on the probability of selecting a job overall.

Overall, jobs with higher than average wages had a 15% higher probability of being chosen compared to jobs with lower than average wages ($t=6.5961$; $p<0.001$).

Hypothesis 3c: Co-ed jobs (jobs working alongside men) will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

In the intervention villages, co-ed jobs had an increased probability of being chosen by 7 percentage points over women-only jobs ($t=2.26$ $p<0.05$; CI 95%). The difference between the intervention and control villages was not statistically significant.

Hypothesis 3d: The presence of childcare facilities will have a positive effect on a job being preferred overall.

Overall, jobs that included childcare facilities had a 14% higher probability of being chosen over jobs that did not include childcare ($t=6.3625$; $p<0.001$).

Hypothesis 3e: Public speaking will have a stronger positive effect on a job being preferred in intervention villages compared with control villages.

Overall, jobs that required sharing opinions in public meetings had an increased probability of being selected by 9 percentage points over jobs that did not require public speaking ($t=3.9723$; $p<0.001$). There was no statistically significant difference between the control and intervention villages.

Among women in the intervention villages, the three jobs with progressive attributes, (leadership positions, working with men, and requiring one to share their opinions in public settings) had a higher probability of being selected. In contrast, of the three attributes meant to measure empowerment, public speaking was the only attribute that had a higher probability of being chosen by women in the control villages. However, f-tests comparing the differences between the results of the two groups were not statistically significant. So, while we can say with certainty that women in the intervention villages preferred jobs that included more progressive gender roles, we cannot say these results differ meaningfully from those of the control group. Results from computing the marginal means (MM) between intervention and control villages are consistent with the AMCE results (MM results are included in the appendix).

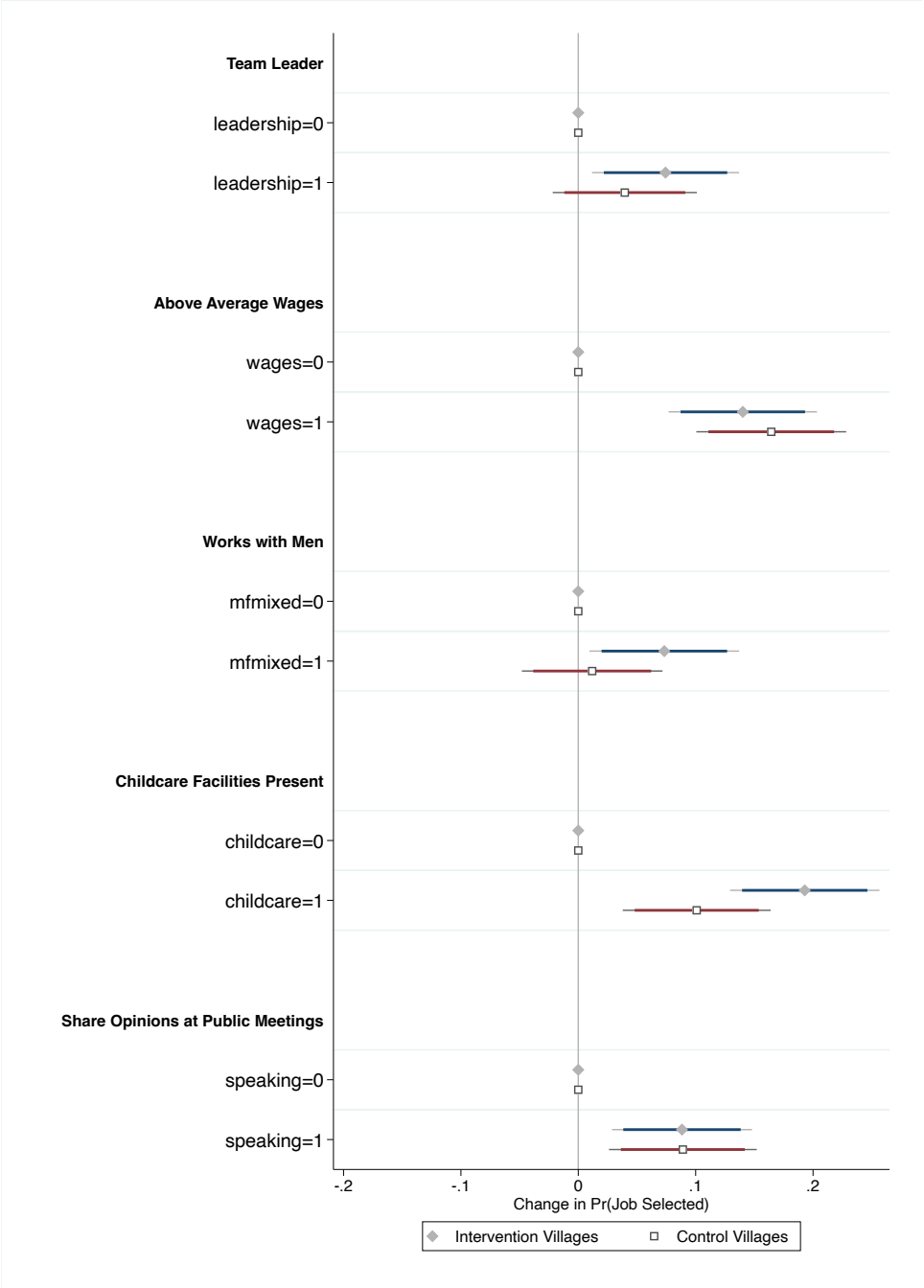

Figure 1. AMCE by Group: Intervention and Control Villages

Note: This figure displays the estimated effects of the randomly assigned job attribute on the probability of a job being preferred by women in the intervention villages (grey diamonds) and control villages (black hollow squares). Results are from the regression of the binary outcome variable on indicator variables

representing each attribute. Standard errors are clustered by respondent. Grey bars indicate 95% confidence intervals; 90% confidence intervals are in red and blue.

Secondary Analysis of Mechanism 2: Knowledge of political rights: The previous two mechanisms described were a theoretically grounded attempt to understand how a health intervention RCT, not designed to increase empowerment, could have contributed to women's empowerment. In consultation with local women's empowerment groups and the Migori County officer for Sexual and Gender Equity, a survey experiment unrelated to the health intervention was included to understand if a woman's knowledge of personally relevant political rights would condition the impact of the treatment in shaping community norms. Regardless of their affiliation with the control or intervention villages in the health RCT, half of the respondents were randomly selected to hear the vignette prime describing the Sexual Harassment and Gender Based Violence Policy, a new law in Migori protecting women against gender-based violence (see Table 10). In total, 535 randomly selected respondents were exposed to the policy prime directly before answering the conjoint questions.

Table 10. Number of women receiving policy prime, by RCT control group and intervention group

	No Prime	GBV Policy Prime	Total
Control Villages	262	272	534
Intervention Villages	268	263	531
Total	530	535	1065

Figure 2 displays the coefficient plots with 95% confidence intervals (in grey) and 90% confidence intervals (in color) for four subgroups outlined above: women in the intervention villages who received the vignette policy prime, women in the intervention

villages who did not receive the vignette policy prime, women in the control villages who were exposed to the vignette policy prime and women in the control villages who were not exposed to the vignette policy prime. While all the hypotheses associated with this secondary analysis assumed that improvement in personally relevant political knowledge would correspond with progressive attributes increasing the probability of a job being selected, F tests comparing the results of the groups were not statistically significant. In the intervention villages, there is no discernable difference between those who were exposed to the policy prime and those who were not. The same is true for women in the control villages. The experiment does not provide support for the notion that exposure of knowledge around political rights conditions the extent to which women in the intervention village or control villages internalize community gender norms.

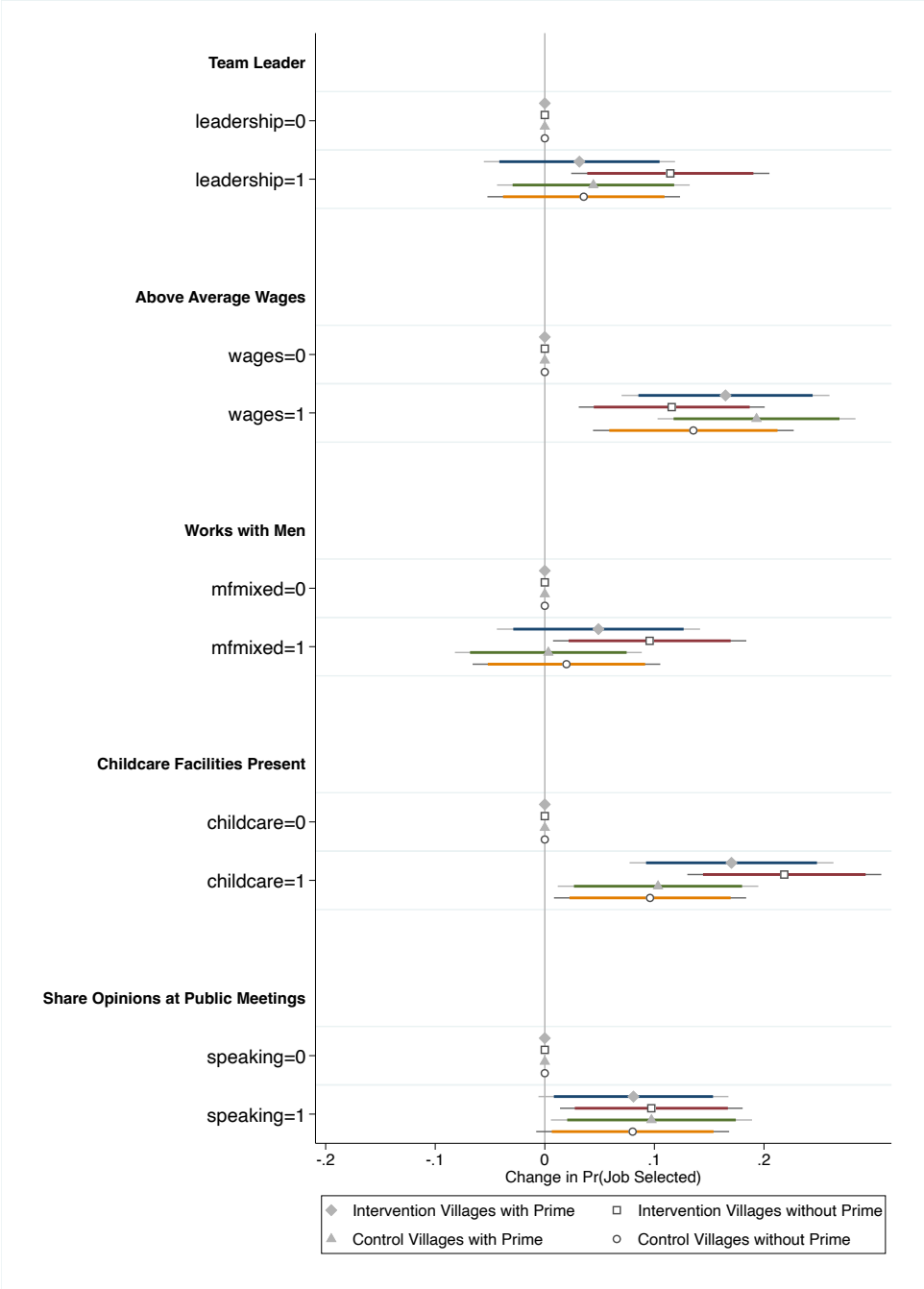

Figure 2. AMCE by Group: Prime vs. no Prime in Intervention and Control Villages

Note: This figure displays the estimated effects of the randomly assigned job attribute on the probability of a job being preferred by women in the intervention villages who received the policy prime (grey diamonds) and who were not exposed to the policy prime (black hollow squares); as well as women in the control villages who received the policy prime (grey triangles) and who were not exposed to the policy prime

(black hollow circles). Results are from the regression of the binary outcome variable on indicator variables representing each attribute. Standard errors are clustered by respondent. Grey bars indicate 95% confidence intervals; 90% confidence intervals are in blue, purple, green, and orange.

2.5 Limitations

It is acknowledged that measuring concepts such as empowerment is difficult. While this study employed best practices within the empowerment literature to operationalize the dimensions of agency under investigation and leveraged multiple causal identification strategies to test the accompanying mechanisms, there is an insurmountable limitation caused by the timing of the survey. Of particular concern is the fact that the follow-up survey occurred 6 years after the original RCT. This was unavoidable, due to the impact of the global pandemic on door-to-door research in Kenya. Due to the RCT design, which produces control and intervention groups that are free from systematic differences in observed characteristics, it is typically difficult to attribute a significant distinction between outcomes in the control and intervention villages to any other cause, even after a long period of time. However, it is possible that during that 6-year period there was attrition from intervention to control villages and vice versa, causing inadvertent spillover effects. The elongated time frame introduces the potential that other researchers would conduct fieldwork or other interventions in that area, introducing additional unobserved mechanisms or variables into the study design. Migori County Health Department officials stated that they were not aware of any studies that occurred after the HPV and cervical cancer screening RCT in 2016. However, this does not eliminate the possibility that unbeknownst to them other, non-health interventions were conducted in that area in the intervening years. Ultimately, the

extended time frame introduces a bias *against* the paper's findings. Perhaps if the study had been conducted within a shorter time frame, there would be evidence of positive empowerment outcomes associated with the intervention villages. Finally, the COVID-19 global pandemic itself is a major event with the potential to impact empowerment and its existence could interfere with the results. If, however, we assume that the pandemic had an equal effect on the villages in Migori County, then it may impact overall levels of empowerment, but could not account for any significant differences between the intervention villages and control villages.

2.6 Conclusion

What mechanisms produce lasting increases in women's empowerment? Since empowerment is so multi-dimensional, no singular study can definitively answer this question. In this paper I have disaggregated this concept of empowerment and in the context of an RCT, applied innovative survey methodology to test whether two distinct mechanisms fostered outcomes of women's empowerment, as measured by various dimensions of agency.

This study has concluded that neither of the potential mechanisms (acquisition of health knowledge, specifically around sexual and reproductive health, changing gender norms) had a significant positive impact on agency dimensions in the study population. The only significant results between control and intervention villages measured a decrease in self-efficacy from those in the intervention villages. Were women in the intervention villages conditioned to expect healthcare within their village? Or did they view the communal health screening tent as more of a social activity rather than a way to

increase their chances of surviving ovarian cancer, the single largest cause of cancer deaths in Kenya? These are questions that cannot be answered with the survey data. Further qualitative research should be conducted in Migori to understand this result.

While some aspects of empowerment increased in the intervention villages, such as disapproval of intimate partner violence and a revealed preference for jobs with progressive attributes, these results do not differ from results in the control villages in a statistically significant way. It is possible that other measurable outcomes of empowerment, or dimensions of agency were positively impacted. However, according to the evidence presented with the available data, the RCT on HPV and cervical cancer screening and treatment did not facilitate women's empowerment through the mechanisms hypothesized in this paper.

Future work on empowerment should continue to use conjoint experiments to explore which mechanisms help women assert their empowerment. As mentioned earlier, the conjoint experiment provides an ideal set up for observing agency, which is an elusive concept to measure. Yet the conjoint experiment has not been fully embraced by scholars who study this topic. To my knowledge, only one other study exists in which the researchers utilized a conjoint experiment to measure empowerment (Barnett et al 2021). If we are serious about wanting to uncover the mechanisms for empowerment, we must use the best methods at our disposal.

Chapter 3. Stepping up or stepping out? Donor response to the US's global gag rule and the implication for providing global public goods

3.1 Introduction

Is a lead donor necessary for global public goods provision? How do states respond when the lead donor decreases its spending, signaling a decline in support? In 2017, these enduring questions of international cooperation received attention in the news media as countries publicly grappled with the Trump administration's decision to reinstate the "global gag rule," which severely limited the amount of funding the US, by far the largest donor, contributed in foreign aid to the Organisation for Economic Cooperation and Development's (OECD) family planning sector.

In direct response to the lead donor drastically cutting these public goods contributions, "She Decides," a global fundraising initiative launched by the Netherlands and supported by additional nation-states emerged in 2017 as a cooperative effort to provide funding to OECD aid sectors dedicated to supporting women's reproductive health in countries receiving official development assistance (Mackintosh 2017). Multiple OECD Development Assistance Committee (DAC) countries cooperated to fill in the gaps created by the US withdrawal of funds to NGOs and/or health organizations that provide abortion care and/or include abortion in their counseling options (Reuters 2017).

The overall objective of this project is to determine how a lead donor impacts donor cooperation for global public goods. This paper investigates the impact of the US's global gag rule on states' foreign aid contributions to the OECD reproductive health

sector, specifically the family planning subsector, from 1997-2012 when the policy was reinstated and repealed over the course of four US presidential administrations. During the years that the global gag rule is in effect, US funding to family planning decreases. The implementation and repeal of the US's global gag rule is an exogenous shock to funding streams, which presents an opportunity to identify the effect of a lead donor on inter-state cooperation. The literature presents conflicting expectations for how countries can and do overcome collective action problems in the presence of a lead donor. As a leader, does the US lock in cooperation from other OECD DAC states? Or does its looming presence incentivize OECD DAC states, to free-ride?

The international relations literature suggests that when a global leader declines in the context of international cooperation, other states will respond in one of three ways. If the presence of a leader is a prerequisite for cooperation, the decline will result in either the under-provision of public goods as states no longer have an incentive to cooperate with the hegemon (Kindleberger 1981) *or* the emergence of a new selective leadership group to replace the single leader (Snidal 1985). If, however, a lead donor is an impediment to cooperation by providing too much of the global public good such that smaller, individual states are satisfied with the benefits accrued from the leader's contribution and thus halt their individual contributions before the Pareto-optimal amount is realized, a third outcome is possible when the leader declines. According to this theoretical framework, smaller states will be forced to increase their contributions in order to benefit from the global public good since they are no longer able to free-ride off of the leader (Olson and Zeckhauser 1966). This article empirically evaluates these

implications in the context of foreign aid, and theoretically investigates the conditions under which the different implications apply.

Empirically, I leverage the exogenous shock of the global gag rule to funding for the family planning sector from 1997-2012 and examine the international response in 2017, the most recent implementation of the policy. Theoretically, I argue that consistent with hegemonic stability theory, cooperation is more likely with a lead donor. However, that lead donor need not be a single actor. When a single leader declines, cooperation can also be achieved if a selective leader group steps up to facilitate the provision of public goods. The conditions under which countries will decide to step up to form that selective leader group is explored in the formal model. Although the scope of this paper is limited to the global gag rule example, the proposed formal model outlines a game of strategic interaction between two states faced with the decision to contribute or not to a global public good. As such, the model provides insights that are also generalizable to other realms of global public goods provision.

3.2 Foreign Aid for Global Public Goods

Scholars have argued that foreign aid, particularly when it contributes to health sectors, can be viewed as a public good (Steinwand 2015). For example, Kaul and Faust argue that persistent health problems in developing countries "could have serious repercussions for economic globalization, international peace and security, and prosperity and well-being of industrialized countries (p.870)" (Kaul and Faust 2001). Bermeo's research provides empirical support for the argument that industrialized states recognize and seek to combat these negative externalities from developing countries by targeting

their development resources (including foreign aid) accordingly (Bermeo 2017) (Bermeo 2018). Public goods that have an impact beyond political borders, such as a healthy environment, have been deemed "global public goods" (Smith et al. 2003) or "international public goods" (Ferroni and Mody 2002). Like climate change mitigation, the benefits from global public health meet the two qualifications for global public goods[1]: global public health is both non-excludable and non-rival.

Global public health, defined as the "worldwide improvement of health, reduction of disparities, and protection against global threats that disregard national borders" (Macfarlane, Jacobs, and Kaaya 2008), is non-excludable in that donor countries that do not contribute foreign aid to public health sectors cannot be excluded from the benefits that global public health has to offer (healthy populations, lower incidences of infectious disease, herd immunity, etc.). Likewise, it is non-rival in that one country's "consumption" or "use" of global public health does not preclude another country from also "consuming" or "using" global public health. All countries can benefit from global public health at the same time without the prospects of it diminishing. For example, if multi-drug resistant tuberculosis (MDR-TB) is eradicated worldwide (a highly contagious and difficult to treat disease), the populations of all countries will simultaneously benefit. Furthermore, the benefits that one country receives from MDR-TB's eradication do not in any way diminish another country's benefits; in theory, both can benefit equally.

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[1] For consistency, I utilize the term global public good in this paper

Family planning/reproductive health is one of the cornerstones of public health (Blumenthal and Gaffikin 2007). The Centers for Disease Control and Prevention (CDC) has named it one of the top public health achievements in the 20th century (CDC 1999). In 1999, the United Nations Development Programme (UNDP) put forth a new framework for development cooperation in the 21st century, which emphasized the importance ensuring adequate provision of global public goods (Kaul, Grunberg, and Stern 1999). Since that time, the literature has categorized family planning (a component of reproductive health) as a global public good because population expansion creates more stress on the environment, impedes economic development and accelerates the spread of diseases (Willem te Velde, Morrissey, and Hewitt 2002). A program is considered a global public good "if by meeting the needs of local populations, it were also to contribute to conflict prevention and international peace, reduce environmental degradation of potentially international consequences and improve global health conditions (p.12)" (Kaul, Grunberg, and Stern 1999). Support for robust, comprehensive family planning measures meets these criteria in a few key ways. Family planning directly contributes to more favorable population dynamics, which attenuates the strain on natural resources. It also directly reduces the global disease burden of HIV and AIDS by increasing access to commodities that prevent new infections acquired through sexual partners and through mother-to-child transmission.

In addition to these direct benefits, family planning contributes to all sustainable development goals (Starbird, Norton, and Marcus 2016). For example, comprehensive family planning is an essential prerequisite for developing countries to achieve a

demographic dividend, or optimum demographic structure for economic development featuring lower birth and death rates. According to the United Nations Population Fund (UNFPA), this occurs when a lower household birthrate (through access to family planning) leads to higher investments per child, increased freedom for women to join the workforce, and higher household savings for an older, healthier population (UNFPA 2017). Scholars have argued that failing to fund and sustain both domestic and international family planning programs will result in unsustainable population growth and poor health outcomes worldwide (Allen 2007). These studies demonstrate that the benefits of family planning extend beyond borders. Indeed, there are public benefits derived from providing the global public good of reproductive health, such as avoiding global health consequences for neglecting to provide it.

Many types of aid can contribute to global public goods, and some scholars posit there is something fundamentally different about aid for public goods versus development aid to one country. Lancaster, who argues that countries employ diverse purposes for foreign aid contributions, states that providing aid for family planning serves a different purpose from aid for development. Specifically, family planning is an example of aid giving for global public goods provision, which is strategically focused on the global, rather than country-specific, and is different from development aid in particular countries (Lancaster 2008). Accordingly, I expect that cooperation for health aid (including aid for reproductive health) which is a global public good, will mirror cooperation for other public goods.

3.3 International Cooperation for Public Goods: Theories and Prediction

Public goods face collective action problems, which are essentially multi-player prisoner's dilemmas where no single party wants to produce the public good. Because the public good is costly to produce and the benefits can be enjoyed by all, each party is tempted to free-ride (or reap the benefits without sharing any of the cost of the public goods production). If the parties do not overcome the collective action problem and cooperate to produce the public good, they will all be worse off than if they work together to achieve the benefits of the public good. Although all donor countries would benefit from the public good of global public health, the collective action problem emerges, suggesting that it is costly to provide cooperative arrangements for foreign aid donations that can achieve global public health, particularly when free riding is an option.

According to data from the OECD, the US has consistently been the largest donor of official development assistance to the health sector overall. In 2018, the US contributed $8.4 billion, or nearly 38% of total health disbursements. Within the family planning sector specifically, the US is again by far the largest donor, annually outspending the 2nd largest donor by a factor of 4 to 8, depending upon the year (see Table 12). Scholars have posited that leaders can either encourage or stymie cooperation for public goods. According to the hegemonic stability theory, which has held a prominent place in international relations theory since the 1970s, the international system is more stable in the presence of a leader, and the leader can induce other states to cooperate, particularly when it comes to providing public goods, by enforcing rules of the

international system that it creates and maintains according to its preferences (Kindleberger 1981) (Gilpin 2016). To secure the optimal provision of public goods, hegemons can generate cooperation by encouraging states to join cooperative regimes that lower transaction costs and reduce uncertainty or building cooperative institutions that uphold its powerful position (Keohane 2005). Since the administration of Truman during which the Marshall Plan and the Point Four Program were introduced, the US has acted as a leader in the realm of foreign aid (Macekura 2013).

However, other scholars argue the opposite: that a lead donor is an impediment to cooperation (Olson and Zeckhauser 1966) (Stone, Slantchev, and London 2008) (Steinwand 2015). Olson and Zeckhauser's model predicts that when working to produce a collective good (such as foreign aid disbursements) each partner country receives a portion of the benefits relative to their size, but pays a full cost for additional amounts of the collective good. Based on their own interests, larger countries will provide enough of the collective good to generally satisfy the smaller countries. Hence, the smaller country does not have an incentive to make additional contributions above and beyond the benefit they receive from the larger country's donation and is likely to free-ride, exploiting the leader. This suggests that larger countries assume larger shares of the costs and burdens associated with providing the public good. Consistent with these findings, other scholars have found that the presence of a larger country or lead donor, entices other donors to free-ride (Bourguignon and Platteau 2015).

Both the hegemonic stability theory and the exploitation hypothesis envision different ways in which the hegemon affects cooperation for public goods. Accordingly,

they would have differing observable implications of a leader's decline[2]. In a lead donor situation, there are three competing explanations for how states will react when the lead donor relinquishes its leadership role: 1. States will step out and follow the leader as cooperation dissolves, 2. A select group of states will collectively step up into a leadership role, encouraging some form of cooperation to continue, or 3. Smaller states will individually step up and make a contribution in order to again receive their share of the benefit, which is no longer present once the hegemon withdraws.

In the first scenario, which follows the hegemonic stability theory, states are compelled to cooperate due to the existence of a lead donor who can encourages cooperation. The decline of the lead donor who had enabled cooperation would imply that states who had previously been part of the cooperative arrangement would now be less likely to cooperate. They would therefore follow the leader and not increase their aid amounts. In the second scenario, Snidal argues that a leader may be necessary, but the leader need not be a hegemon (Snidal 1985). A small k-group can emerge in a selective leadership capacity to ensure that the public good is provided through one of two mechanisms. Either a benevolent k-group will provide the public good when the hegemon declines, or a coercive k-group will force subordinates to contribute. As Snidal concludes, "all states do not have to coordinate collective action as long as some effective k-group can cooperate (p. 599)" (Snidal 1985). Thus, a true k-group is one that can effectively sustain the provision of the public good.

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[2] In this paper I use the word decline to describe the US's role as the lead contributor of aid to the family planning sector. This does not imply that the US's role as hegemon is in decline in other areas of foreign affairs.

In the third scenario, proffered by Olson and Zeckhauser, the absence of a lead donor would provide smaller states (who were previously content to free-ride) with an incentive to cooperate in order to obtain the benefits from the public good (Olson and Zeckhauser 1966). As the leader's provision of the public good decreases, it may fall to a level that is lower than that which the smaller country would like, removing the smaller country's incentive to free-ride. Olson's exploitation hypothesis suggests that smaller countries are compelled to contribute in greater amounts, or perhaps even begin to contribute, when they can no longer exploit the leader's generosity. This is consistent with scholars who find that a declining hegemon increases the likelihood of cooperation among smaller states (Stone, Slantchev, and London 2008). Table 11 outlines the explanations, predictions, and hypotheses of these three schools of thought.

Table 11. Competing Explanations, Predictions, and Hypotheses

	Hegemonic Stability Theory (Kindleberger)	**K-group (Snidal)**	**Exploitation Hypothesis (Olson & Zeckhauser)**
What is a leader?	Hegemon	K-group Possibly K=1 (hegemon) or K>1 (small group of actors who assume "selective leadership")	Hegemon
Predictions with leader	States will cooperate	The public good will still be provided. Coercive k-group will force subordinates to contribute; Benevolent k-group will provide public good.	Smaller contributing countries will free ride
Predictions with declining leader	Under-provision of public goods as states decrease contributions	K-group of K>1 (small group) can emerge and cooperate to provide the public good, which does not require collective action of all states.	Smaller contributing countries increase donations as long as their need for public good is no longer being met by leader
Hypotheses	Contributions to the family planning sector from non-US countries will	A. Contributions to the family planning sector from select non-US countries (k-group) will increase;	Contributions to the family planning sector from non-US countries will increase during the

	decrease during the years that the global gag rule is in effect	B. k-group will maintain lead donor levels during the years that the global gag rule is in effect so that the public good is continually provided. C. contributions to the family planning sector will remain at pre-global gag rule levels, ensuring continued provision of the public good.	years that the global gag rule is in effect (this differs from the k-group as the number of contributing countries & total level of support may fluctuate annually).

The global gag rule provides an opportunity to empirically test these three predictions, to discern which has more explanatory power in a lead donor situation.

3.4 Application: Mexico City Policy/Global Gag Rule

On his fourth day in office, Donald Trump issued a presidential memorandum reinstating the Mexico City Policy, better known as the "global gag rule" (Presidential Memorandum Regarding the Mexico City Policy – The White House 2017). The global gag rule denies US funding to any organization that performs abortions or abortion-related activities, such as abortion counseling and post-abortion care. Historically, the global gag rule has primarily affected aid to the family planning sector[3] from two agencies: US Agency for International Development (USAID), which administers foreign aid, and the Department of State, which, since 2003, has administered family planning aid and reproductive health aid through the President's Emergency Plan for AIDS Relief—PEPFAR). Since Reagan first issued the global gag rule, it has consistently been on the agenda of nearly every subsequent president during their first week in office. Every democratic president supported by a pro-choice voting base has repealed the rule

[3] This is the official OECD sector name (DAC 5 Code 13030: Family Planning).

and every republican president, with the exception of George H. W. Bush, has reinstated it (since G.H.W. Bush's presidency immediately followed Reagan's tenure, the global gag rule was still in effect). Since the US is, by far, the largest donor to the reproductive health sector (See Table 12), the presence or absence of the policy drastically changes the funding allocated to that sector.

The global reaction to Trump's presidential memorandum, particularly from some countries, was swift and strong. One day after Trump signed the global gag rule, Lilianne Ploumen, the Dutch Minister for Foreign Trade and Development Cooperation, launched a global fundraising initiative, titled "She Decides" to raise donations supporting access to sexual and reproductive health (Reuters 2017). In the wake of the estimated $600 million decrease in US aid to family planning/reproductive health over the 4 years of the Trump administration (2017-2020) She Decides set out to raise enough to keep funding the groups during that time period who were reliant on that aid (Darroch 2017). It collected and distributed contributions from governments, the private sector, NGOs and individuals. During those years, extant organizations affected by the decreased US funding were eligible to receive continued support from She Decides through existing funding mechanisms (Darroch 2017).

Within two weeks of its launch, eight countries had publicly pledged additional support for organizations that would lose funding through the new policy (Reuters 2017). These countries; the Netherlands, Sweden, Denmark, Belgium, Luxemburg, Finland, Canada, and Cape Verde, were soon joined by Australia and Norway to increase aid to population policies/programmes and reproductive health (Bishop 2017) (Rankin and

Elgot 2017). Others have opted to keep their funding at pre-global gag rule levels, and still others have followed the US in decreasing their support. Noticeably absent from pledging additional funds was the world's second-largest donor to reproductive health, the United Kingdom (Rankin 2017). A possible explanation for this variation in responses from non-US OECD countries is discussed later, in the penultimate section of this paper. That section introduces a formal model of strategic interaction between two countries faced with the decision to contribute to a global public good, and provides insight into why one country would have increased contributions when another chose not to do so.

She Decides quickly mobilized to organize a one-day conference in Brussels on March 2, 2017. Four governments (Sweden, Belgium, Denmark, and the Netherlands) co-hosted the conference, which was attended by representatives from 50 governments (including low- and middle-income countries, such as Namibia, Cameroon, Cape Verde, and Chad) as well as international NGOs and foundations (Timeline | She Decides 2018). Belgium, Sweden, Denmark, the European Union, Finland, Canada, Luxembourg, Norway, and Australia each pledged additional funds for family planning (International Campaign for Women's Right to Safe Abortion 2017). Although the United Kingdom vocalized their overall support for reproductive health, they again declined to pledge additional funds (Rankin and Elgot 2017). At the end of the conference, She Decides announced that within 6 short weeks of its inception the organization had raised $190 million to partially cover the $600 million shortfall (over 4 years) left by the US's aid withdrawal (DuVall 2017). In January 2018, the Belgian Federal Minister for

Cooperation announced that in less than 1 year, She Decides had succeeded in collecting 450 million euros ($560,421,000 US dollars), just shy of its goal to raise $600 million (Times 2018).

As outlined above, and as reported in the media, there is ample evidence that in 2017 many countries, primarily led by middle powers, moved in a cooperative way to close the gap in foreign aid left by the US's reversal of funding to women's reproductive health organizations. This is arguably a contemporary example of the emergence of one of Snidal's proposed k-groups. There is support for each of the three hypotheses that follow from Snidal's argument: A. Contributions to the family planning sector from select non-US countries (k-group) increased; B. the k-group pledged to maintain lead donor levels during the years that the global gag rule was in effect by raising the funds necessary to close the gap created by the US's global gag rule during the four years of the Trump administration; and C. with the (nearly) $600 million raised, contributions to the family planning sector remained at pre-global gag rule levels despite the US's decline. Examining historical foreign aid data can help us determine how countries have responded to the US's policy throughout the years. In other time periods, has a k-group stepped up and into a selective leadership role when the US has decreased their contributions?

3.5 Data and Empirical Approach

This study draws on both descriptive statistics and regression analysis to investigate donor responses to the US's global gag rule the last time it was instated and then repealed prior to the Trump administration's reinstatement in 2017. I analyze annual

donor contributions to sector 13030: Family Planning, from twenty-seven OECD Development Assistance Committee (DAC) countries (the US and 26 non-US countries) during the Clinton, G.W. Bush, and Obama administrations to determine how funding levels changed during the years when the global gag rule was in place. The descriptive statistics establish the change in US funding levels during that time frame and how individual countries responded. The regression model analyzes the average change in annual donor country contributions, dependent upon the existence of the US's global gag rule.

3.5.1 Descriptive Statistics 1997-2004

The descriptive data analysis utilizes annual contributions to the family planning sector that span the two US presidential terms of interest: 1997-2000, Bill Clinton's second term, which preceded the implementation of the global gag rule by George W. Bush in 2001, and 2001-2004, G.W. Bush's first term, which immediately followed it. Figure 3 graphically depicts the US contributions during that time period. There exists a fairly steady increase during the last term of the Clinton administration, with a slight decrease in 2000. However, a sharp decline is clearly visible starting at the onset of the Bush administration (indicated by the green vertical line), when the global gag rule was reinstated after an eight-year hiatus during the Clinton years.

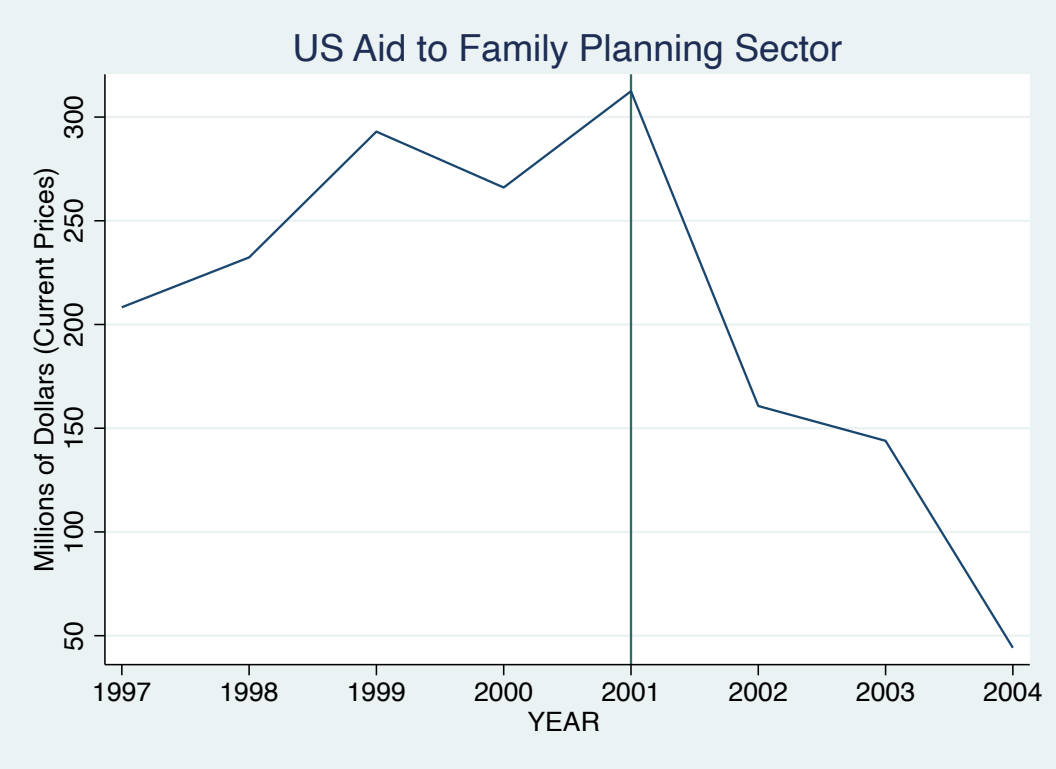

Figure 3. Decline in US Aid Post-Global Gag Rule

Due to the time lag between the US presidential inauguration (which is immediately followed by the implementation or revocation of the global gag rule) and the budget making and approval process of other countries, it is difficult to isolate the exact year during which the global gag rule may have affected other OECD DAC countries. Due to a state's internal timing and processes, some countries may be able to employ a rapid response, while others may take longer. Therefore, I calculated the annual average contribution for each of the presidential terms of interest: Clinton's last term when the global gag rule was not in effect (1997-2000), and Bush's first term when the global gag rule was implemented (2001-2004). Table 12 displays the aforementioned averages for all 27 countries (including the US) and as well as the absolute change and percent change

between their annual average funding levels post-shock and pre-shock. The table is organized in descending order by donor, with the largest contributing donors during the 1997-2000 time period at the top, and the lowest contributing donors during the 1997-2000 time period at the bottom.

After the global gag rule was implemented in 2001, during Bush's presidential term, the top four donors sharply decreased their funding to the family planning sector. One of the sharpest declines was experienced by the Netherlands, which started out as the fourth largest donor, and by the second time period was only the eighth largest donor. All countries shaded in green decreased their funding from one time period to the next; the decrease for these countries was substantially large and varied from 34% to 89%. This substantial decrease by the top four donors was not paralleled in all countries. The countries highlighted in blue increased their average annual spending after the global gag rule was implemented, the increase varied from 60% to more than 3000%. While the dollar amounts associated with these increases did not compensate for the loss of US funding, they represent a large shift in a short period of time. For most of the countries, the family planning sector budget did not remain stagnant or even change slightly during these years, as one might expect in the absence of external pressure. Aid amounts from significant contributors either increased or decreased dramatically.

In summary, during the two time periods examined, nine countries made no donations to the family planning sector. An additional nine countries stepped up and increased their spending after the global gag rule. Eight countries stepped out by following the US and decreasing their contributions to the family planning sector after

the global gag rule was implemented. The formal model presented later in the paper offers a framework to understand this variation.

Table 12. Average Annual Family Planning Aid Pre- & Post-GGR (USD millions)

Donor	1997-2000 average	2001-2004 average	Absolute change	% change
United States	249.925	165.326	-84.599	-33.9%
United Kingdom	57.847	6.970	-50.877	-87.9%
Germany	47.814	19.918	-27.897	-58.3%
Netherlands	6.108	0.646	-5.463	-89.4%
Canada	1.60	4.836	3.237	202.4%
Norway	1.08	2.252	1.176	109.4%
Australia	0.849	0.673	-0.176	-20.7%
Japan	0.849	0.004	-0.845	-99.5%
Switzerland	0.747	1.192	0.445	59.6%
Italy	0.458	0.121	-0.337	-73.5%
Spain	0.133	0.038	-0.096	-72.2%
Denmark	0.091	0.455	0.364	398.8%
Finland	0.023	0.259	0.236	1009.4%
Austria	0.009	0	-0.009	-100.0%
Belgium	0.008	0.250	0.242	3166.4%
Ireland	0.001	0.016	0.015	1500.0%
Czech Republic	0	0	0	0
France	0	0	0	0
Greece	0	0	0	0
Hungary	0	0	0	0
Iceland	0	0	0	0
Korea	0	0	0	0
Luxembourg	0	0.1412	0.1412	N/A
New Zealand	0	0.0508	0.0508	N/A
Poland	0	0	0	0
Portugal	0	0	0	0
Sweden	0	0	0	0
Total	**367.535**	**203.148**	**-164.387**	**-44.7%**

Note: Declining Donations (stepping out); Increasing Donations (stepping up); Constant Donations

Do these nine countries that increased their spending constitute one of Snidal's k-groups? In order to do so, the group must emerge as a selective leadership group, a replacement for the hegemon, which implies that the group must meet two qualifications in addition to initially increasing their contributions in response to the leader's decline: First, they must continue their leadership role and maintain lead donor levels during the years that the global gag rule is in effect, and second, the overall contributions to the family planning sector would ideally remain at pre-global gag rule levels in order to a) replace funds from the former leader, b) demonstrate that they were able to induce cooperation from states outside of the k-group, and c) ensure provision of the global public good. To determine if the first condition is met, Figure 4 charts the contributions of these countries during the second presidential term of G.W. Bush.

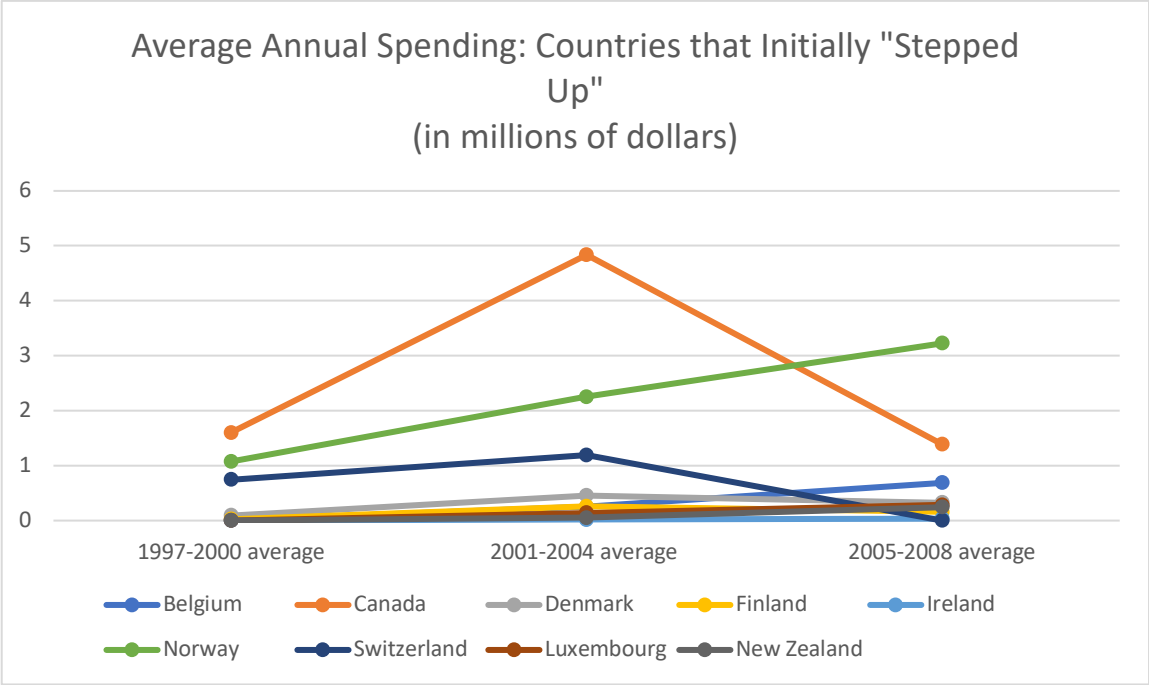

Figure 4. Annual Contributions to Family Planning Sector

Of the nine countries that initially increased their contributions, only Norway, Ireland, Belgium, Luxemburg, and New Zealand continued to increase their contributions to the family planning sector. Contributions from the other four declined, indicating that not all of these initial contributing countries were committed to maintaining a leadership role. Referring back to Table 12 (particularly the overall totals at the bottom of the table), we see that the second criterion was not met either. None of the countries increased their aid levels to amounts that would make up the difference in the US decline. There does not appear to be robust support for the idea that a k-group emerged in 2001 in response to the decline in US funding to the family planning sector.

3.5.2 Quantitative Analysis 1997-2012

In addition to descriptive statistics, I use a linear fixed-effects model to investigate how donor countries' family planning foreign aid contributions changed, depending on the presence or absence of the US's global gag rule. The regressions utilize annual contributions to sector 13030: Family Planning, from all non-US OECD DAC countries for each of the following years: 1997-2012 to accommodate four presidential terms: two with the global gag rule (G.W. Bush 2001-2008) and two without (Clinton 1997-2000; Obama 2009-2012)[4]. The 26 non-US countries used in the sample are those that had joined DAC prior to 1996. All countries that joined DAC after 1996 were excluded from the sample in order to maintain consistency across time.

The dependent variable is the OECD non-US DAC countries' foreign aid expenditures to sector 13030: Family Planning. The right-hand side of the model includes the main independent variable of interest, which is the global gag rule (GGR), operationalized as an indicator variable where 1 denotes a year where the global gag rule was in effect (2001-2008) and 0 indicates a year where the global gag rule was not in effect (1997-2000; 2009-2012). Additionally, I include the following control variables.

Annual GDP per capita (in current dollars) controls for the wealth of a given donor country and could have implications for the amount of funds it can contribute to official development assistance (World Bank 2014). *Annual domestic public health*

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[4] The year 1995 was the first year in which mandatory reporting of aid contributions to OECD was instituted, so data between 1984, when the global gag rule was first implemented by Ronald Reagan, and 1994 are incomplete. These four presidential terms represent the first full terms wherein complete data are available.

expenditures is the amount each donor country spends on public health as a percentage of government expenditures (World Bank 2014). This variable is included a proxy for the extent to which a government values public health spending. The final control variable is *political ideology* of executive in power (right/left) by year (Scartascini, Cruz, and Keefer 2018). This accounts for the donor country government's orientation, by year. Since the US's aid budget for family planning is dependent on the political ideology of the executive, I control for the possibility that other donor countries' aid budgets for family planning might be similarly influenced by political ideology. Right is a binary variable with a 1 indicating a right-leaning executive in power for that year, and a 0 indicating a center or left-leaning executive. Left is a binary variable with a 1 indicating a left-leaning executive in power for that year, and a 0 indicating a center or right-leaning executive. The binary variable Center (also included in the dataset) is omitted due to collinearity and is the reference category.

Table 13. Variables in OLS (Country-Year Unit of Analysis: non-US OECD Countries 1997-2012)

Variable	Definition	N	Mean	SD	Min	Max
Aid amount	Annual aid expenditures to family planning sector	416	2.49	9.78	0	92.66
Global Gag Rule	Existence of US Mexico City Policy	416	0.5		0	1
GDP	Annual GDP per capita	416	34,623.93	1,9572.90	4,116.93	115,761.50
Public Health Spending	Annual domestic public health spending as a percentage of domestic expenditures	416	14.64	2.87	7.14	23.13
Left	Political ideology of executive	412	0.40		0	1
Right	Political ideology of executive	412	0.42		0	1

I rely on a linear model (OLS) with country fixed effects. The unit of analysis is the country-year and robust standard errors are clustered by country. Based on the timing of when budgets are created, it is reasonable to assume that an immediate reaction of increased or decreased disbursements would not be observed in the same year the global gag rule was implemented. It is plausible that a "reaction window" exists, wherein states employ a delayed response to the global gag rule. To explore this, I lagged the independent variables by one year. Using the dependent, independent, and control variables outlined above, I estimated the following model, where c = country and t = time and μ_c = country fixed effects to account for country-specific time invariant unobservables.

$$nonUSAid_{c,t} = \beta_0 + \beta_1 GGR_{t-1} + \beta_2 GDP_{c,t-1} + \beta_3 PubHlth_{c,t-1} + \beta_4 Right_{c,t-1} + \beta_5 Left_{c,t-1} + \mu_c + \varepsilon_c$$

As the results indicate, the presence or absence of the global gag rule does have a statistically significant ($p<0.1$) effect on other countries' contributions in the following year, when controlling for GDP per capita, government public health expenditures and government orientation. On average, for every year that the global gag rule is in effect, countries decrease their annual contribution to the family planning sector by nearly $2.36 million. Overall, these results support the hypothesis consistent with the hegemonic stability theory. When the hegemon declines, the non-US OECD DAC countries follow suit and step out of the funding arrangement, resulting in less cooperation for provision of the global public good.

Table 14. Impact of the Global Gag Rule on Family Planning Aid Contributions (OLS)

VARIABLES	Non-US Aid
Global Gag Rule	-2.357*
	(1.285)
GDP Per Capita	2.74e-05
	(3.87e-05)
Public Health Spending	-0.0375
	(0.185)
Left Government	0.00486
	(0.532)
Right Government	0.193
	(0.573)
Constant	3.348
	(3.005)
Observations	412
R-squared	0.027
Number of Countries	26
Country Fixed Effects	Yes

Robust standard errors in parentheses
* p<0.1

The global gag rule has a statistically significant impact on the contributions to the family planning sector when accounting for a "reaction window" and measuring the effects during the following year. This inverse relationship highlights that overall non-US OECD DAC countries' funding to this sector decreases as the US decreases its contributions when the global gag rule is in effect. Table 15 outlines the expectations along with the results from the case analysis and the regression results. As Table 15 shows, the case analysis outlining the events of 2017 and the OLS results provide support for different theoretical frameworks (1997-2012: hegemonic stability theory; 2017: k-group), both of which emphasize the importance of a leader in encouraging cooperation.

Table 15. Hypotheses and Results

	Hegemonic Stability Theory (Kindleberger)	K-group (Snidal)	Exploitation Hypothesis (Olson & Zeckhauser)
Hypotheses	Contributions to the family planning sector from non-US countries will decrease during the years that the global gag rule is in effect	A. Contributions to the family planning sector from select non-US countries (k-group) will increase; B. k-group will maintain lead donor levels during the years that the global gag rule is in effect so that the public good is continually provided. C. contributions to the family planning sector will remain at pre-global gag rule levels, ensuring continued provision of the public good.	Contributions to the family planning sector from non-US countries will increase during the years that the global gag rule is in effect (this differs from the k-group as the number of contributing countries & total level of support may fluctuate annually).
Observation: 2017 response	No	A. Yes B. Yes (participating countries have pledged to cover the gap US funding for 4 years) C. Maybe: Countries have pledged to cover the gap in US funding for 4 years.	Uncertain.
Descriptive Statistics/ Quantitative Results	Yes Regression findings indicate overall decrease in non-US funds during GGR years when accounting for a 1 year "reaction window"	A. Yes (9 increased in response to 2001 implementation) B. No (only 5 of the 9 maintained or increased donations during the next presidential term—2005-2008) C. No (Increased contributions failed to compensate for losses from US).	No Descriptive statistics show that 9 increased, while 8 decreased, and 9 stayed constant. A majority of the countries did not step up.

3.6 Variation in Response by Country/Time: Formal Model

Thus far this paper has examined the international community's overall response to an abrupt change in funding by a lead donor, brought about by the implementation or revocation of the US's global gag rule. But questions about non-US OECD countries'

reactions remain. The descriptive statistics indicate that there is variation in the way individual countries respond. Indeed, there is variation in the way the same country responds during different time periods. To account for this variation, this section details a formal model of strategic interaction between the US and another OECD donor country. This model is generalizable to global public goods in general and can explain the interaction between any two countries faced with the decision of whether or not to fund a particular global public good.

Basic Elements: The model demonstrates the conditions under which a player may choose to fund a global public good knowing that the other player has decided to free-ride.

The main themes of my findings suggest:

- The decision to fund or not fund a public good is dependent upon 3 factors: **costs** of contributing to the public good, **benefits** obtained from having the public good supplied, and **domestic political benefits** in the form of constituent support.
- The domestic political benefit State *j* receives from pleasing its constituency is conditional upon the actions of State *i* and it increases if State *j*'s domestic audience is opposed to State *i*.
- When the domestic political benefit, or constituent support, reaches a threshold, State *j* will ignore a simplified cost and benefit analysis as the desire to extract the domestic political benefit and please its constituency causes State *j* to act in opposition to State *i*.

- In the absence of a domestic political benefit or constituent support, State *j* is less likely to contribute to the public good, especially if State *i* has already chosen to free-ride.

Players: The game has two players. For the global gag rule example, the US is denoted as player 1/state *i* and the other OECD donor country is denoted as player 2/state *j*.

Sequence of Play: The game proceeds with the following sequence:

- Player 1: State *i*, the US, chooses to implement the global gag rule or not. This strategy is denoted as $x_i \in \{0,1\}$
    - 0 represents choosing not to fully fund the family planning sector (this occurs when the global gag rule is implemented).
    - 1 represents choosing to fully fund the family planning sector (this occurs when the global gag rule is *not* implemented).
- Player 2: State *j*, one single OECD donor country (not the collective of OECD countries), observes the US's decision and then selects its strategy, denoted as $x_j \in \{0,1\}$
    - 0 represents choosing not to fund the family planning sector
    - 1 represents choosing to fund the family planning sector
- Each player receives its payoffs and the game ends.

Figure 5, below, graphically depicts the sequence of play between states *j* and *i*, in a decision tree.

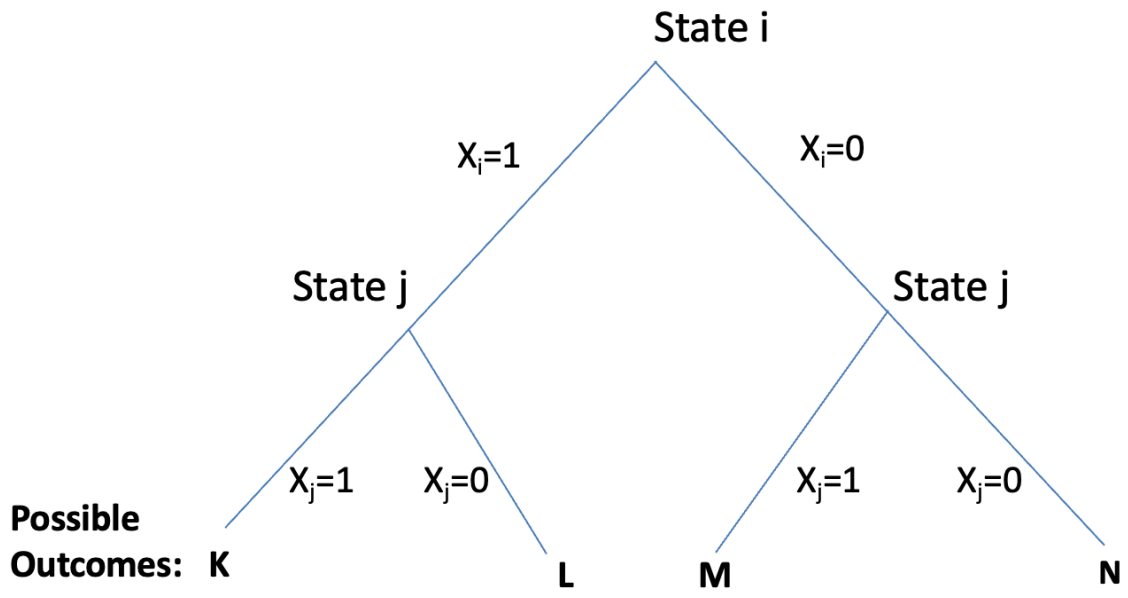

Figure 5. Decision Tree

In a public goods scenario, where free riding is a concern, it is easy to imagine why state *j* would select 0 as its strategy and the game would always end in L or N. If state *i* funds, then state *j* can receive the benefit without bearing any costs and the game ends at L. If state *i* shirks, state *j* will be inclined to do so as well because otherwise state *j* would be paying all of the costs and receiving few benefits since the benefits for a global public good are diffuse and distant (overall, the benefits to any one state do not outweigh the costs). The game would end in N.

However, as this paper has demonstrated, this is not always the case. Under what conditions will state *j* fund when state *i* has chosen not to fully fund? I argue, and this model demonstrates, that in addition to costs and benefits, there is another element that factors into a state's calculus for contributing: domestic political benefits, as explained below.

Utilities: The utility function for each state is a function of its own strategy as well as the strategy of the other state. The utility function contains the following elements:

- B: benefits the state receives from the global public good.
    - Since we assume the benefits are additive, the model captures the benefits of state i's strategy plus the benefits of state j's strategy. If state i decides not to contribute, but state j does, country i will still receive some small global public goods benefit.
- C: costs the state incurs from funding the global public good.
    - Since we are dealing with global public goods, we assume the costs to any donor state are greater than the diffused benefits that particular state would receive.
- D: domestic political benefits a state receives from contributing to the global public good, in this example foreign aid for reproductive health. In other words, these are the rents extracted from domestic audiences.
    - The value of D determines whether or not a state will fund. Specifically, the relationship between D and C, determines if a state will fund.
    - For state *i*, when D is greater than C, the US will fund. When D is less than C, the US will implement the GGR.
    - For state *j*, the value of D is conditional on the actions of state *i*.
    - If state *j*'s domestic audience is in contrast to state *i*, the value of D increases. This is captured in the model. In the case of the global gag rule

implementation in 2017, the value of D is high for many countries in direct response to the Trump administration, which has generated a lot of strong, negative feelings.

- ε is included so that regardless of the values of x_i and x_j, there will never be a 0 in the denominator.

These elements are represented in the following utility functions for states *i* and *j*, respectively:

$$u_i(x_i, x_j) = x_i B + x_j B - x_i C + x_i \frac{D}{\varepsilon + x_i + x_j}$$

$$u_j(x_i, x_j) = x_i B + x_j B - x_j C + x_j \frac{D}{\varepsilon + x_i + x_j}$$

Where $i \neq j$ (this is because we are modeling the interactions of two different states) where D varies by player and can be positive or negative.

This game is presented again graphically in Figure 6, which has been updated to include the payoffs for state *i* and state *j*.

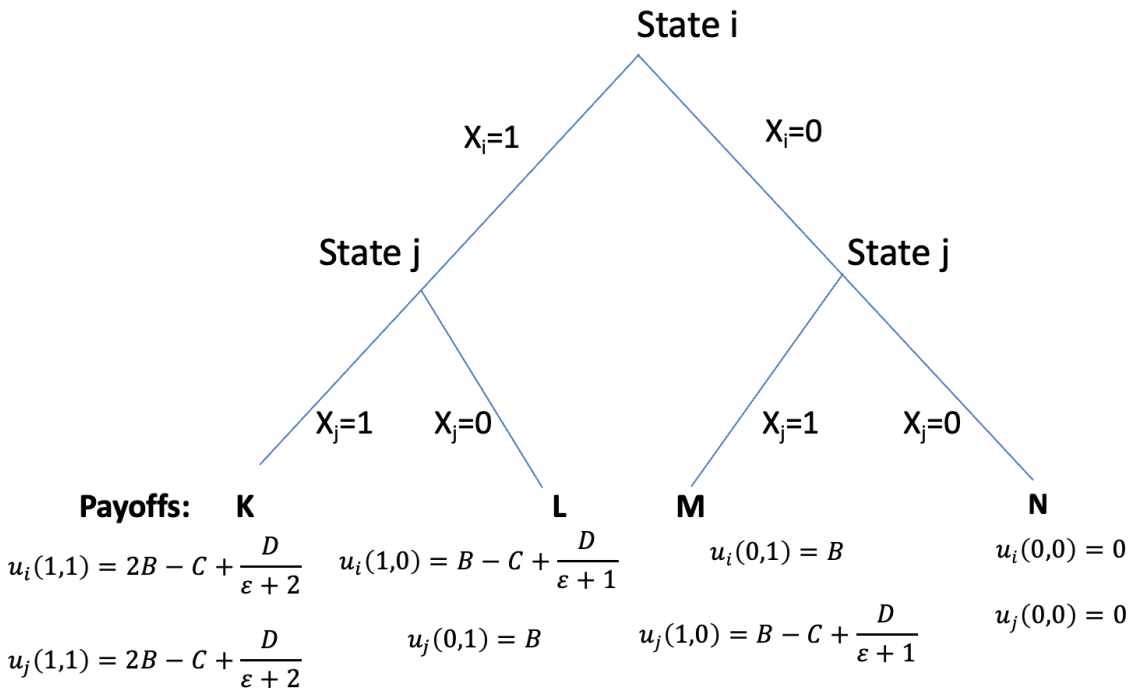

Figure 6. Decision Tree with Payoffs

Since the global gag rule is an example of state *i* (the US) choosing not to fully fund the family planning sector, I am interested in explaining the right side of the decision tree where X_i=0.

3.6.1 Outcome M: Proposition Early Free Riding

The solution concept is subgame perfect Nash equilibrium. In this scenario, state *i* decides not to fully fund. With the GGR example that would be the US decreasing their foreign aid funding to reproductive health as doing otherwise would upset their domestic audience. Under many circumstances, we might expect state *j* to also shirk funding responsibilities, but the foreign aid data show that some countries do in fact, choose to increase funding anyway. Solving the model I proposed yields payoffs that would cause rationally acting state *j* to fund, despite state *i*'s prior decision to free-ride. Since we

know that costs are greater than benefits, state *j* will only choose to fund in this scenario if D, or the domestic political benefits they receive from funding is greater than the difference in costs and benefits.

Although this theoretical model has not yet been empirically tested, there is anecdotal evidence that states have received a domestic political benefit from increasing their spending in direct contrast to the Trump administration. For example, less than 2 weeks after Trump signed the global gag rule in the presence of an exclusively male assembly, the Swedish deputy prime minister Isabel Lovin signed a climate bill surrounded solely by female leaders, including one woman who was visibly pregnant. The composition of the Swedish photo almost directly mirrors the US photo. In each, the executive signing the bill sits at a desk, pen in hand surrounded by seven individuals. The women's poses mimicked those of the men, further indicating that this photo was a deliberate response to the US. Deputy Prime Minister Lovin issued this photo, which was distributed widely via both social media and traditional media outlets to great acclaim. When the US signed the GGR, it increased the value of D for Sweden. Trump's actions made it politically more valuable for Sweden to be in direct public opposition to the US, and Sweden would incur a greater political benefit from increase its funding than it would have received had he not signed the GGR.

The model presents one possible explanation for the variation we observe in the responses of OECD donor countries to the global gag rule. Further research should be conducted to evaluate the utility of the model for this, as well as other global public goods scenarios.

3.7 Conclusion

Both the descriptive data and the regression analyses reveal an overall decline in aid to sector 13030: Family Planning, when the US's global gag rule is in place. This statistically significant effect is visible when accounting for a "reaction window" by measuring non-US contributions made in the following year. The quantitative analyses suggest that a lead donor encourages greater public goods provision, which lends support to the hegemonic stability theory. The evidence from 2017 however, reveals what appears at first to be the opposite effect. A decrease in funding from the hegemon led to increased cooperation for the public good. When the US decreased their support, countries cooperated to provide the public good, mitigating an overall decrease in funding due to the global gag rule. In 2017, a selective leadership group emerged, lending support to Snidal's k-group argument.

But how disparate are these results when applied to the logic of collective action? Both point to the importance of a leader when providing public goods. Whether that leader is a single state or a k-group, the evidence put forth in this paper suggests that global public goods are more likely to be provided when there is a lead donor. During 1997-2012, non-US funding decreased when the US implemented the global gag rule and did not take on a leadership role. In 2017, non-US funding increased when the US implemented the global gag rule and a k-group emerged and took over that leadership role.

Moving beyond the scope of global public goods, this finding is consistent with research on the role of multilateral powers in fostering international cooperation for

ratifying multilateral legal treaties. Milewicz and Snidal find that some states (which they define as powerful and independent from the United States) are more likely to cooperate and participate in international treaties that the US does not ratify, particularly when their interests are not aligned with those of the US (2016). They conclude that in the realm of treaty ratification, multilateral powers have stepped up to fill a gap in cooperation one might expect to see when the US is not actively engaged. Taken together, these studies suggest that the absence of the US from a cooperative arrangement need not hinder multilateral cooperation in multiple issue areas, particularly when US interests depart from those of multilateral actors (as was the case with the global gag rule in 2017 as well). In both the treaty example and the global gag rule example, states can inhibit a leadership role as a k-group and move quickly in issue areas that are at odds with the historic leader.

This paper ends with the questions that were asked at the beginning: Is a lead donor necessary for the provision of global public goods? How do countries respond to a declining leader? To the first question, the answer is yes. When employing the evidence presented in this study, we see that family planning aid is provided when there is a leader; either a hegemon or a k-group. The absence of either leads to an under provision of the public good.

The answer to the second question is more complicated. Despite the support for the k-group hypothesis in the 2017 response, it appears that a k-group did not emerge in 2001. What was the difference between 2001 and 2017? One obvious difference is the severity of the global gag rule in 2017. Not only did Trump reinstate the global gag rule,

but he also expanded it to apply to all US global health assistance (not just aid for population/reproductive health) from all agencies and departments (not just USAID and the Department of State) (Presidential Memorandum Regarding the Mexico City Policy – The White House 2017). The Department of Health and Human Services is now subject to the regulation as it provides global health funding through the Centers for Disease Control and Prevention and the National Institutes of Health. It is estimated that in total this expansion could encompass a total of $9.5 billion in health aid (Starrs 2017).

Does Trump's expansion of the global gag rule to include other aid sectors explain the emergence of a k-group in 2017? While it seems plausible that countries would seek greater coordination in response to an increased threat to a global public good (in this case, all public health), the international response has been targeted solely to funding organizations within the population/reproductive health sector. As outlined below, "She Decides" only funds population/reproductive health. Furthermore, all public statements by contributing countries discuss reproductive health and family planning, not other facets of public health. So while Trump's expansion will likely incur other health consequences that may lead to a change in donor behavior, it does not explain the emergence of a k-group focused on providing family planning in 2017.

Another difference between 2001 and 2017 as articulated in the formal model is a reaction to Trump, himself, and the way in which this polarizing world leader altered the contribution calculus for some countries. The domestic political benefit that some countries received from opposing Trump compelled them to contribute when the other state was free-riding. Under normal circumstances, and perhaps in 2001, the domestic

political benefit gained may not have been adequate to entice that same country to contribute, knowing the US was shirking.

What determines when a k-group will emerge? The empirical findings and the formal model presented in this paper suggest that the decline of a lead donor in a global public goods situation may elicit different responses from different countries at various points in time. States may form a k-group to receive a domestic benefit from differentiating themselves from the hegemon in an issue area that is of importance to its domestic audiences. Further research should be conducted to empirically test the formal model, both for this global gag rule example and for other global public goods.

Chapter 4. Give and take: The impact of aid sanctions on women's rights

By Kelly Hunter and Pei-Yu Wei

Written contributions (as described in Chapter 1. Introduction of the dissertation):

Abstract (included in Chapter 1. Introduction of the dissertation)—KH

Introduction—PW

Theory—KH and PW

Research Design—KH

Results—KH

Limitations—KH

Conclusion--KH

Figures—PW (with edits by KH)

Tables—KH

4.1 Introduction

In 2019 the administration of President Donald Trump, amidst much outcry, slashed hundreds of millions of dollars in aid to three Northern Triangle countries of El Salvador, Guatemala, and Honduras (Wroughton and Zengerle 2019). The countries were accused of not doing enough to stem the flow of asylum seekers to the southern border of the United States. The sharp decrease in U.S. aid had wide-ranging effects. Prior to its termination, the aid supported security and police forces responsible for preventing drug trafficking, as well as Washington-backed humanitarian relief programs targeted towards the poorest residents in the three countries (McDonnell 2019). This set of sanctions were

by no means the first time that the U.S. had used aid as an instrument of negative economic coercion. In fact, aid cuts have been utilized by every recent presidential administration as a tool of economic sanctions. President Joseph Biden stopped millions of dollars in aid from flowing to the Naypyidaw in the wake of the military coup in 2021 (Hansler 2021). In 2014, the government of Uganda signed the Anti-Homosexuality Act into law, leading then-President Barack Obama to impose travel restrictions on Ugandan officials, cancel a planned joint military exercise, and cut off aid for a community policing project and funding for health agencies (Baker 2014). As these examples demonstrate, aid termination is increasingly included in a sanctions package by sanction-sending governments.

Economic sanctions consist of a wide array of instruments and have been typically employed as an alternative to conflict. Although economic sanctions are traditionally associated with trade controls, ranging from limited import or export restrictions to wide-ranging embargoes, the humanitarian impact caused by such tools have encouraged policymakers to be more conscientious in sanction implementation (Weiss 1999). As policymakers have gained a better understanding of the harm that broad, undiscriminating embargoes could have on the civilian population in the sanctioned country, sanctions technology has evolved to become more targeted. Targeted sanctions, or sanctions that are imposed on the political elite of the target states, became increasingly popular (Drezner 2011). With technological advancements that allow for better targeting of individuals, entities, and organizations, sanctioning states can now choose between various types of tools, including aid sanctions, financial sanctions, travel

bans, and arms embargoes. In a world interconnected by financial flows and aid, sanction-sending states embedded in capital networks have more sanctioning tools available. Some of these instruments can be as effective at achieving their goals as traditional sanctions. For example, a recent study finds that aid sanctions accelerate target capitulation (Jeong 2019).

Notwithstanding these advancements, we lack in-depth understanding of how the different kinds of sanction instruments affect the well-being of civilians in targeted states. Sanctions are highly complex and many of these sanction types occur simultaneously. Ignoring the independent effects of different sanction types may lead us to misunderstand the impact of sanctions. Despite this, the diversity of sanction instruments is infrequently accounted for in the sanctions literature, particularly with regards to on-the-ground consequences faced by the population in the target state. On average, economic sanctions have been found to negatively affect the population in the target country (Drury and Peksen 2014). But we do not understand if these impacts vary across different sets of conditions or populations. We argue that the consequences of economic sanctions cannot be truly understood without accounting for the heterogeneity in the implementation of economic sanctions. It is therefore imperative to disentangle the different sanction instruments used and to examine each in isolation. Due to their prevalence and the direct effect they potentially have on the target state's marginalized population, this paper focuses on aid sanctions, or economic sanctions that include the termination of foreign aid, either committed or disbursed, to the target state. In this paper, we measure the impact of aid termination on women's bodily rights, a term encompassing three outcomes

related to women's well-being: 1. freedom from direct and indirect harm, 2. life expectancy, and maternal mortality. This project has high relevance to policymakers seeking to ameliorate the effect of economic sanctions, particularly when sanction senders' objectives overlap with or necessitate the creation of a strong and stable civil society.

4.2 Aid Sanctions: A Unique Sanction Instrument

Aid sanctions and foreign aid are two sides of the same coin; both are forms of coercive economic statecraft, defined as the use of economic policy instruments to achieve foreign policy goals (Baldwin 2020). Countries employing economic statecraft can use "carrots and sticks" to induce compliance of target countries on non-economic issues through economic rewards or punishments. Foreign aid, while traditionally viewed as a "carrot", can also be used as a "stick" when the donor country withdraws or suspends committed aid from a recipient country to alter the non-economic behavior the target, for reasons ranging from fraudulent elections to weapons proliferation, to human rights abuses in the target country. Aid termination, also known as aid withdrawal or aid sanctions, is defined by scholars as a donor country's refusal to disburse aid that has already been committed to a recipient country (O'Brien-Udry 2020). Formally, the termination of foreign aid is when "the sender reduces or ends foreign aid or loans if the target state does not comply with the demands of the sender" (Weber and Schneider 2022).

Compared with other types of sanction tools such as trade and finance, foreign aid can directly impact the lives of certain populations in the target state. While the

effectiveness of foreign aid in general is debated, a number of studies exist that demonstrate the positive impact of aid on health. For example, active aid projects decrease infant mortality (Kotsadam et al. 2018), aid reduces HIV and child mortality (Yogo and Mallaye 2015), the prevalence of malaria (Marty et al. 2017), diarrhea (De and Becker 2015) and overall disease burden (Odokonyero et al. 2015). Aid allocated to reproductive health and maternal health is associated with decreases in maternal mortality (Banchani and Swiss 2019). The interconnection between aid and the lived experiences of the target state civilians makes it imperative to examine how and in what ways aid sanctions differ from their counterparts.

Aid withdrawal itself contains a range of tools, though it usually either excludes humanitarian aid, medicine/medical products, etc. or includes specific waivers to continue providing humanitarian aid, medicine/medical products, etc.; for example, with the recent ascent of the Taliban into full government control of Afghanistan, the US issued a license to continue humanitarian assistance even as US sanctions continued against the Taliban (Psaledakis 2021). Thus aid sanctions are not always associated with a decrease in the net flow of aid to the target state. The EU and US commonly redirect funds from the government in target states to projects that would "directly benefit civilians," such as when the US redirected $42 million in aid in 2021 from the post-coup Myanmar government to civil society and private sector projects. Partial aid sanctions exist where donor states punish recipients by cutting aid to economic sectors while continuing aid to the civil society writ large (Nielsen 2013). Prior research documents the negative consequences of economic sanctions for civilians, from increasing inequality to

shortened life expectancies (Jeong 2020) (Gutmann, Neuenkirch, and Neumeier 2021). With these embedded exceptions for humanitarian purposes, it is reasonable to assume that aid sanctions should theoretically be less harmful overall, especially when compared to other types of sanction instruments.

Despite efforts to minimize risk, we argue that there may still be some adverse effects, particularly to marginalized populations. Prior work on aid sanctions does suggest that affluent groups bear the greatest share of costs associated with aid termination (Jeong 2020). Since the poor are not the primary targets of aid sanctions, Jeong argues that they should not suffer adverse humanitarian consequences of aid termination. He goes so far as to suggest that aid termination is one way to coerce target governments and avoid harm to target citizens. We agree with Jeong's assertion that the extent of humanitarian suffering may differ across sanction instruments and future studies should analyze this effect. If his assumption about affluent groups bearing the costs of aid termination is true, we would expect to see no change in humanitarian outcomes for women in the years when aid sanctions are applied. But if aid termination has some negative humanitarian impacts (which Jeong did not test for), we would expect those to be revealed in marginalized populations, if not in the general population. In this paper we isolate and estimate the impact of aid sanctions on women's bodily security and health, as women are more likely to suffer from economic sanctions than their male counterparts (Drury and Peksen 2014).

4.2.1 Disruptions due to Aid Sanctions

Aid sanctions could impact bodily security and health of the vulnerable population in the target state either directly or indirectly. Aid sanctions that cut off government budgetary support is particularly prevalent (Jeong 2019). The direct impact of such aid cuts decreases capacity in government programs. Aid related to security, including community policing programs, military training and equipment, etc. are among the first programs cut by the sender state. This is partly correlated with the motivations of the sanctions. When the sanctioned state is repressive or committing human rights abuses, the sanctioning state often targets resources that could be used to support a repressive security apparatus. When this occurs, the target may also have less ability to provide security to its citizens.

Indirectly, aid sanctions could potentially cause the deterioration of the social safety net. While aid sanctions may provide exceptions for certain activities, particularly those connected to humanitarian projects and democratization, the introduction of such sanctions puts strain on the target state government. Depending on where aid cuts occur, the target state may choose to reshuffle its budget by redirecting funds from one sector to another. Given that security-related aid is often the first type cut by the sanctioning state, and that target states usually prioritize international security over civil society policing programs or other projects that may help with women's experienced bodily security, it is expected that the target would shift resources away from social welfare, public health, or related priorities towards security. This has occurred in other sectors of government

priorities, specifically disaster preparedness (McLean and Whang 2021) and is one possible way in which governments may respond to aid termination.

Finally, aid sanctions increase transaction costs for NGOs attempting to minimize disruption to their aid flows (Allen and Lektzian 2013). NGOs on the ground struggle to provide the same level of services due to these increased costs. A 2017 Washington Post article highlighted challenges sanctions posed for aid operations in North Korea, such as bureaucratic constraints, and direct cuts to foreign assistance imposed by the US and the UK on Pyongyang (Fifield 2017). Even in the most well-designed sanction regimes, friction exists.

We posit that both the direct and indirect effects are mediated in turn by sanction motivation. Unpacking what drives a sanctioning state to impose aid sanctions on the target, we divide sanctions into two categories: human rights-related and non-human rights-related objectives. We argue that when the issue under sanction is human rights related, the sanctioning state is more likely to be conscientious of the ways in which aid sanctions are carried out. If the purpose of such sanctions is to stop human rights abuses, not inflict more harm on the target state or to inflict economic hardship on the population, traditional sanction logic may not apply. On the other hand, if the sanctions were motivated by other, non-human rights-related reasons, particularly security, the goal of the sanctioning state is to have the target quickly capitulate and thus the sender less likely to consider or prioritize the harm done by the sanctions on an already vulnerable population.

4.3 Aid Sanctions and Women's Bodily Rights

There is a rich body of literature confirming that women's rights are uniquely affected by external shocks incurred through natural and human-induced disasters and that looking at overall population effects is inadequate when understanding the impact of these events. Research shows that women are more likely than men to die from natural disasters (Detraz and Peksen 2017) and in conflict zones (Plümper and Neumayer 2006). Furthermore, women experience negative outcomes to their sexual and reproductive health, both during times of armed conflict (Ghobarah, Huth, and Russett 2003) (Urdal and Che 2015) and throughout the COVID-19 pandemic (Hall et al. 2020) (Hunter, Hubner, and Kuczura 2021). Sanctions-specific research indicates that in target countries, women experience a greater decrease in life expectancy (Gutmann, Neuenkirch, and Neumeier 2021) and a greater increase in HIV infection rates than men (Kim 2019) while also experiencing lower literacy rates and labor force participation rates (Perry 2022) and a decrease in social rights, economic rights, and political rights (Drury and Peksen 2014). We contribute to this broader literature by demonstrating the correlation between a type of economic shock, aid sanctions, and women's outcomes and theorizing how as a marginalized population, women would be uniquely affected.

While broad sanctions and other types of shocks negatively impact women's outcomes, we test if the "safeguards" built into aid sanctions mitigate the harmful effects on women's societal and health rights. On the one hand, aid sanctions that either exclude humanitarian aid or redirect government aid to projects aimed at improving society could maintain or improve women's rights to bodily security in the target country. For nearly

two decades there has been a concerted effort to fund projects that support gender equality and women's empowerment. As early as 2009, OECD reported that overall, 31% of sector-allocated bilateral aid supported gender equality projects (OECD 2012). In particular, over 50% of aid to the health and education sectors combined targeted gender equality (OECD 2012). Thus, despite the presence of aid sanctions, women's lives with regards to societal and health rights could be unchanged or even improved if aid is redirected into health or education projects. On the other hand, as members of a vulnerable population that is more susceptible to external shocks, women in countries experiencing aid withdrawal may suffer negative outcomes in terms of their societal and health rights as they do when general sanctions are applied, albeit indirectly through the friction generated by the aid distribution process or through a general deterioration of social conditions under aid sanctions.

4.3.1 Freedom from Harm

Women's security, or freedom from physical and indirect harm, could be threatened by aid termination if target governments, facing budget cuts, are unable to wield enough power to uphold existing rights or protections for their citizens. Liou, Murdie and Peksen identify reduced target government capacity as the mechanism between sanctions and increased human rights abuses in the target population (Liou, Murdie, and Peksen 2021). According to their work, this occurs through two channels: diminished fiscal capacity and increased corruption. They find that governments with reduced capacity are unable to screen and oversee their security agents, which leads to an

increase in human rights abuses. This could have implications for women's bodily security. Since aid sanctions target government budgets, we would expect to see an increase in harm to women as these budget cuts would reduce government capacity to protect women. However, when aid sanctions are motivated by human rights violations, we posit the sanction sending states will be more attentive to the human rights consequences of their sanction packages and will include more effective ways to mitigate risk to the population.

H1a. The year after sanctions are present, harm to women will increase in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever.

H1b. The year after sanctions are present, harm to women will increase in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions.

H1c. The year after sanctions are present, harm to women will decrease in countries that experience aid sanctions motivated by human rights violations.

4.3.2 Life Expectancy

Shocks generated by sanctions have been shown to have detrimental effects on life expectancy of women (Garfield 1997) (Gutmann, Neuenkirch, and Neumeier 2021). This occurs for multiple reasons. With budget cuts, government health spending may be diverted to other areas. Lower public spending on health is associated with increased child mortality and deaths due to cholera as the public sanitation system collapses and increases the spread of infectious diseases (Gutmann, Neuenkirch, and Neumeier 2021).

Sanctions can cause other disruptions to the health services system as necessary goods such as food and medicine may become more scarce as the costs associated with trading goods increases (Garfield 1999). Even when humanitarian goods are exempted from sanctions packages, studies have found that these exemptions are implemented in an imperfect manner and are often ineffective (Garfield 1999). This could make it more difficult for NGOs operating in the health space to obtain what they need as well. Since aid sanctions can directly impact government budgets and impact the operations of NGOs either indirectly through disruptions to health services or directly through potential cuts to project aid, we expect that life expectancy for women would decrease. However, when aid sanctions are motivated by human rights violations we posit the sanction sending states will be more attentive to the human rights consequences of their sanction packages and will include more effective ways to mitigate risk to the population.

H2a. The year after sanctions are present, women's life expectancy will decrease in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever. This decrease will be greater for women than it is for men.

H2b. The year after sanctions are present, women's life expectancy will decrease in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions. This decrease will be greater for women than it is for men.

H2c. The year after sanctions are present, women's life expectancy will increase in countries that experience aid sanctions motivated by human rights violations, compared to countries that do not experience any aid sanctions. This increase will be greater for women than it is for men.

4.3.3 Maternal Mortality

Maternal mortality, a key health indicator for women, could be negatively impacted by sanctions in the same ways that sanctions impact life expectancy. Like other health indicators, maternal mortality has been shown to increase during shocks, such as financial crises (Blanton, Blanton, and Peksen 2019). The maternal mortality indicator demonstrates a society's commitment to health resources for women. While womanhood is not synonymous with motherhood, maternal mortality is a good proxy for women's right to health as prior studies have shown that maternal mortality is correlated with access to health infrastructure for women, as indicated by its positive relationship with infant mortality, and negative relationship with prenatal care and birth attended by skilled health personnel (Alvarez et al. 2009) (Betrán et al. 2005). We expect changes in maternal mortality to respond to aid termination in the same ways as female life expectancy.

H3a. The year after sanctions are present, maternal mortality will increase in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever.

H3b. The year after sanctions are present, maternal mortality will increase in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions.

H3c. The year after sanctions are present, maternal mortality will decrease in countries that experience aid sanctions motivated by human rights violations, compared to countries that do not experience any aid sanctions.

4.4 Aid Sanctions: A Frequently Employed Instrument

The prevalence of aid sanctions provides both an opportunity and an imperative to examine this sanction instrument. Most sanction episodes include aid as a sanction instrument, whether alone or used jointly with other tools of negative coercion. Target countries are often subject to multiple, or layered sanctions simultaneously and it is difficult to isolate the effect of a singular sanction instrument. Since one-third of our dataset includes sanction cases where aid termination was utilized *independent* of any other type of sanctioning instrument, we can isolate those cases to provide a better understanding of how outcomes of vulnerable populations are correlated with aid withdrawal. Figure 7 shows the number of sanction episodes per year, divided by type: 1. sanctions that do *not* include aid termination (in red), 2. sanctions that include aid termination *along with* other forms of sanction instruments (in green), and 3. sanctions that *only* include aid termination (blue).

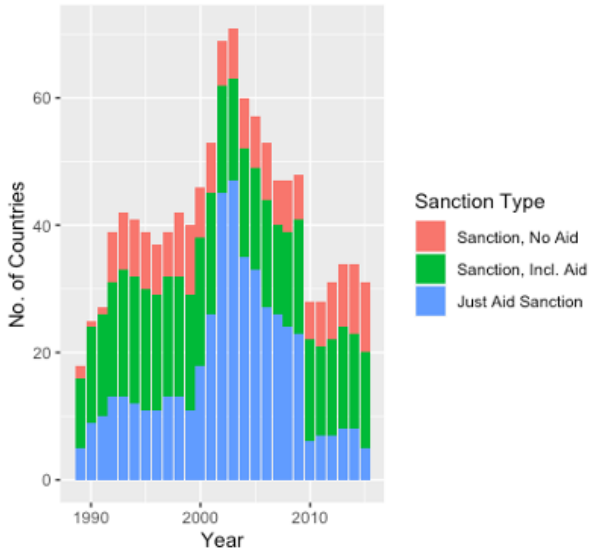

Figure 7. Frequency of Sanction Episodes Imposed on Countries per year, by Type

To further illustrate the predominance of aid sanctions, Figure 8 shows all combinations of sanction types that were imposed by the EU, UN, and US during the years 1989-2015. Sanction Type 8 is aid termination, which appears on its own over 650 times. Sanction Type 8 is also frequently used in conjunction with other sanction types, as indicated on the y axis.

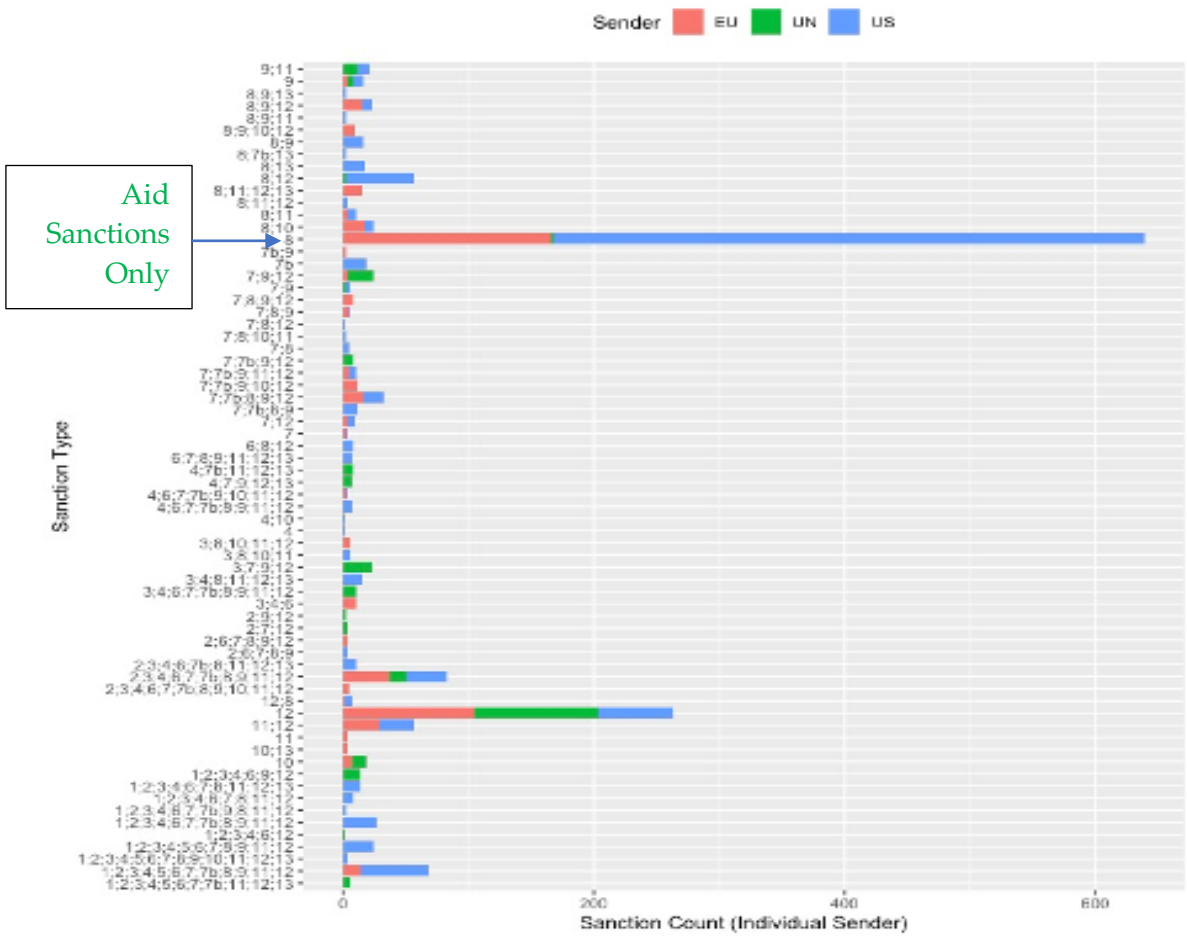

Figure 8. Frequency of Sanction Type Used, by Sender (1989-2015)

Figure 9 is similar to Figure 8, but it narrows the sample exclusively to sanction episodes that include some form of aid termination. This encompasses episodes that

solely featured aid termination as well as episodes that combined aid termination with other sanction instruments. Figure 9 displays the frequency of aid sanctions employed by the US, EU, and UN for the years 1989-2015 and highlights the US's dominant role in utilizing aid termination as a sanction instrument.

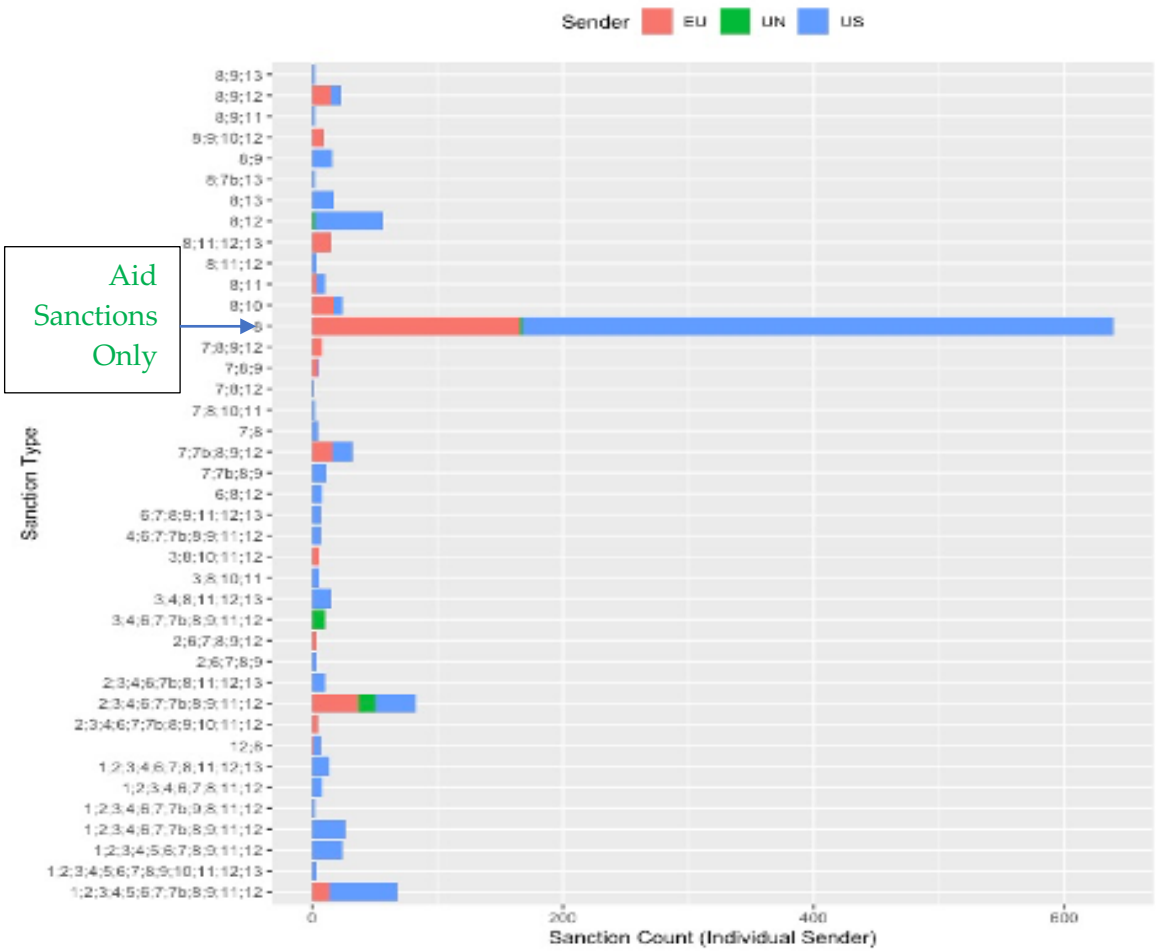

Figure 9 Frequency of Aid Sanctions, by Sender (1989-2015)

Aid sanctions are often implemented to improve human rights. In figures 10 and 11, the x axis shows the fourteen categories of sender motivation, or issues, included in the EUSANCT Dataset (Weber and Schneider 2022). For this analysis, we focus on Type

8: Improve Human Rights. According to the codebook, a sanction episode falls under this issue area if the sanction is threatened or imposed to coerce the target to end repressive laws, policies, or actions or to compel the target state to respect individual rights (Weber and Schneider 2022). In Figure 10, the y axis denotes the three different types of imposed sanctions utilized in our analysis: *non-aid* sanctions (Type 2; light grey), aid sanctions *plus* other sanctions (Type 3; medium grey) and *only* aid sanctions (Type 4; dark grey). As is evident in the area highlighted by the blue rectangle, most of the sanctions imposed for human rights reasons include aid sanctions (either exclusively, or in concert with other sanction types).

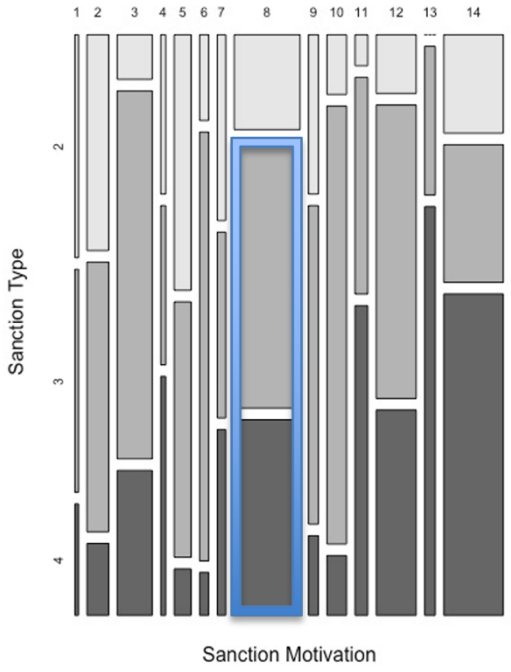

Figure 10. Crosstab: Sanction Type and Sanction Motivation

Figure 11 shows how often different sanction instruments are employed for each issue area. Aid sanctions (Type 8 on the y axis) is the most common instrument used to improve human rights (Type 8 on the x axis), as illustrated by the red rectangle.

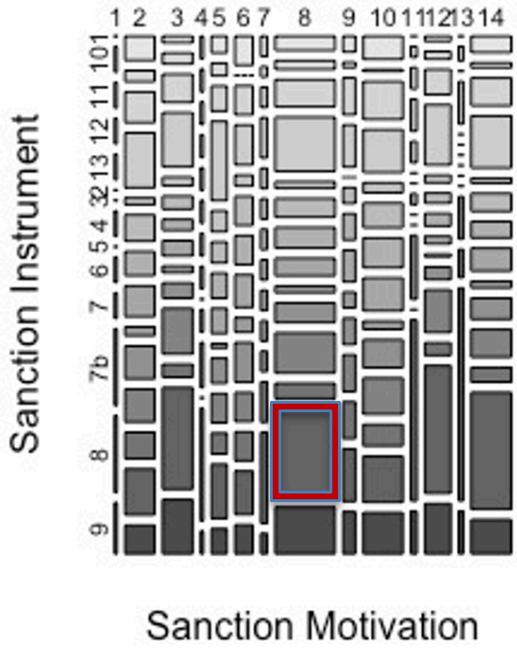

Figure 11 Crosstab: Sanction Instrument and Sanction Motivation

4.5 Research Design

We test our hypotheses using an original dataset and linear models (OLS) with country-year fixed effects. Our assumption is that any correlation between sanctions and women's outcomes would not be immediately detectable, so we empirically analyze whether the presence of economic sanctions instruments affects the target state's women's rights one year later. Since it is not obvious what the optimal counterfactual would be, we include multiple models that allow for several comparisons.

Model 1: Full Sample: The first set of models conducts a time-series analysis with lagged independent variables. The unit of analysis is the country-year. For the first set of models, the base category is countries that do not experience any form of sanctions during that year.

$$harm_{c,t} = \beta_0 + \beta_1 NonAid_{c,t-1} + \beta_2 WithAid_{c,t-1} + \beta_3 OnlyAid_{c,t-1} + \beta_4 AidDependence_{c,t-1} + \beta_5 NonAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 WithAid_{c,t-1} xAidDependence_{c,t-1} + \beta_7 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_8 power_{c,t-1} + \beta_9 conflict_{c,t-1} + \beta_{10} VDem_{c,t-1} + \beta_{11} GDP_{c,t-1} + \beta_{12} MilExp_{c,t-1} + \beta_{13} harm_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$LExp_{c,t} = \beta_0 + \beta_1 NonAid_{c,t-1} + \beta_2 WithAid_{c,t-1} + \beta_3 OnlyAid_{c,t-1} + \beta_4 AidDependence_{c,t-1} + \beta_5 NonAid_{t-1} xAidDependence_{c,t-1} + \beta_6 WithAid_{c,t-1} xAidDependence_{c,t-1} + \beta_7 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_8 power_{c,t-1} + \beta_9 conflict_{c,t-1} + \beta_{10} VDem_{c,t-1} + \beta_{11} GDP_{c,t-1} + \beta_{12} HlthExp_{c,t-1} + \beta_{13} LExp_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$MMR_{c,t} = \beta_0 + \beta_1 NonAid_{c,t-1} + \beta_2 WithAid_{c,t-1} + \beta_3 OnlyAid_{c,t-1} + \beta_4 AidDependence_{c,t-1} + \beta_5 NonAid_{t-1} xAidDependence_{c,t-1} + \beta_6 WithAid_{c,t-1} xAidDependence_{c,t-1} + \beta_7 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_8 power_{c,t-1} + \beta_9 conflict_{c,t-1} + \beta_{10} VDem_{c,t-1} + \beta_{11} GDP_{c,t-1} + \beta_{12} HlthExp_{c,t-1} + \beta_{13} GenPar_{c,t-1} + \beta_{14} MMR_{c,t-1} + \mu_{c,y} + \varepsilon$$

Outcome Variables

The dependent variables of interest measuring women's rights are drawn from two different sources. The first is one of four unpublished scales, based on a latent variable approach, which is used here with authors' permission (Karim and Hill 2018). Our project focuses on *combined harm*, which captures the direct, physical harm women face (rape, gender-based violence, intimate partner violence) and indirect harm women incur from structural violence and other conditions that negatively and disproportionately affect women's wellbeing (indicators include measures associated with reproductive choices and autonomy in household decision making). To quantify women's right to health, we use data from the World Bank Development Indicators: *life expectancy at birth* (total life expectancy is calculated along with its components, female and male, to indicate the differential impact aid withdrawal may have on the health rights of women compared with men*)* and *maternal mortality ratio.* Maternal mortality is defined as the number of female deaths related to pregnancy or its mismanagement that occurs during pregnancy, childbirth, or within 42 days of pregnancy termination. The maternal mortality ratio (MMR) is the number of maternal deaths per 100,000 live births annually. All independent variables are lagged for one year as the effects of aid withdrawal may not be immediately apparent in the year that aid was terminated.

Table 16. Summary Statistics for Outcome Variables

Outcome Variables	Observations (country-year)	Mean	Standard Deviation	Min	Max
Harm	4,701	-0.273	0.865	-1.385	2.901
Life Expectancy (Total)	4,797	67.479	9.865	26.172	85.417
Life Expectancy (Female)	4,797	69.979	10.344	27.571	86.990
Life Expectancy (Male)	4,797	65.075	9.539	24.834	84.100
Maternal Mortality	2,891	210.959	301.790	2	2480

Independent Variables of Interest

For sanctions data, we utilized the EUSANCT Dataset (Weber and Schneider 2022), which includes both sanction threats and imposed sanctions by the EU, US, and UN. International relations research on sanctions has historically relied heavily on the Threat and Imposition of Economic Sanctions (TIES) Dataset (Morgan, Bapat, and Krustev 2009) and more recently on the Global Sanctions Data Base (Felbermayr et al. 2020), but we argue that EUSANCT provides better data with which to answer our specific research question.[1] While EUSANCT narrows the scope of the sender (EU, UN, and US account for 55% of cases in TIES), it allows us to examine trends through 2015 and focus on the impact of aid sanctions employed by the liberal sanctioning states and entities who are also the largest providers of foreign aid. For example, 26 of the 31 members of the Organisation for Economic Cooperation and Development's Development Assistance Committee (OECD's DAC) are included in EUSANCT. The

[1] The Global Sanctions Data Base does not provide adequate granularity to examine aid sanctions disentangled from other sanction types. Although TIES has this capability, TIES only includes observations up to the year 2005. Understanding the more recent trend to utilize aid withdrawal requires a dataset that extends beyond the early years of the new millennium.

data set includes 324 sanction cases that were imposed during 1989 to 2015. Our unit of analysis is country-year, and our sample incorporates all country-years with and without sanctions. We analyze sanction cases that were imposed, as opposed to threatened.[2]

In Model 1, the main independent variables of interest are four mutually exclusive binary variables, describing four types of sanctions. This allows us to differentiate between countries that were exposed to four mutually exclusive categories of sanction types: aid sanctions, non-aid sanctions, a combination of the two, or none at all. Table 17 shows these four independent variables and the number of sanction episodes (in country-year format) associated with each sanction type.

Table 17. Independent Variables of Interest

Type of Sanction	Definition	Observations (country-year)
No sanctions	No sanctions of any kind were imposed on the target country. This is the reference category.	3951
Sanctions (no aid)	Non-aid sanctions; no aid sanctions were imposed on the target country, however other types of sanctions were imposed.	207
Sanctions (with aid)[3]	Aid sanctions plus other sanctions; a combination of aid sanctions and other sanction types were imposed on the target country.	453
Sanctions (exclusively aid)	Only aid sanctions; the only types of sanctions imposed on the target country were aid sanctions.	266

[2] Although the literature has long differentiated between the threat and the imposition stages of sanction episodes (Morgan, Bapat, and Krustev 2009), we posit that the effects of aid sanctions on women's rights is not salient in the threat stage. The mechanisms we outlined hypothesize the negative impacts on women should only materialize after sanctions are imposed.

[3] Sanctions sometimes exist in clusters depending on factors such as the issue under dispute, the characteristics of the target, and the preferences of the sender state. Acknowledging that the existence of one type of sanction may be linked to the presence of another and that layered sanctions are common, we include this category, which tends to represent the most severe suite of sanctions.

Control variables

Given that there is heterogeneity across target countries in the amount of foreign aid received, the impact of aid withdrawal would be commensurate with the extent to which the target country is dependent on aid. All models include the control variable, *aid dependence*, which is the amount of foreign aid received by the recipient country as a portion of its gross national income (GNI). The models also include interaction terms, one for each sanction type (*SanctionType*AidDependence),* to control for the added effect that aid sanctions would have on rights, given the level of aid dependence in the target country.

These models also control for the following factors that could affect both the country's likelihood to be the target of aid sanctions and the level of rights enjoyed by women in that country. The variable *conflict* is a dummy that indicates whether the country was the site of armed conflict, as recognized by the Uppsala Conflict Data Program (Croicu and Sundberg 2015). The presence of armed conflict could simultaneously affect the likelihood of a country receiving sanctions (Lektzian and Regan 2016) while also impacting women's rights. Armed conflict increases physical harm and can lead to an in increase maternal mortality as well as decrease life expectancy as fighting is destructive to the health infrastructure or prevents women from reaching hospitals, clinics, or skilled medical personnel (Ghobarah, Huth, and Russett 2003) (Urdal and Che 2015).

Because democratic states are associated with better rights outcomes for women (Wang et al. 2017) and are also less likely to be the target of sanctions (Lektzian and

Souva 2003), we control for regime type by using the *VDem* score for each country. Since sanctions can both be imposed for human rights violations and impact human rights (Peksen 2009), our model also controls for the rights of the previous year to account for the effects that rights will have on future years. We use extractive power as a proxy for governance capabilities, since states with low governance capacity are correlated with states that are sanctioned (for example these states experience difficulty stamping out internal conflict and are fertile ground for illegal activities like trafficking and corruption), while states with higher governance capacity would be better able to cope with the effects of economic sanctions. We use data (the variable *absolute political extraction*) from the Relative Political Capacity dataset (Fisunoglu et al. 2020).

We use *growth in GDP* to capture the development and wealth of the country targeted by sanctions (World Bank 2014). Wealthier countries are often better able to respond to and alleviate sanction shocks and they are also associated with better rights and health outcomes for women.

We also include a control variable specific to each outcome. When harm is the dependent variable, we control for *military expenditure as a percentage of GDP* to proxy a government's capacity to protect its citizens (World Bank 2014). For the health outcome models (life expectancy and maternal mortality), we include *public health expenditure as a percentage of GDP* since the amount of money a country devotes to health expenditures impacts the health of its citizens (World Bank 2014). Finally, for the maternal mortality model we use the *gender parity index (GPI),* which is an indicator of women's value to society (World Bank 2014).

Model 2: Realized Sanctions Sample: The second set of models are similar to the first, but the sample only includes those countries that were under sanctions. The base category is countries that were subject to any form of sanctions *except* for aid sanctions.

$$harm_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} MilExp_{c,t-1} + \beta_{16} harm_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$LExp_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} HlthExp_{c,t-1} + \beta_{16} LExp_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$MMR_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} HlthExp_{c,t-1} + \beta_{16} GenPar_{c,t-1} + \beta_{17} MMR_{c,t-1} + \mu_{c,y} + \varepsilon$$

Independent Variables

While the dependent variables remain the same, in Model 2 we exclude countries that are not exposed to any sanction instruments at all and only analyze realized sanctions (countries that experienced some form of sanctions). Non-aid sanctions is the baseline category, which is compared with two independent variables of interest, aid sanctions plus other sanctions, and only aid sanctions. In excluding the no sanctions category, we could include sanction-specific control variables (described below) that would allow us to better understand how the different types of sanctions relate to and differ from each other. To account for severity of sanctions (scope and time), we include two interaction terms, *multilateral*streak* and *universal*streak*, to understand how women are impacted in countries that experience coordinated sanction efforts from two or more entities over multiple years.[4]

Model 3: Realized Sanctions Sample: Human Rights Motivation: The third set of models test our hypotheses about aid motivation. They include the same variables as the second set of models, but we split the sample into two complementary categories of sender motivation: sanctions that were issued for human rights reasons and those that were issued for non-human rights reasons.

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[4] The severity of sanctions that multilateral regimes impose on the target varies. The coalitional nature of multilateral sanctions may make them less effective (Kaempfer and Lowenberg 1999) (Drezner 2000). However, accounting for the scope of sanctions serves as a good proxy generally to the costs that are inflicted on the target state, particularly when examining a limited set of sanction instruments. Logically, multilateral sanctions make it more difficult for targeted states to find alternative donors for foreign aid, particularly in a short time frame. Empirically, Gutmann et al. found that UN sanctions (i.e., universal sanctions) have more serious effects on women's life expectancy compared to unilateral or, under certain cases, multilateral sanctions (Gutmann, Neuenkirch, and Neumeier 2021).

$$harm_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} MilExp_{c,t-1} + \beta_{16} harm_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$LExp_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} HlthExp_{c,t-1} + \beta_{16} LExp_{c,t-1} + \mu_{c,y} + \varepsilon$$

$$MMR_{c,t} = \beta_0 + \beta_1 WithAid_{c,t-1} + \beta_2 OnlyAid_{c,t-1} + \beta_3 AidDependence_{c,t-1}$$
$$+ \beta_4 WithAid_{c,t-1} xAidDependence_{c,t-1}$$
$$+ \beta_5 OnlyAid_{c,t-1} xAidDependence_{c,t-1} + \beta_6 multi_{c,t-1} + \beta_7 univ_{c,t-1}$$
$$+ \beta_8 streak_{c,t-1} + \beta_9 Multi_{c,t-1} xStreak_{c,t-1} + \beta_{10} Univ_{c,t-1} xStreak_{c,t-1}$$
$$+ \beta_{11} power_{c,t-1} + \beta_{12} conflict_{c,t-1} + \beta_{13} VDem_{c,t-1} + \beta_{14} GDP_{c,t-1}$$
$$+ \beta_{15} HlthExp_{c,t-1} + \beta_{16} GenPar_{c,t-1} + \beta_{17} MMR_{c,t-1} + \mu_{c,y} + \varepsilon$$

4.6 Results

Women's Security (Freedom from Harm)

H1a. The year after sanctions are present, harm to women will increase in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever.

H1b. The year after sanctions are present, harm to women will increase in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions.

H1c. The year after sanctions are present, harm to women will decrease in countries that experience aid sanctions motivated by human rights violations.

Table 18. Results for Dependent Variable: Combined Harm

	Model 1: Full Sample (base: states with no sanctions)	**Model 2: Realized Sanctions (base: sanctioned states without any aid sanctions**	**Model 3: Realized Sanctions (base: sanctions states without any aid sanctions)**	
			Human Rights	Non-Human Rights
Non-Aid	0.042 (0.031)			
With Aid	-0.005 (0.022)	0.043 (0.054)	-0.106 (0.143)	-0.057 (0.078)
Only Aid	-0.012 (0.017)	0.010 (0.059)	-0.224 (0.163)	-0.013 (0.074)
Aid Dependence	0.004*** (0.001)	0.002 (0.003)	0.00001 (0.004)	-0.026 (0.018)
Non-Aid*Aid Dep.	-0.003 (0.003)			
With Aid*Aid Dep	0.002 (0.001)	0.005 (0.004)	0.005 (0.005)	0.040** (0.018)
Only Aid*Aid Dep	0.002 (0.002)	0.002 (0.004)	0.011** (0.006)	0.028 (0.018)
Power	-0.483*** (0.072)	-0.549*** (0.172)	-0.242 (0.360)	-0.642*** (0.237)
VDem	-0.042 (0.048)	-0.064 (0.103)	-0.252 (0.183)	-0.108 (0.162)

Conflict	0.013 (0.015)	-0.048* (0.028)	-0.066 (0.053)	-0.042 (0.039)
Growth in GDP	0.104*** (0.024)	0.002* (0.001)	0.001 (0.003)	0.003 (0.002)
Military Exp.	0.006 (0.004)	0.034*** (0.011)	0.078*** (0.027)	-0.001 (0.015)
Combined Harm	0.358*** (0.022)	0.141*** (0.048)	-0.046 (0.084)	0.086 (0.068)
Multilateral		-0.046 (0.052)	-0.291** (0.129)	0.100 (0.081)
Universal		-0.209** (0.094)	-0.216 (0.179)	-0.256* (0.150)
Streak		-0.004 (0.004)	-0.018 (0.017)	-0.008 (0.005)
Multilateral*Streak		0.011** (0.005)	0.040** (0.016)	-0.007 (0.007)
Universal*Streak		0.016*** (0.006)	0.021 (0.019)	0.021** (0.009)
Observations	2,363	620	252	368
Note: *p<0.1; **p<0.05; ***p<0.01				

Contrary to expectations, there were no significant differences in harm to women the year after sanctions were present in countries that were under aid sanctions and the comparison group, countries that did not experience any sanctions. For the second model, which allows us to examine realized sanctions only with non-aid sanctions as the baseline, we directly compare outcomes in countries that experienced some form of aid sanctions with those that experienced other non-aid sanction types. In model 2, we do not see a significant difference in harm to women based on sanction type. However, our proxies for sanction severity reveal that universal sanctions, which almost always involve the UN, decrease harm in the short term on average -0.209, or 4.8% ($p<0.05$) the year after sanctions are present, but as duration increases, so does harm for both universal and multilateral sanctions by 0.16 or 3.7% ($p<0.16$) and 0.11 or 2.6% ($p<0.05$), respectively.

Finally, model 3 allows us to examine the impact of sender motivation on harm to women. Like model 2, this sample is all country-years with sanctions and the reference group is country-years without any aid sanctions. Harm increases slightly in aid dependent countries the year after aid only sanctions are present (0.011; $p<0.05$). Harm decreases the year following the presence of multilateral sanctions (-0.291 $p<0.05$), however as the duration of sanctions is extended, harm increases (0.040 $p<0.05$). The combined evidence provides weak support for the link between aid sanctions and harm to women in target countries.

Life Expectancy

H2a. The year after sanctions are present, women's life expectancy will decrease in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever. This decrease will be greater for women than it is for men.

H2b. The year after sanctions are present, women's life expectancy will decrease in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions. This decrease will be greater for women than it is for men.

H2c. The year after sanctions are present, women's life expectancy will increase in countries that experience aid sanctions motivated by human rights violations, compared to countries that do not experience any aid sanctions. This increase will be greater for women than it is for men.

Table 19. Results for DV: Life Expectancy, Models 1 and 2

	Model 1: Full Sample (base: states without any sanctions)	**Model 2: Realized Sanctions (base: sanctioned states without any aid sanctions)**

	Total LE	Female LE	Male LE	Total LE	Female LE	Male LE
Non-Aid	-0.050 (0.051)	-0.057 (0.056)	-0.047 (0.050)			
With Aid	0.007 (0.035)	0.008 (0.039)	0.008 (0.034)	-0.048 (0.075)	0.003 (0.079)	-0.083 (0.076)
Only Aid	-0.055** (0.028)	-0.065** (0.031)	-0.047* (0.027)	-0.061 (0.077)	-0.005 (0.080)	-0.112 (0.077)
Aid Dependence	-0.0002 (0.002)	0.0002 (0.002)	-0.001 (0.002)	0.0003 (0.003)	0.0005 (0.004)	0.0002 (0.003)
Non-Aid*Aid Dep.	0.005 (0.004)	0.005 (0.004)	0.005 (0.003)			
With Aid*Aid Dep.	0.002 (0.002)	0.002 (0.003)	0.001 (0.002)	0.001 (0.004)	0.002 (0.004)	0.0003 (0.004)
Only Aid*Aid Dep.	0.005* (0.003)	0.0006* (0.003)	0.004 (0.003)	-0.0002 (0.006)	0.0003 (0.006)	-0.001 (0.006)
Power	0.063 (0.151)	0.044 (0.165)	0.077 (0.144)	-0.289 (0.322)	-0.394 (0.340)	-0.180 (0.323)
VDem	-0.080 (0.092)	-0.159 (0.099)	-0.003 (0.088)	0.390** (0.195)	0.353* (0.203)	0.441** (0.198)
Conflict	-0.026 (0.024)	-0.014 (00.026)	-0.037 (0.023)	-0.095** (0.039)	-0.105** (0.041)	-0.089** (0.040)
Growth in GDP	-0.196*** (0.054)	-0.237*** (0.058)	-0.161*** (0.052)	0.0003 (0.002)	-0.0001 (0.002)	0.001 (0.002)
Health%GDP	0.016** (0.007)	0.022*** (0.007)	0.011* (0.007)	-0.003 (0.015)	-0.008 (0.015)	0.001 (0.015)
Multilateral				-0.0004 (0.078)	0.039 (0.082)	-0.039 (0.079)
Universal				0.304*** (0.109)	0.393*** (0.114)	0.218** (0.110)
Streak				-0.002 (0.006)	0.003 (0.006)	-0.007 (0.006)
Multilateral*Streak				0.009 (0.008)	0.001 (0.008)	0.016** (0.008)
Universal*Streak				-0.013* (0.007)	-0.024*** (0.008)	-0.002 (0.007)
Life Exp Total	0.996*** (0.005)			0.9972*** (0.014)		
Life Exp Female		1.004*** (0.005)			0.962*** (0.015)	
Life Exp Male			0.986*** (0.005)			0.978*** (0.015)

Observations				498	498	498
Note: *p<0.1; **p<0.05; ***p<0.01						

Consistent with our hypothesis, compared with countries that do not have any type of sanctions, total life expectancy at birth decreases in countries that experience aid-only sanctions by -0.055 ($p<0.05$) the year after aid sanctions are present. Life expectancy for women decreases more than life expectancy for men (women: -0.065, $p<0.05$; men: -0.047, $p<0.1$), which is also consistent with our assumption that aid sanctions will have a differential impact on women than men. In aid dependent countries that only receive aid sanctions, total life expectancy slightly increases by 0.005 ($p<0.01$) as does life expectancy for women by 0.006 ($p<0.1$). This is contrary to our expectations that aid dependency will exacerbate the effects of aid withdrawal, particularly for women.

When focusing on only countries that received sanctions, we do not see any significant differences in life expectancy compared with countries that were not under any type of sanction instrument. Examining sanction severity, we see that universal sanctions, those that typically include the UN, increase total life expectancy in countries subject to aid sanctions by 0.304 ($p<0.01$), with a higher increase for women (0.393; $p<0.01$) than for men (0.218; $p<0.01$). However, when universal sanctions are extended over multiple years in these aid sanctioned countries (unilateral interacted with streak), there is a decrease in total life expectancy by -0.013 ($p<0.1$) and female life expectancy by -0.024 ($p<0.01$) in the following year. For men, multi-year multilateral sanctions are associated with an increase in life expectancy of 0.016 ($p<0.05$) in the year following the presence of aid sanctions.

Finally, when investigating the impact of sanction motivation (see Table 20), the results show that there is a decrease in total life expectancy (-0.194; p<0.1) and female life expectancy (-.212; p<0.05) the year after sanctioned countries are subjected to aid termination for human rights reasons. This is contrary to our hypothesis that aid termination for humanitarian rights reasons would be associated with positive outcomes for women. Overall, we see some support for the association between aid sanctions and negative impacts on life expectancy, particularly for women. We also see indications that coordinated sanctions, especially that involve the UN, might attenuate those negative impacts, perhaps through well-crafted sanctions packages.

Table 20. Results for DV: Life Expectancy, Model 3 Human Rights Motivation, Realized Sanctions (base: sanctioned states without any aid sanctions)

	Total Life Expectancy		**Female Life Expectancy**		**Male Life Expectancy**	
	Human Rights	Non-Human Rights	Human Rights	Non-Human Rights	Human Rights	Non-Human Rights
With Aid	-0.194* (0.112)	0.138 (0.254)	-0.212** (0.101)	0.247 (0.284)	-0.173 (0.152)	0.066 (0.242)
Only Aid	-0.180 (0.119)	-0.011 (0.134)	-0.254 (0.107)	0.935 (0.147)	-0.153 (0.141)	-0.050 (0.127)
Aid Dependence	0.003 (0.003)	0.008 (0.028)	0.003 (0.002)	0.005 (0.030)	0.003 (0.003)	0.011 (0.026)
With Aid*Aid Dep.	0.001 (0.003)	-0.028 (0.045)	0.201 (0.203)	-2.026 (0.909)	-0.002 (0.004)	-0.011 (0.044)
Only Aid*Aid Dep.	-0.008 (0.006)	-0.022 (0.031)	-0.207 (0.205)	0.001 (0.034)	-0.009 (0.007)	-0.025 (0.029)
Power	-0.818** (0.371)	0.188 (0.674)	-0.827** (0.334)	-0.026 (0.690)	-0.852* (0.436)	0.380 (0.578)
VDem	0.226 (0.203)	1.066** (0.486)	0.239 (0.183)	1.059** (0.530)	0.395* (0.237)	1.056** (0.465)
Conflict	-0.035 (0.045)	-0.107 (0.001)	-0.020 (0.240)	-0.138 (0.007)	-0.058 (0.053)	-0.078 (0.076)
Growth in GDP	-0.002 (0.007)	0.001 (0.006)	-0.023** (0.201)	0.003 (0.005)	-0.001 (0.007)	0.001 (0.006)
Health%GDP	-0.007 (0.014)	0.060* (0.039)	-0.203 (0012)	0.038 (0.042)	-0.011 (0.016)	0.898*** (0.037)

Multilateral	0.053 (0.129)	0.019 (0.184)	0.286 (0.139)	0.0700 (200)	0.015 (0.149)	-0.022 (0.174)
Universal	0.020 (0.122)	0.711** (0.318)	0.298 (0.110)	0.828** (0.348)	-0.050 (0.144)	0.617** (0.304)
Streak	-0.031 (0.022)	-0.001 (0.006)	-0.834* (0.219)	0.006 (0.013)	-0.028 (0.026)	-0.007 (0.011)
Multilateral*Streak	0.010 (0.020)	0.022 (0.017)	0.210 (0.218)	-0.925 (0.019)	0018 (0.024)	0.019 (0.016)
Universal*Streak	0.021 (0.029)	-0.032* (0.018)	0.820 (0.821)	-0.045** (0.019)	0.022 (0.028)	-0.020 (0.017)
Life Exp Total	0.958*** (0.018)	0.960*** (0.027)				
Life Exp Female			0.956*** (0.016)	0.954*** (0.029)		
Life Exp Male					0.965*** (0.022)	0.958*** (0.026)
Observations	221	277	221	227	221	227

Note: *p<0.1; **p<0.05; ***p<0.01

Maternal Mortality

H3a. The year after sanctions are present, maternal mortality will increase in countries that experience aid sanctions, compared to countries that do not experience any sanctions whatsoever.

H3b. The year after sanctions are present, maternal mortality will increase in countries that experience aid sanctions, compared to countries that do not experience any aid sanctions.

H3c. The year after sanctions are present, maternal mortality will decrease in countries that experience aid sanctions motivated by human rights violations, compared to countries that do not experience any aid sanctions.

Table 21. Results for DV: Maternal Mortality

	Model 1: Full Sample (base: no	**Model 2: Realized Sanctions**	**Model 3: Realized Sanctions (base: sanctions states without any**

	sanctions)	(base: sanctioned states without any aid sanctions	aid sanctions)	
			Human Rights	Non-Human Rights
Non-Aid	3.270 (3.102)			
With Aid	-0.617 (2.652)	10.077* (5.922)	3.510 (13.796)	-21.513** (9.686)
Only Aid	-3.249** (1.416)	-12.644*** (4.561)	-21.592 (14.842)	-6.3370* (3.739)
Aid Dependence	-0.152 (0.120)	-0.206 (0.404)	-1.017* (0.609)	3.684*** (0.502)
Non-Aid*Aid Dep.	0.289 (0.253)			
With Aid*Aid Dep	0.725 (0.506)	-1.263 (1.002)	0.628 (1.987)	-3.234*** (1.072)
Only Aid*Aid Dep	0.093 (0.162)	1.423*** (0.536)	1.729* (0.878)	-2.801*** (0.655)
Power	-13.221* (7.438)	-6.906 (18.139)	-7.526 (39.5536)	4.821 (12.878)
VDem	12.975** (5.231)	26.508** (11.713)	4.301 (22.510)	5.088 (10.373)
Conflict	2.654** (1.243)	1.343 (2.309)	0.212 (5.269)	2.828 (1.739)
Growth in GDP	9.827*** (3.411)	0.256** (0.113)	0.240 (0.294)	0.073 (0.119)
Health%GDP	-0.853** (0.399)	-1.865** (0.924)	0.070 (1.623)	-1.316 (0.839)
Maternal Mortality	0.895*** (0.006)	0.884*** (0.016)	0.731*** (0.047)	0.926*** (0.021)
Gender Parity	-38.842*** (10.585)	107.321*** (31.866)	-32.155 (74.964)	99.392*** (28.796)
Multilateral		-10.256** (5.012)	-13.175 (23.622)	3.518 (4.016)
Universal		4.158 (7.153)	13.000 (12.371)	-16.651* (9.422)
Streak		0.975** (0.428)	4.714** (2.317)	1.621*** (0.502)
Multilateral*Streak		0.120 (0.438)	-2.121 (2.033)	-0.406 (0.365)
Universal*Streak		-0.250 (0.420)	-5.123* (2.588)	0.891* (0.490)

Observations	1116	342	128	214

Note: *p<0.1; **p<0.05; ***p<0.01

The maternal mortality ratio decreases by 3.249 (p<0.05) for women in countries that experience aid-only sanctions compared with countries that do not receive any sanctions at all. This is a positive indicator for women and contrary to our expectation that aid sanctions would negatively impact maternal mortality. In the sample focusing on countries with realized sanctions, the maternal mortality ratio in countries with aid-only sanctions experiences an even sharper decrease of 12.644 (p<0.01). In countries with sanctions that include aid among other forms of sanction instruments, the maternal mortality ratio increases by 10.256 (p<0.05). We also see a slight increase by 1.423 (p<0.01) in countries with just aid that are aid dependent. Maternal mortality increases in this same group when sanctions are imposed for human rights reasons (1.729 p<0.1). We do not see evidence to support that aid sanctions imposed for human rights reasons lead to improved outcomes. We see the opposite, as countries that experience aid only sanctions (-6.3370; p<0.1) and aid sanctions plus other types of sanctions (-21.513 p<0.05) have a significant decrease in maternal mortality in the non-human rights sample.

4.7 Limitations

Although aid sanctions are the most prevalent type of sanction instrument in the data set, one of the major limitations with this study is the sample size, particularly when analyzing the impact of human rights motivations on aid sanctions. Splitting the sample led to a small sample size, which may not produce results with strong external validity.

International data that are disaggregated by sex are also difficult to find. We used the most robust data available with theoretical significance, but due to missing data, observations were occasionally dropped in the analyses and we were limited in the number of years we could analyze. This also prohibited us from performing alternative analyses such as measuring the outcome variables in differences between $year_{n+1}$ and $year_n$, since this type of analysis requires two consecutive years of complete data. Like all large-N studies, we can provide an overview with our analyses and point to areas for future research, but we cannot claim causality. We have tried to address endogeneity by lagging the dependent variables and controlling for a number of factors that would impact both the probability of being sanctioned and the bodily outcomes for women.

4.8 Conclusion

This paper provides an overview of how aid sanctions impact women's outcomes in target countries. While we understand that sanctions, broadly applied, negatively impact citizens, we do not have a clear understanding of the ways in which different sanction types may impact the population. Since aid sanctions are one of the most widely used instruments, often employed to minimize harm to targeted citizens, we have empirically tested their effects on women, who suffer poor outcomes from broad sanctions.

From our results, a few weak patterns emerge. When looking at sanction severity, universal sanctions, or those that typically include the UN, are associated with better outcomes for women in the following year. For example, in countries that experience universally imposed aid sanctions, harm to women decreases and female life expectancy

increases. It is possible that with more coordinated sanctions, such as we would see with UN involvement, thoughtful policies are put in place to protect citizens as much as possible. In the case of women's harm, however, this positive effect went away over time, as there was an increase in harm when interacting universal sanctions with the number of years sanctions were in place. This suggests that any positive effect may be fleeting, and policy makers interested in protecting target citizens should consider how sanction duration will impact the population.

Another pattern revealed in the results is that the extent to which a country is dependent upon aid can influence the impact. For example, countries that received only aid sanctions saw a decrease in maternal mortality the year after aid sanctions were present. Yet when we examined the impact of aid-only sanctions on countries with higher levels of aid dependence, we saw the opposite effect. As levels of aid dependence increased, so did maternal mortality, suggesting that countries more reliant to aid were unable to combat maternal mortality once aid was terminated.

Both the universal sanctions example and the aid dependence example demonstrate that this is a complex topic requiring additional investigation. The overall effect of one factor is conditional upon the value of another. There may exist other interactions that we did not explore in this analysis. We recommend that future research explore this topic through a micro-level analysis so that we can understand not just overall impacts, but how termination of different aid channels, such as budgetary aid versus bypass aid could impact women.

As policy makers continue to employ aid sanctions as targeted instruments, it is important to question the assumption that aid sanctions cause limited harm to the population. Our analyses show that in some conditions, women's outcomes are worse under aid sanctions, both when compared to countries that do not experience any sanctions at all and when compared to countries that are subjected to non-aid sanctions. More research should be done to better understand this heterogeneity of effects so that policy makers can understand in what contexts aid sanctions can be employed to minimize harm and encourage positive human development for women in target countries. As the results of our preliminary analyses show, aid sanctions do not merely harm the elites, as has been theorized.

Chapter 5. Conclusion

Together these papers show that there are myriad ways in which women are impacted by the politics of global health. Whether women's health is a focus of the intervention as was the case with the first paper, a pawn in a larger political strategy as was the case with the second paper, or an unintended consequence of economic statecraft as was the case in the third paper, women's health is influenced by international politics and is a subject worthy of academic and policy research.

Individually these papers contribute to the larger fields of political science and public policy in several ways. The first paper presents an innovative methodology for studying empowerment. By measuring agency through survey experiments, researchers can observe agency, a direct component of empowerment and do not need to rely on proxy or indirect measures of empowerment, such as resources and achievements. This ultimately provides construct validity and a more accurate assessment of a difficult to measure concept. The second paper examines foreign aid through a sector-specific analysis, as opposed to broader categories, allowing for a more fine-grained study that reveals insights and implications that might not otherwise be observable. This paper also provides a contemporary application of international relations theory, highlighting the continued utility of these classic concepts. Finally, the third paper attempts to disentangle the effects of different sanction instruments and shows that aid sanctions have some negative consequences, calling into question the assumption that these are safe sanctions for the target country's population.

This collection of papers also demonstrates that the intersection of global health, gender, political science, and public policy is a field rich with research possibilities at every level of analysis. On a micro-level, priorities and benchmarks set by an international organization, in this case the World Health Organization, influence researchers designing health studies that in turn impact the health of individuals and create the potential to impact other social outcomes as well. On a macro-level, we can draw from public health examples to better understand how countries interact within the international system and how domestic politics may impact their interactions, akin to how scholars of international relations have classically used a lens of second image (Waltz 2010) or second image reversed (Gourevitch 1978) to explain conflict and economic relations. Finally, as the third paper illustrates, the intersection of global health, politics, and policy, provides opportunities for us to examine characteristics of domestic populations within a state and how they may vary from one state to the next.

Academic research on global health has been dominated by public health scholars and health economists who provide essential and thoughtful analyses. Political science as a discipline has been slow to embrace this research area, but our perspectives are critical to an inter-disciplinary analysis. Expertise in political science when applied to global health issues illuminate how governments cooperate or are constrained, examine the role of international organizations and regimes in addressing issues of global importance, and analyze the intersection of national security with regards to public health threats. On a sub-national level, political science expertise can also be applied to the politics of local actors, such as non-governmental organizations and civil society organizations and how

they interact with the state and its citizens in addressing public health challenges in a local context.

As the COVID-19 pandemic has shown, global health issues are gaining salience in everyday life. Theoretically grounded political science research on various issues of global health is necessary to inform policymakers and stakeholders of the impacts of their decisions.

Appendix

Table 22. Estimated Marginal Means, All Respondents

Variable/ Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4762**	0.0108	-2.1945	0.0284	0.4550	0.4975
	1	0.5266 **	0.0121	2.1951	0.0284	0.5028	0.5504
Above average wages	0	0.4236***	0.0119	-6.4475	0.0000	0.4003	0.4468
	1	0.5732***	0.0114	6.4412	0.0000	0.5509	0.5955
Works with men	0	0.4798*	0.0112	-1.7994	0.0723	0.4577	0.5018
	1	0.5204*	0.0113	1.7994	0.0723	0.4982	0.5426
Childcare facilities included	0	0.4259***	0.0118	-6.2852	0.0000	0.4028	0.4491
	1	0.5723***	0.0115	6.2819	0.0000	0.5497	0.5949
Public speaking required	0	0.4578***	0.0110	-3.8418	0.0001	0.4362	0.4793
	1	0.5444***	0.0115	3.8433	0.0001	0.5217	0.5670

Number of observations: 1872
Number of respondents: 936
Note: *p<0.1; **p<0.05; ***p<0.01

Table 23. Estimated Marginal Means, Subgroup Control Villages

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4839	0.0154	-1.0449	0.2966	0.4535	0.5142
	1	0.5175	0.0167	1.0449	0.2966	0.4846	0.5503
Above average wages	0	0.4170***	0.0168	-4.9358	0.0000	0.3840	0.4501
	1	0.5806***	0.0163	4.9318	0.0000	0.5485	0.6127
Working with Men	0	0.4888	0.0150	-0.7457	0.4562	0.4593	0.5183
	1	0.5119	0.0159	0.7458	0.4562	0.4806	0.5432
Childcare facilities included	0	0.4494***	0.0164	-3.0966	0.0021	0.4172	0.4815
	1	0.5500***	0.0161	3.0962	0.0021	0.5183	0.5817
Public speaking required	0	0.4570***	0.0158	-2.7169	0.0068	0.4258	0.4881
	1	0.5451***	0.0166	2.7179	0.0068	0.5125	0.5776

Number of observations: 954
Number of respondents: 477
Note: *p<0.1; **p<0.05; ***p<0.01

Table 24. Estimated Marginal Means, Subgroup Intervention Villages

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4686**	0.0152	-2.0674	0.0393	0.4387	0.4984
	1	0.5365**	0.0176	2.0688	0.0391	0.5018	0.5711
Above average wages	0	0.4305***	0.0167	-4.1578	0.0000	0.3976	0.4633
	1	0.5657***	0.0158	4.1534	0.0000	0.5346	0.5968
Working with Men	0	0.4699*	0.0168	-1.7845	0.0750	0.4368	0.5030
	1	0.5288*	0.0161	1.7843	0.0750	0.4971	0.5605
Childcare facilities included	0	0.4013***	0.0170	-5.8144	0.0000	0.3680	0.4347
	1	0.5953***	0.0164	5.8064	0.0000	0.5630	0.6275
Public speaking required	0	0.4586***	0.0152	-2.7156	0.0069	0.4286	0.4886
	1	0.5436***	0.0161	2.7166	0.0068	0.5121	0.5752

Number of observations: 918
Number of respondents: 459
Note: *p<0.1; **p<0.05; ***p<0.01

Table 25. Estimated Marginal Means, Subgroup Intervention Villages without Policy Prime

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4488**	0.0215	-2.3783	0.0182	0.4064	0.4912
	1	0.5613**	0.0257	2.3838	0.0179	0.5106	0.6120
Above average wages	0	0.4440**	0.0219	-2.5574	0.0112	0.4008	0.4871
	1	0.5556**	0.0217	2.5571	0.0112	0.5128	0.5984
Working with Men	0	0.4585*	0.0230	-1.8038	0.0726	0.4132	0.5038
	1	0.5401*	0.0222	1.8034	0.0726	0.4963	0.5839
Childcare facilities included	0	0.3957***	0.0230	-4.5400	0.0000	0.3505	0.4410
	1	0.6061***	0.0233	4.5436	0.0000	0.5601	0.6521
Public speaking required	0	0.4609*	0.0224	-1.7480	0.0818	0.4168	0.5050
	1	0.5381*	0.0218	1.7478	0.0818	0.4951	0.5811

Number of observations: 466
Number of respondents: 233
Note: *p<0.1; **p<0.05; ***p<0.01

Table 26. Estimated Marginal Means, Subgroup Intervention Villages with Policy Prime

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4895	0.0215	-0.4864	0.6271	0.4472	0.5319
	1	0.5117	0.0241	0.4865	0.6271	0.4642	0.5593
Above average wages	0	0.4159***	0.0255	-3.2954	0.0011	0.3656	0.4662
	1	0.5756***	0.0230	3.2863	0.0012	0.5303	0.6210
Working with Men	0	0.4818	0.0248	-0.7345	0.4634	0.4330	0.5306
	1	0.5172	0.0235	0.7345	0.4634	0.4710	0.5635
Childcare facilities included	0	0.4074***	0.0252	-3.6729	0.0003	0.3577	0.4571
	1	0.5847***	0.0231	3.6624	0.0003	0.5391	0.6303
Public speaking required	0	0.4564*	0.0208	-2.0906	0.0377	0.4154	0.4975
	1	0.5498*	0.0238	2.0930	0.0375	0.5029	0.5966

Number of observations: 452
Number of respondents: 226
Note: *p<0.1; **p<0.05; ***p<0.01

Table 27. Estimated Marginal Means, Subgroup Control Villages without Policy Prime

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4850	0.0229	-0.6567	0.5120	0.4399	0.5300
	1	0.5145	0.0221	0.6567	0.5120	0.4710	0.5581
Above average wages	0	0.4346***	0.0236	-2.7659	0.0061	0.3880	0.4812
	1	0.5654***	0.0236	2.7659	0.0061	0.5188	0.6120
Working with Men	0	0.4850	0.0220	-0.6813	0.4964	0.4415	0.5284
	1	0.5145	0.0213	0.6813	0.4964	0.4725	0.5565
Childcare facilities included	0	0.4526**	0.0228	-2.0816	0.0385	0.4077	0.4975
	1	0.5455**	0.0218	2.0808	0.0385	0.5024	0.5885
Public speaking required	0	0.4603*	0.0222	-1.7874	0.0752	0.4164	0.5041
	1	0.5404*	0.0226	1.7876	0.0751	0.4959	0.5850

Number of observations: 474
Number of respondents: 237
Note: *p<0.1; **p<0.05; ***p<0.01

Table 28. Estimated Marginal Means, Subgroup Control Villages with Policy Prime

Variable/Levels		Estimate	SE	t	p>|t|	Lower CI	Upper CI
Leadership	0	0.4829	0.0210	-0.8161	0.4153	0.4416	0.5242
	1	0.5207	0.0254	0.8163	0.4151	0.4707	0.5708
Above average wages	0	0.3991***	0.0239	-4.2118	0.0000	0.3520	0.4463
	1	0.5951***	0.0226	4.2019	0.0000	0.5505	0.6397
Working with Men	0	0.4922	0.0206	-0.3768	0.7066	0.4517	0.5328
	1	0.5090	0.0239	0.3768	0.7066	0.4619	0.5561
Childcare facilities included	0	0.4463**	0.0235	-2.2865	0.0231	0.4000	0.4926
	1	0.5546**	0.0239	2.2869	0.0231	0.5076	0.6017
Public speaking required	0	0.4538**	0.0226	-2.0433	0.0421	0.4093	0.4983
	1	0.5498**	0.0243	2.0447	0.0420	0.5018	0.5977

Number of observations: 480
Number of respondents: 240
Note: *p<0.1; **p<0.05; ***p<0.01

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Biography

Kelly Hunter is currently a Junior Visiting Scholar at Nuffield College at the University of Oxford, a former Duke Global Health Institute Doctoral Scholar, and former Duke Kenan Institute for Ethics Graduate Fellow. She is the recipient of numerous awards and fellowships such as the James B. Duke Fellowship, Joel L. Fleishman Civil Society Fellowship, Center for the Study of Philanthropy and Voluntarism Fellowship, Aleane Webb Dissertation Research Fellowship, two Duke Bass Connections Student Research Awards, Duke Graduate School Dissertation Research Travel Award, Duke Gender, Sexuality, and Feminist Studies Travel Award, multiple departmental research and travel grants, the Graduate Research Award and the Graduate Travel Award from Duke Center for International and Global Studies, and five Summer Research Fellowships from the Graduate School. Kelly holds two prior degrees in political science: a BA from BYU and a MA from the University of Utah and she has co-authored published articles on health, politics and policy, including "If you don't help me, I'm going to take my life': the devastating impact of the US's global gag rule and the COVID-19 pandemic on women's sexual and reproductive health in Kenya" (2021), "Big Data, Machine Learning, and Contraceptive Use: A Scoping Review" (2023), and "Examining health care access for refugee children and families in the North Carolina triangle area" (2020). In fall 2023, Kelly will join the political science department at Northwestern University as a post-doctoral fellow.