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Master's Thesis:

**Exploring the Role of Social Capital
in the Effect of Patriarchal and
Masculine Norms on Individual Self-
Efficacy in Sub-Saharan Africa: A
Moderation Analysis**

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Abstract

Patriarchal and masculine norms play a key role in the high burdens of sexual and reproductive health and rights outcomes in Sub-Saharan Africa, such as maternal mortality, unsafe abortion, and HIV incidence. One of the avenues through which this occurs is through their impact on an individual's capacity to make decisions about their own lives and reproductive choices. Using data from the World Values Survey, including the novel Gender Module H only asked to a subset of countries in SSA, this study aimed to investigate the role that these gender-inequitable norms play in curbing the self-efficacies of individuals in the region. Specifically, the paper analysed how the impact of these norms is moderated by an individuals' social capital, and how these variables impact males and females differently. The results suggest that masculinity norms are particularly harmful for individuals' self-efficacy. Furthermore, gender-inequitable norms are especially harmful to the self-efficacy of women and out-group members with low social capital, particularly regarding their reproductive choices. This study offers valuable insights for creating targeted interventions to boost self-efficacy and protect those most vulnerable to inequitable gender norms, enhancing sexual and reproductive health and rights in the region.

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1 Introduction

It has been 20 years since the radical shift in policy by the International Conference on Population and Development (ICPD), from a focus on population control to one on individual needs and rights. Despite this, sexual and reproductive health and rights indicators remain poor in Sub-Saharan Africa (SSA). The cornerstones of the ICPD's policies were advancing gender equality, eliminating violence against women, ensuring women's ability to control their own fertility, and universal access to sexual and reproductive health and rights (SRHR) (UNFPA, 1995). However, these remain non-priority issues on the development agenda of many SSA countries, due to lack of political will and inadequate resource allocation toward the realization of SRHR (Svallfors et al., 2023).

Consequently, in much of SSA, while some progress has been made, maternal mortality and morbidity rates remain alarmingly elevated, with unsafe abortion claiming approximately 22,000 women's lives annually (Svallfors et al., 2023). Contraceptive usage remains low, ranging from 10 to 50% among married women, while early marriages and teenage pregnancies persist alongside significant gender inequalities and instances of gender-based violence (Svallfors et al., 2023).

Achievement of good sexual and reproductive health implies that people are able to have the freedom to decide if, when, and how often to reproduce (UNFPA, 2020). This definition of SRH therefore captures the empowerment of individuals to actively take part in decisions regarding their sexual and reproductive health, and challenges those who prevent them from doing so (McGranahan, 2021). This empowerment of individuals to control their choices is captured under the concept of self-efficacy. Literature highlights the importance of self-efficacy in healthy behaviours and behavioural change, particularly regarding sexual health behaviours such as contraceptive use (Bandura, 1977).

This self-efficacy concept has been found to be negatively influenced by societal level norms of hegemonic masculinity and patriarchy in the Sub-Saharan African context (Closson et al., 2008). On the other hand, it has also been found to be positively linked with relational level factors, as support and network feedback improve an individuals' confidence to overcome challenges and attain goals (Wallerstein, 1992). However, the negative impact of prevailing inequitable gender norms may be moderated by stronger social capital, as a stronger degree of conformity to these norms is required by members of the ingroup (Andrist, 2008). In the presence of strong patriarchal

or masculine norms, social capital may pose a further threat to an individual's self-efficacy, as pressure to conform to norms to avoid sanction and sustain access to the social capital curbs their autonomy.

All three of these concepts, of social norms, social capital and self-efficacy have been identified in the literature as social determinants of self-efficacy, which in turn has been proven to determine sexual and reproductive health and behaviours. However, the dynamics between the three concepts have not yet been sufficiently investigated. In particular, the moderating effect of social capital on the relationship between norms and self-efficacy is yet undetermined. The main research question of this paper, therefore, is to determine the effect of gender inequitable norms and social capital on individuals' self-efficacy in Sub-Saharan Africa, and to investigate whether there is a moderating effect of social capital on the relationship between gender inequitable norms and individual self-efficacies.

This paper sets out first to explain the theoretical links between gender inequitable norms, social capital and self-efficacy in SSA. It then investigates the relationships between the variables statistically, using Pearson's correlations and multilevel regression analysis using World Value Survey data, to test the direction and strength of each relationship. Following this, the moderating role that social capital plays on how norms affect individual self-efficacies, for both genders, will be explored. As mentioned, these relationships are as yet unexplored in the literature, to the best of my knowledge, but determining their strength and direction would be useful in formulating effective policies and interventions to tackle SRHR challenges in the SSA region.

2 Literature Review

This section sets out to convey, firstly, the crucial role that self-efficacy plays in shaping sexual and reproductive health and rights (SRHR) outcomes. It then explains how societal gender-based norms and social capital may individually impact self-efficacy. Finally, it will discuss the theoretical basis for how these factors may interact to influence self-efficacies and lay out the hypotheses for our research.

2.1 Concept of Self-Efficacy and Family Planning Self-Efficacy (FPSE)

The notion of self-efficacy refers to the belief one has in their capability to overcome challenges, adversities and obstacles to produce given attainments (Bandura, 1977). Self-reports of general self-efficacy correlate positively with perceptions of personal control, capacity to manage stress, interpersonal skills, and mental well-being (Bandura, 1977). It has been found to be an important predictor of health behaviour and the most important part of individual behavioural change, through its role in affecting motivation, effort, and persistence in performance (Gerke et al., 2016). It has also been found to protect against risky sexual behaviours, such as inconsistent condom use (Fichten et al., 1998).

More specifically, family planning self-efficacy describes the control a person feels they have over if, when and how many children they have. This situation-specific self-efficacy scale has been found to be a potent predictor of behavioural intention to use contraceptives effectively (Peyman et al., 2009). This finding was attributed to the fact that a strong sense of efficacy enhances a person's ability to cope with barriers, whereas people with lower self-efficacy tend to perceive challenges as tougher than they truly are and exhibit a myopic perspective on how best to solve them (Peyman et al., 2009).

Multiple studies have found self-efficacy constructs to be predictive of sexual behaviours and health outcomes. A study done in Guatemala found that the gap between women's reproductive intentions and their contraceptive behaviour depended pivotally on their self-efficacy for contraception (Richardson et al., 2016). In the Guatemalan context, the barrier to women's self-efficacy toward their family planning was the cultural idea that God favours large families, and that family size is "the will of God" (Richardson et al, 2016). In another study investigating the low contraceptive use and high fertility rates in Sub-Saharan Africa, found that that improving access to and knowledge of family planning services, although helpful, may not enable women in sub-Saharan Africa to seek services, due to the lack of power women feel over their reproductive health (Haider & Sharmer, 2013). The low self-efficacy for family planning in the Sub-Saharan Africa context was found to be a result of cultural norms that restrict contraceptive use, which include the idea that a woman's main role is to bear children. Young women also reported partner disapproval and fear of verbal or physical abuse from their family members or husband as barriers to contraceptive use (Haider & Sharmer, 2013). A third study, done in Uganda, found that women with low self-efficacy, especially in highly patriarchal societies, were less likely to make

independent decisions on matters of contraceptive use and adherence (Ajayi & Olamijuwon, 2019). This study also found a significant difference in condom purchase and use self-efficacy between sexes. It attributed this difference to gender roles and power imbalances in patriarchal societies, which is the dominant culture in sub-Saharan Africa. The paper concluded that having men decide on the reproductive health of women, permissible under the traditional patriarchy, makes women vulnerable (Ajayi & Olamijuwon, 2019).

These papers highlight the importance of self-efficacy in determining people's sexual health related behaviours, such as condom use and fertility choices. It also highlights the tight interlinkage between self-efficacy and prevailing societal norms, such as patriarchal norms in the SSA context.

2.2 Norms that harm self-efficacy

Both overarching “meta-norms” and local inequitable norms can confound individual self-efficacy. Buller and Schulte (2018) highlight how norms such as hierarchy, patriarchy, and masculinity perpetuate differing gender-role expectations, leading to gender disparities in resources and opportunities. Social hierarchy norms dictate decision-making dynamics based on identity markers like age, gender, or social status, perpetuating socioeconomic inequality (Buller & Schulte, 2018). Patriarchy reinforces hierarchical structures and male authority, often restricting women's access to resources and decision-making power, impacting SRHR outcomes (Buller & Schulte, 2018). Masculinity norms impose expectations on men to be providers and exhibit strength, making aspects of SRHR, such as seeking healthcare, appear as threats to their reputation (Sileo et al., 2019).

These norms often clash with individual rights to participate in decisions, express themselves freely, and access information and resources. Men, women, boys, and girls may be seen as transgressing community and family expectations when seeking to fulfil their SRHR rights, despite rights-based programs promoting universal access and equal rights (Buller & Schulte, 2018). Studies have found that harmful SRHR norms, such as patriarchy and masculinity, are deeply entrenched in Sub-Saharan Africa. Examples include practices like polygamy, paternal control of marriage, male-dominated household decision-making, and lack of control over women's fertility and reproductive rights (Tandrayen-Ragoobur, 2021). Other instances of male control include

workplace sexual harassment and control over women's bodies and sexuality (Tandrayen-Ragoobur, 2021).

There is evidence that traditional gender conventions threaten girls' and women's self-efficacy through multiple pathways. Impett, Sorsoli, Schooler, Henson, and Tolman (2008) purport that patriarchal ideologies pressure young girls to silence their thoughts, feelings, and desires and behave in inauthentic ways. These pressures, along with patriarchal ideologies framing sexuality in terms of male desire (Holland, Ramazanoglu, Sharpe, & Thomson, 2004), endanger female sexual agency by prioritizing the sexual needs and desires of male partners over those of girls and women. Conversely, females demonstrating greater reproductive self-efficacy assert themselves more in romantic and sexual situations, assuming more active roles in sexual and reproductive decision-making (Carlson & Soller, 2019). Women's internalization of gender conventions thus reduces their general and reproductive self-efficacies. Therefore, women who live in towns that strongly endorse gender inequitable attitudes will likely exhibit lower levels of general and family-planning self-efficacy.

H1: Inequitable gender norms are harmful to women's general self-efficacy (GSE) and family planning self-efficacy (FPSE).

Although women and girls bear the brunt of gender disparities in sexual and reproductive health and rights (SRHR), masculine norms can also adversely affect men and young boys, leading to inadequate access to SRHR services and outcomes. Masculinity norms, such as the expectation of sexual risk-taking, having multiple partners, and avoiding healthcare, pose obstacles to males' decision-making and access to SRHR services. Boys and men experience considerable pressure to conform to heteronormative ideals, making it challenging for them to disclose and seek assistance, such as medical, legal, and psychosocial support, for instance, as survivors of sexual abuse (Buller & Schulte, 2018). Studies have also shown that young men may be belittled by peers for using condoms and, as a result, may decide to forego using them in the future (MacPhail and Campbell, 2001). These prevailing norms may discourage young men from openly expressing uncertainties and insecurities about the correct usage of condoms, despite their existence (Barker & Ricardo, 2005). Norms therefore create obstacles to self-efficacy attainment for both genders, and an

understanding of these norms and where they stem from is critical for the formulation of effective SRHR interventions.

H2: Masculinity norms are harmful to both men and women's general self-efficacy (GSE) and family planning self-efficacy (FPSE).

2.3 How social capital affects self-efficacy

Past literature shows that another key determinant of health and wellbeing is social capital, through multiple pathways, including by improving a person's self-efficacy (Ireland et al., 2021). Social capital can be defined as the resources – for example, the exchange of favours, maintenance of group norms, presence of trust, and the exercise of sanctions – that can be accessed by the members of a social group, and by the group as a whole (Porta, 2014; Villalonga-Olives and Kawachi, 2015). These resources stem from the community cohesion that results from positive aspects of community life, particularly from high levels of civic engagement as reflected in membership in local voluntary associations (Putnam, 2000).

Literature emphasises two overarching forms of social capital: bridging (weak) and bonding (strong) social ties (Narayan & Cassidy, 2001). Bridging social ties are ones that connect individuals with varied socio-demographic characteristics (heterogenous), for example, non-governmental organizations, cooperatives, or self-help groups. These connections can improve self-efficacy by offering access to resources and knowledge, as noted by Putnam (2000), which can improve one's perception of their capabilities to attain certain outcomes (Bandura, 1990). Bonding social ties bring together individuals with similar socio-economic characteristics such as ethnic groups or trade unions (Putnam, 2000). Bonding connections facilitate reciprocal assistance and access to resources from close relatives to support needs, as highlighted by Story and Capriano (2017). This support and assistance can drive an individual to conquer various hurdles and challenges (Shanea et al., 2003). Both forms of social capital therefore have the potential to foster higher levels of confidence in one's ability to manage personal health (perceived self-efficacy) by expanding individuals' access to diverse resources and support, and cultivating solidarity within positively valued social groups (Wallerstein, 1992).

H3: Bridging social capital positively affects people's general self-efficacy (GSE) and family planning self-efficacy (FPSE).

H4: Bonding social capital positively affects people's general self-efficacy (GSE) and family planning self-efficacy (FPSE).

2.4 How norms and social capital interact

However, the influence of social capital on self-efficacy is not necessarily positive, and the value of a given community group depends on the individual member and group characteristics (Gregson et al, 2004). One of the mechanisms through which social capital can influence self-efficacy is through shared norms and the exertion of social control (Villalonga-Olives & Kawachi, 2018). If these norms are harmful to self-efficacy, social capital can intensify and perpetuate that harmful effect. For example, the Global Early Adolescent Study (GEAS) identified the role of the primary caregiver and service provider attitude and beliefs in socialising children into unequal traditional gender roles and other related harmful norms which have been found to limit their self-efficacy (Buller & Schulters, 2018). They attributed this to the intention of parents and service providers seeking to maintain the gender status quo and known social order.

Portes (1998) delineated four reasons why the impacts of social capital on health outcomes may not invariably be positive. Firstly, he noted that the same ties that bring benefits to members of a group commonly enable it to bar others from access. He highlighted that strong bonding social capital, in particular, might serve as a mechanism to restrict the freedom of out-group members. However, he also noted three reasons why social capital might negative affect those who are in-group members. He underscored that higher social capital could engender a curtailment of autonomy due to excess claims on group members. For example, women may be expected to prioritize communal and familial reproductive expectations, for the sake of the family, over their own reproductive choices. Portes also noted that social capital can apply an excessive informal control and demands for conformity, thus undermining people's confidence in their autonomy. Additionally, Portes elucidated how social capital might precipitate a "down-levelling" of norms, in which demands for group conformity prevent any single member from doing markedly better than the group. All of these rationales are directly related to the power and control people feel they have over their choices; their self-efficacy.

While these negative consequences may occur more strongly through bonding social capital, which are more tightly knit, and require a stronger degree of conformity of their members, the negative effects have been proven to be present through all forms of civic engagement. A paper by Andrist (2008) examined social capital and patriarchy in India, and demonstrated that social capital through all forms of associational membership works to enhance restrictions placed on women's autonomy. It found that households which are well tied into their communities avail themselves to greater scrutiny and thus anticipate and react to the prescriptions of dominant, patriarchal norms to avoid sanction and sustain their access to social capital. Andrist argues that, through more frequent interactions with their communities, members of well-integrated households become more thoroughly indoctrinated, and conform more closely to the norms.

Applying these mechanisms to the context of general and reproductive self-efficacy in SSA, we theorise that some forms of social capital may be amplifying the harmful impact of norms that hinder the realisation of self-efficacy. Baum (1998) points out that communities might sometimes be characterised by distrust, fear, and exclusion of outsiders, applying pressure on members to act in accordance with norms. Furthermore, in some cases, social ties and polarized interactions may be suppressing the correct health-beliefs of educated members to affirm previously held conventional knowledge (Jaikumar et al., 2020). The norms mentioned above, often present in SSA, of patriarchy and masculinity, might therefore result in unequal distribution of resources for SRH, confusion surrounding reproductive health information, and individuals who are powerless to control their own circumstances for fear of exclusion, as a result of their social capital.

It might therefore be the case that individuals who are better tied to their communities, through associational membership in both bonding and bridging groups, exhibit lower perceived freedom and control over their choices, both generally and in a reproductive context. This may be due to greater pressure to comply with prevailing norms, in order to avoid sanction and sustain their group membership, or due to the mixed messaging that norms create that lower an individual's confidence to achieve their goals.

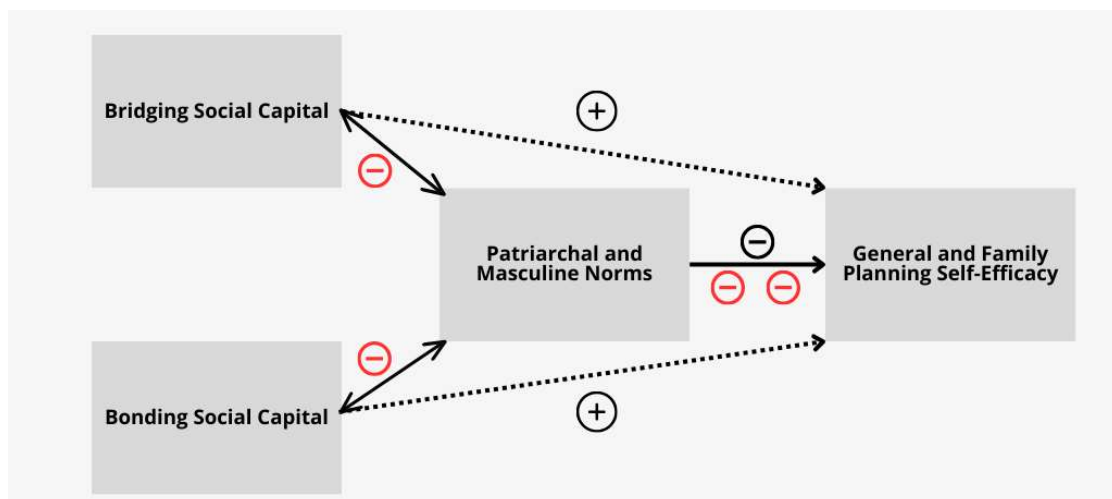
H5: Both individual bridging and bonding social capital amplify the negative effects of patriarchal norms and masculinity norms on self-efficacies, as being part of these social networks amplifies the internalisation of and need for conformity to these harmful norms.

We also note that, given the gendered nature of social norms in many Sub-Saharan African contexts, the impact of both bridging and bonding social capital on self-efficacy is likely to differ for men and women (Campbell, Wood and Kelly, 1999). Men may experience relatively higher benefits for their self-efficacy through bridging ties due to increased access to resources and opportunities. For example, Mayoux (2001) found that women in Cameroon were often unable to benefit from belonging to bridging groups, such as credit groups, because segregation of the sexes meant that women were unable to engage freely in male-dominated spaces without making themselves vulnerable to sexual harassment and other forms of abuse. In addition, the demands placed on women through bonding social capital are more severe than those placed on men, especially in the reproductive context, and social capital does not on its own afford people the ability to meaningfully transcend structures of inequality (Andrist, 2008). Women may therefore disproportionately feel the negative consequences of restrictive gender norms within bridging and bonding ties on their self-efficacies.

H6: The effect of social capital on self-efficacy varies by gender, due to the presence of gender-inequitable norms, with men benefitting disproportionately more than women.

2.5 Conceptual Framework and Research Question

FIGURE 1: CONCEPTUAL FRAMEWORK



The conceptual framework in Figure 1 illustrates the basic theoretical relationships, and the interaction that we expect to see. We see that patriarchal and masculine norms are expected to have

a negative direct effect on both self-efficacies (though we do not expect inequitable patriarchal norms to have a negative effect for males). We also see that bridging and bonding social capital should, theoretically, have a positive direct impact on both self-efficacies. This is based on Putnam's (2000) overarching theory, in his work on the benefits of civic engagement, that good social capital might nearly always outweigh the bad. However, in the presence of the patriarchal and masculine norms, we expect social capital acts to amplify the harmful effects of these norms, illustrated by the double negative signs in red, as they place pressure on group members to comply with norms, or face sanctions or exclusion.

The overarching research question is: to what extent does social capital, in the form of associational membership, moderate the effect of patriarchal and masculine norms to further curtail individuals' perceived freedoms? It will also investigate the differing impact of these factors on women compared to men. My analysis will not attempt to definitively establish causality, but instead will focus on determining whether there is an empirically negative effect of patriarchal and masculine norms on self-efficacy which is amplified by greater levels of social capital.

3 Methodology

For my analysis I will be using data from Wave 7 of the World Value Survey from individuals in Ethiopia, Kenya, and Zimbabwe collected during February 2020–June 2021. The full WVS sample in these countries comprised 3,711 males and females aged 18 years or above (Ethiopia n=1,230, Kenya n=1,266, Zimbabwe n=1,215). Once cleaned, having removed NAs, the sample was made up of 2,594 respondents, 1,006 of which were female, and 1,587 were male.

We chose to remove NAs, rather than perform imputation, in order to preserve the integrity of the data and keep the analysis based solely on complete and authentic responses. Imputation methods can distort the natural variability and distribution of the data and may make assumptions about the underlying data that may not hold true in our dataset (Kang, 2013). Furthermore, our sample size allows us to exclude incomplete cases without compromising the statistical power of our analyses.

The three countries were chosen as they were the only countries to which the WVS Wave 7 collected specific data on individuals' support for SRHR. The new module, Gender Module H, was implemented only in Ethiopia, Kenya, and Zimbabwe, as three countries representative of the SSA region, and for which such information has been less available (Svallfors et al., 2023). These

countries face high burdens of adverse SRHR outcomes like maternal mortality, unsafe abortion, and gender-based violence. They also differ in their abortion legislation, HIV prevalence, and harmful practices, while being signatories of key SRHR policy documents (Svallfors et al., 2023), providing a varied and relevant context for our research.

3.1 Independent variables

The analysis will include two sets of independent variables of interest: norms variables (patriarchal and masculine), and social capital variables (bridging and bonding). The description of these variables follows.

3.1.1 Norms Variables

The first independent variables will be various norms that have been found to be harmful for self-efficacy attainment. They are aggregated factors based on an array of survey questions that indicate support for each norm. The two factors, Patriarchal and Masculinity norms were categorised into these factors by Svallfors et al. (2023) using an exploratory factor analysis on the WVS data to make up a total SRHR support index. All of the following survey questions fall under the Gender Module H of the WVS Wave 7, which were only asked in Ethiopia, Kenya, Zimbabwe. Their aim was to form a comprehensive index measuring individual's support for SRHR to inform policy and inform future research and surveys to facilitate global comparisons and trend analyses.

Both factors were determined to have acceptably high internal validity by Svallfors et al. (2023), with Cronbach's alphas above 0.65, in their formation of a whole SRHR Support Index, wherein gender-equitable norms and masculinity norms were 2 of 5 subindices.

- A. **Patriarchal Norms:** Our patriarchal norms variable is made up of an item from Svallfors' factor analysis which they called "Gender-equitable relationships". This item constitutes five survey responses that measured perceptions related to male control and decision-making in relationships or marriage, gendered divisions of work in and outside the household, and power in intimate relationships (Cronbach's $\alpha=0.71$). These items all tap into the importance of ensuring gender equality in relationships.
- Gender-equitable relationships dimension (Cronbach's alpha = 0.71)
 - A man should always have the final say about decisions in his relationship or marriage - H325

- There is no doubt that gainful employment is good but that what most women really want is a home and children - H328
- On the whole, family life suffers when women work full time - H329
- It is a man's job to earn money and a woman's job to take care of home and family - H330
- If a man has a girlfriend or wife, he should know where she is all the time - H326

B. Masculinity norms: The second variable, also determined as a factor by Svallfors et al. (2023), included three items drawn from the validated “Man Box scale” developed by Hill et al (2020), and captured agreement with masculinity norms promoting sexual prowess and violence, and that men should avoid talking about their feelings. (Cronbach’s $\alpha=0.65$).

- Masculinity norms dimension (Cronbach’s $\alpha = 0.65$)
 - A man who talks a lot about his worries, fears, and problems doesn't deserve respect - H348
 - A real man should have as many sexual partners as he can - H350
 - A man should use violence, to get respect, if necessary - H351

Both norms variables were created by taking the mean of the responses to the survey questions related to each type of norm to form single factors. The variables thus represent aggregated scores reflecting the respondents' attitudes or perceptions related to patriarchal and masculinity norms, respectively. Given that the WVS scale assigns higher values (4) to strong disagreement with a statement and lower values (1) to strong agreement, the variables were inverted such that higher values now indicate stronger agreement with patriarchal or masculinity norms. This adjustment ensures consistency in interpretation across the dataset, facilitating clearer analysis of societal attitudes towards patriarchy and masculinity.

For each individual, norms have been aggregated at town level. This level better reflects the norms that surround the individual, in which they are embedded, and better suits the research question than using individual level beliefs.

3.1.2 Social Capital Variables

The other independent variables in the analysis will be different forms of social capital. The concept of social capital has been defined in many ways, and there is not yet a universally agreed-upon way to measure the social capital an individual possesses (Nyqvist et al. 2014). The measure used to denote social capital has important implications for the interpretation of the results (Weiler & Hinz, 2018).

Following Putnam (2000), this analysis will define social capital as the resources that arise from the favourable elements of communal existence, particularly stemming from high levels of ‘civic engagement’ and reflected by participation in local voluntary groups. This engagement is linked to fostering constructive community norms characterized by trust and reciprocity among members, along with fostering a positive local identity. Putnam (2000) thus contends that associational membership serves as a stronger indicator of social capital compared to survey-based measures of trust and reciprocity, which have been used by other studies.

The analysis will take an individual-level perspective on social capital, as opposed to a collective-level approach. The former sees social capital as a private good, and focuses on interpersonal relationships, while the latter shifts the focus to larger social entities such as organizations, communities, and regions. Under this individual-level approach, individuals’ membership in associations, organizations, and groups is deemed crucial, as it nurtures trust and networks (Putnam et al., 1994), and accounts for the effects of the individual resources possessed (Brunie, 2009). In contrast, the collective-level approach defines social capital as a public good embedded within broader social structures such as communities and regions. It focuses on the density of connections and shared norms within these larger entities, emphasizing their role in fostering cooperation and collective benefits. Scholars like Coleman (1988) and Putnam (1995) argue that social capital at this level cannot be exclusively exploited for individual gain but rather benefits the community as a whole. Given this study’s focus on how social capital influences each individual’s self-efficacy directly, based on how connected to their community an individual is, the choice of an individual-level perspective is appropriate. This approach allows for an examination of how individuals’ memberships in various groups and organizations contribute to their perceived self-efficacy.

Consistent with these interpretations, the study will operationalize social capital by assessing each individual’s group membership based on data from WVS Wave 7. It will divide group membership along two distinct concepts identified in the literature: bonding and bridging.

A. **Bonding Social Capital:** Bonding social capital will be computed into a Bonding variable made up of organizations that classify as “Olson” groups; groups which exhibit rent-seeking behaviour (Knack and Keefer, 1997; Beugelsdijk and Smulders, 2009; Cortinovic et al., 2017; Muringani et al., 2021). These include trade unions, political parties, professional associations, and consumer organizations.

Bonding: (Cronbach's = 0.71)

- a. Q97: Active/Inactive membership: labour union
- b. Q98: Active/Inactive membership: political party
- c. Q100: Active/Inactive membership: professional organization
- d. Q102: Active/Inactive membership: consumer organization

B. **Bridging social capital:** Bridging social capital will be operationalised using “Putnam” groups, which offer openness and benefit for non-members (Knack and Keefer, 1997; Beugelsdijk and Smulders, 2009; Cortinovic et al., 2017; Muringani et al., 2021). This includes participation in religious organizations, cultural activities groups, environmental groups, sports or recreational groups, charitable or humanitarian groups, and self-help groups.

Bridging: (Cronbach's = 0.74)

- a. Q94: Active/Inactive membership: church or religious org
- b. Q95: Active/Inactive membership: sport or recreational org
- c. Q96: Active/Inactive membership: art, music, educational org
- d. Q99: Active/Inactive membership: environmental organization
- e. Q101: Active/Inactive membership: charitable/humanitarian organization
- f. Q103: Active/Inactive membership: self-help group, mutual aid group

Following Alfano (2022), we measured bridging and bonding in two, giving weight to how many of these groups the respondent belongs to on a continuous scale. In the case of the WVS, which measures both active and inactive membership, this can be a score out of 8 for bonding and 12 for bridging, with 2 points allocated for each active membership, and 1 for inactive membership. For example, if someone is an active member of a professional association and an inactive member of a political party they will have a Bonding score of 3/8. Alfano (2022) tested the operationalization of these variables using the European Value Surve and found them to be

internally consistent, with all Cronbach's alpha scores above 0.75. The same test was applied to check the consistency of the sample in this study, finding both to be internally consistent, with Cronbach's alpha scores above 0.7.

The item analysis of all four independent variables of interest can be seen in Table 1. The data in shows that all the four factors are acceptably reliable with Cronbach's alphas above 0.65.

TABLE 1: FACTOR RELIABILITY TABLE

	Cronbach's α	No. of items
Gender Norms	0.72	5
Masculinity Norms	0.65	3
Bonding	0.71	4
Bridging	0.74	6

3.2 Dependent variables

The dependent variables will be two measures of self-efficacy of the respondents. These variables capture the level of confidence one has in their ability to take control of their own relations, in a general context and a specific family planning context.

A. **General Self-efficacy (GSE):** The first dependent variable is a survey response available in wave 7 of the WVS for all countries. It is a measure of general self-efficacy, for which the respondents were given a question titled "How much freedom of choice and control" and asked: "Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "none at all" and 10 means "a great deal" to indicate how much freedom of choice and control you feel you have over the way your life turns out." Respondents then selected from the response categories between 1 and 10. We have labelled and referred to this variable as General Self-Efficacy (GSE). General self-efficacy has been associated with a number of important life outcomes, such as higher income (Cleaver, 2005), less substance abuse (Kilinc & Tezel, 2011), more effective recoveries from adversities (Omu, Al-Obaidi & Reynolds, 2014) and positive health behaviours (Closson et al., 2018).

I.General Self-efficacy (GSE)

- Q48: How much freedom of choice and control

B. Family-planning self-efficacy: The second measure is also available in wave 7 of the WVS, but it is one of the Gender Module H set questions which were only asked to respondents in Ethiopia, Kenya and Zimbabwe. This measure is labelled “Free choice and control over family planning” and respondents were asked: “Some people feel they have completely free choice and control over family planning (if, when and how many children to have), while others don’t. Please use this scale where 1 means "no choice at all" and 10 means "a great deal of choice" to indicate how much you are able to decide over your family planning.” We have labelled and refer to this variable as Family-planning Self-Efficacy (FPSE). FPSE has been found to be a potent predictor of contraceptive use and individuals, especially women, playing an active role in their reproductive decisions and health (Haider & Sharmer, 2013; Richardson et al., 2016).

II. Family Planning Self-efficacy (FPSE)

- H297: Free choice and control over family planning

Both of these measures are simple and generic, in comparison to multiple item scales for self-efficacy used in some other literature. For example, Rodin and McAvay’s (1992) study used a nine-item scale on older adults in which they assessed self-reported self-efficacy across nine different realms of life, such as finance, health, and relationship with others. Despite its simplicity, these measures of self-efficacy overlap with the core elements of self-efficacy; one’s beliefs or expectations in his or her ability to accomplish certain behaviours or achieve certain outcomes (Bandura, 1977). Similar simplified versions of the self-efficacy variable have also been used effectively in other research (Nie, 2019; Anderson, 2021).

3.3 Control variables

A review of the literature on the concept of self-efficacy sees three main categories of determinants of self-efficacy and family-planning self-efficacy (Bong, 1999; Rostosky et al., 2008; Assarzadeh et al., 2018). The first are socio-demographic factors such as sex, age, race and socioeconomic status. The second are marital status factors such as failure of marriage or marital duration. And finally, psychological factors such as anxiety and depression affect a person’s self-efficacy. This study drew on this literature and used factors available in the WVS survey to control

for the effects of these determinants in the models, in order to better isolate the impact of the norms and social capital.

Age, literacy, education, employment status and **income** were used as socio-demographic covariates in this study. We expect self-efficacy to increase with these socio-demographic controls for the fact that these variables do practically enable individuals to have more control over their life and freedom in their choices (Assarzadeh et al., 2018). Age was a continuous variable. Literacy was dichotomized into literate (1) or illiterate (2). This was inverted so that a higher response represented literacy. Educational level was assessed by a single question, “What is the highest educational level that you have attained?”. There were nine categorical response options, on a scale ranging from early childhood or no education (0) to doctoral or equivalent (8). Employment status had eight categorical response options: Full time (30 hours a week or more) (1), Part time (less than 30 hours a week) (2), Self-employed (3), Retired/pensioned (4), Housewife not otherwise employed (5), Student (6), Unemployed (7), Other (8). Higher responses here thus represent less employment, thus we would expect a negative coefficient. Finally, income level was a question asking about the individual’s household income, on a scale from 1 to 10, 1 being “Lower Step” and 10 being “Tenth Step”. It does therefore not denote the individual’s personal income, but that of their household.

Marital status was controlled for using a survey response with six categorical options: Married (1), Living together as married (2), Divorced (3), Separated (4), Widowed (5), Single (6). Lower values therefore represent relationships closer to marriage. Literature indicates that marriage and self-efficacy are positively related due to the support provided by the union (Assarzadeh et al., 2018), thus we expect a negative coefficient.

Psychological factors were controlled for using two subjective measures: **feeling of happiness** and **state of health**. Feeling of happiness was assessed using a single question, “Taking all things together, would you say you are:” with a scale four possible response options: Very happy (1), Quite happy (2), Not very happy (3), Not at all happy (4). Finally, state of health was a subjective measure, asking respondents “All in all, how would you describe your state of health these days? Would you say it is...”, also on a scale with five possible responses: Very good (1), Good (2), Fair (3), Poor (4), Very poor (5). Both of these measures were inverted so that higher values represent higher happiness and better health scores. We expect both of these measures to positively influence self-efficacies (Assarzadeh et al., 2018).

3.4 Gender split samples

Importantly, this study analysed the differing effect of the variables of interest on different genders. Previous studies have found significant differences in self-efficacy between men and women. For example, within the sexual self-efficacy research, women have been found to have higher sexual refusal self-efficacy, while men have been found to show higher self-efficacy for condom use (Closson et al., 2018). These differences may have practical reasons, such as the fact that male condom use is more under the control of men, and thus measures of self-efficacy may be biased in a masculine direction (Clossin et al, 2018). They may, however, also be rooted in norms. Men might have low sexual refusal self-efficacy due to socially engrained ideas that depict sexual desires of young men as something that should not or possibly cannot be suppressed (Rostosky et al., 2008). Additionally, the effects of social capital on self-efficacy are likely to differ for men and women (Campbell, Wood and Kelly, 1999). It is thus important that we consider the impacts of the different types on norms and social capital on each gender separately. We have done this in this study by splitting the sample into male and female samples. The male sample had 1,587 respondents and the female sample had 1,006.

3.5 Analysis method

R version 4.2.2 was used to analyse the data. First, appropriate data transformations were made, and composite scaled variables were created for patriarchal norms, masculinity norms, bridging and bonding, and all were centered. Then, reliability analyses were conducted on the bridging social capital and bonding social capital factors. Basic descriptive statistics were calculated and analysed. Next, bivariate analyses were conducted, and Pearson's correlations were used to assess the strength of the relationships between the norms, the social capitals, self-efficacy variables and the controls. Lastly, a multilevel regression model was used to examine the influence of norms and social capital on self-efficacy while controlling for age, literacy, education, employment status, income, marital status, feeling of happiness and subjective health, all of which were also centered.

The regression model employed is the Linear Mixed Effects Regression (LMER). This model type has been used by multiple other studies analysing the determinants of self-efficacy (Mansyur et al., 2007; Jerant et al., 2008). It is particularly well-suited for handling the hierarchical structure of the data, where individual respondents are nested within towns (Pinheiro & Bates, 2000). The

LMER model accounts for both fixed effects (such as patriarchal norms and bridging) and random effects (variability between towns), providing a more comprehensive understanding of the data. By incorporating random intercepts for towns, the LMER model accounts for the non-independence of observations within the same town, leading to more accurate estimates and inferences (Pinheiro & Bates, 2000). Additionally, the flexibility of the LMER model in handling unbalanced data ensures that the analysis remains robust despite potential differences in the number of respondents across towns. Overall, the LMER model enhances the reliability and validity of the findings by appropriately modelling the complexities of the data's hierarchical structure.

After centering all independent variables, all models were free from multicollinearity, with all variance inflation factors in all models lower than 1.5. Since the variables are centered, the intercept now represents the value of the dependent variable when all independent variables are at their mean value (Kraemer & Blasey, 2004). Scaling and centering the main independent variables have ensured that their coefficients are comparable, as they are expressed in terms of standard deviations. This also ensures that the interaction term is easier to interpret, as the effect of one variable when the other variable is at its mean (Kraemer & Blasey, 2004).

The multilevel regression analysis will follow a similar methodological approach to that taken by Mansyur et al. (2008), in a study that tested whether self-rated health is affected by social capital and income inequality, using World Values Survey data. I will first run an intercept-only model with no predictors to calculate the intraclass correlation coefficient (ICC) to assess the proportion of variance in SRHR beliefs explained by differences between towns. This helps determine if multilevel methods are appropriate. I will then fit a series of four multilevel models:

1. **Model 1** will be a compositional effects only model, regressing patriarchal norms and masculinity norms at town level on individual-level measures of self-efficacy (general and family planning), for the entire sample, and then for males and females separately. The following models will be computed (subscript i denotes individual level, subscript t denotes town level):

$$GSE (All)i = B_0 + B_1 * Patriarchal\ norms\ t + ui$$

$$FPSE (All) i = B_0 + B_1 * Patriarchal\ norms\ t + ui$$

$$GSE (All)i = B_0 + B_1 * Masculinity\ Norms\ t + ui$$

$$FPSE (All)i = B_0 + B_1 * Masculinity\ Norms\ t + ui$$

$$\begin{aligned}
GSE (Male) i &= B_0 + B_1 * Patriarchal norms t + ui \\
FPSE (Male) i &= B_0 + B_1 * Patriarchal norms t + ui \\
GSE (Male) i &= B_0 + B_1 * Masculinity Norms t + ui \\
FPSE (Male) i &= B_0 + B_1 * Masculinity Norms t + ui \\
GSE (Female) i &= B_0 + B_1 * Patriarchal norms t + ui \\
FPSE (Female) i &= B_0 + B_1 * Patriarchal norms t + ui \\
GSE (Female) i &= B_0 + B_1 * Masculinity Norms t + ui \\
FPSE (Female) i &= B_0 + B_1 * Masculinity Norms t + ui
\end{aligned}$$

2. **Model 2** will be a covariates only model, and will include individual level controls for relevant covariates (age, literacy, education, employment status, income, marital status, feeling of happiness and subjective health) in addition to norms measures. This model serves as a comparison to assess whether adding contextual predictors improves model fit. These models will be repeated for the split samples of Males and Females.

$$\begin{aligned}
GSE (All) i &= B_0 + B_1 * Patriarchal norms norms t + B_2 * Literacy i + B_3 * Age i + B_4 * \\
&Marital Status i + B_5 * Education Level i + B_6 * Employment Status i + B_7 * Income i + B_8 * \\
&Happiness i + B_9 * Health i + ui \\
FPSE (All) i &= B_0 + B_1 * Patriarchal norms t + B_2 * Literacy i + B_3 * Age i + B_4 * Marital Status i + B_5 * \\
&Education Level i + B_6 * Employment Status i + B_7 * Income i + B_8 * Happiness i + B_9 * \\
&Health i + ui \\
GSE (All) i &= B_0 + B_1 * Masculinity Norms t + B_2 * Literacy i + B_3 * Age i + B_4 * Marital Status i + B_5 * \\
&Education Level i + B_6 * Employment Status i + B_7 * Income i + B_8 * Happiness i + B_9 * \\
&Health i + ui \\
FPSE (All) i &= B_0 + B_1 * Masculinity Norms t + B_2 * Literacy i + B_3 * Age i + B_4 * Marital Status i + B_5 * \\
&Education Level i + B_6 * Employment Status i + B_7 * Income i + B_8 * Happiness i + B_9 * \\
&Health i + ui
\end{aligned}$$

3. **Model 3** will add social capital as a contextual predictor at the town level to the model to examine its association with gender-inequitable norms while controlling for individual-level variables and covariates. These models will be repeated for the split samples of Males and Females.

$$\begin{aligned}
GSE (All) i &= B_0 + B_1 * Patriarchal normst + B_2 * Bonding Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
FPSE (All) i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bonding Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui
\end{aligned}$$

$$\begin{aligned}
GSE (All)i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bridging Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
FPSE (All)i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bridging Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
GSE (All)i &= B_0 + B_1 * Masculinity Norms t + B_2 * Bondng Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
FPSE (All)i &= B_0 + B_1 * Masculinity Norms t + B_2 * Bonding Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
GSE (All)i &= B_0 + B_1 * Masculinity Norms t + B_2 * Bridging Social Capital i + B_3 * Literacy i + \\
&B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui \\
FPSE (All)i &= B_0 + B_1 * Masculinity Norms t + B_2 * Bridging Social Capital i + B_3 * \\
&Literacy i + B_4 * Age i + B_5 * Marital Status i + B_6 * Education Level i + B_7 * \\
&Employment Status i + B_8 * Income i + B_9 * Happiness i + B_{10} * Health i + ui
\end{aligned}$$

4. **Model 4** will further explore the relationships between individual-level predictors (norms) and contextual predictors (social capital measures) using cross-level interactions to explore how the relationships between norms and self-efficacy vary across different levels of social capital. These models will be repeated for the split samples of Males and Females.

$$\begin{aligned}
GSE (All)i &= B_0 + +B_1 * Patriarchal norms t + B_2 * Bonding Social Capital i + B_3 * Gender Norms t * \\
&Bonding Social Capital i + B_4 * Literacy i + B_5 * Age i + B_6 * Marital Status i + B_7 * \\
&Education Level i + B_8 * Employment Status i + B_9 * Income i + B_{10} * Happiness i + B_{11} * \\
&Health i + ui \\
FPSE (All)i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bonding Social Capital i + B_3 * Gender Norms t * \\
&Bonding Social Capital i + B_4 * Literacy i + B_5 * Age i + B_6 * Marital Status i + B_7 * \\
&Education Level i + B_8 * Employment Status i + B_9 * Income i + B_{10} * Happiness i + B_{11} * \\
&Health i + ui \\
GSE (All)i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bridging Social Capital i + B_3 * Gender Norms t * \\
&Bridging Social Capital i + B_4 * Literacy i + B_5 * Age i + B_6 * Marital Status i + B_7 * \\
&Education Level i + B_8 * Employment Status i + B_9 * Income i + B_{10} * Happiness i + B_{11} * \\
&Health i + ui \\
FPSE (All)i &= B_0 + B_1 * Patriarchal norms t + B_2 * Bridging Social Capital i + B_3 * Gender Norms * \\
&Bridging Social Capital i + B_4 * Literacy i + B_5 * Age i + B_6 * Marital Status i + B_7 *
\end{aligned}$$

$$\begin{aligned}
& \text{Education Level } i + B_8 * \text{Employment Status } i + B_9 * \text{Income } i + B_{10} * \text{Happiness } i + B_{11} * \\
& \text{Health } i + u_i \\
\text{GSE (All)}i &= B_0 + B_1 * \text{Masculinity Norms } t + B_2 * \text{Bonding Social Capital } i + B_3 * \text{Masculinity Norms } t * \\
& \text{Bondng Social Capital } i + B_4 * \text{Literacy } i + B_5 * \text{Age } i + B_6 * \text{Marital Status } i + B_7 * \\
& \text{Education Level } i + B_8 * \text{Employment Status } i + B_9 * \text{Income } i + B_{10} * \text{Happiness } i + B_{11} * \\
& \text{Health } i + u_i \\
\text{FPSE (All)}i &= B_0 + B_1 * \text{Masculinity Norms } t + B_2 * \text{Bonding Social Capital } i + B_3 * \\
& \text{Masculinity Norms } t * \text{Bonding Social Capital } i + B_4 * \text{Literacy } i + B_5 * \text{Age } i + B_6 * \\
& \text{Marital Status } i + B_7 * \text{Education Level } i + B_8 * \text{Employment Status } i + B_9 * \text{Income } i + B_{10} * \\
& \text{Happiness } i + B_{11} * \text{Health } i + u_i \\
\text{GSE (All)}i &= B_0 + B_1 * \text{Masculinity Norms } t + B_2 * \text{Bridging Social Capital } i + B_3 * \\
& \text{Masculinity Norms } t * \text{Bridging Social Capital } i + B_4 * \text{Literacy } i + B_5 * \text{Age } i + B_6 * \\
& \text{Marital Status } i + B_7 * \text{Education Level } i + B_8 * \text{Employment Status } i + B_9 * \text{Income } i + B_{10} * \\
& \text{Happiness } i + B_{11} * \text{Health } i + u_i \\
\text{FPSE (All)}i &= B_0 + B_1 * \text{Masculinity Norms } t + B_2 * \text{Bridging Social Capital } i + B_3 * \\
& \text{Masculinity Norms } t * \text{Bridging Social Capital } i + B_4 * \text{Literacy } i + B_5 * \text{Age } i + B_6 * \\
& \text{Marital Status } i + B_7 * \text{Education Level } i + B_8 * \text{Employment Status } i + B_9 * \text{Income } i + B_{10} * \\
& \text{Happiness } i + B_{11} * \text{Health } i + u_i
\end{aligned}$$

4 Results

4.1 Descriptive Statistics

TABLE 2: WHOLE SAMPLE DESCRIPTIVE STATISTICS

	mean	sd	median	min	max	range	skew
Self-efficacy	7.38	2.74	8	1	10	9	-0.78
FPSE	7.75	2.64	9	1	10	9	-1.00
Patriarchal Norms	2.54	0.68	2.6	1	4	3	-0.09
Masculinity Norms	1.76	0.63	2	1	4	3	0.65
Bridging	4.05	2.95	3	0	12	12	0.90
Bonding	1.32	1.92	0	0	8	8	1.46
Literacy	1.81	0.39	2	1	2	1	-1.60
Age	32.83	12.70	29	18	99	81	1.37
Marital status	2.92	2.33	1	1	6	5	0.49
Highest educational level	3.71	1.82	4	1	10	9	0.44
Employment status	3.91	2.12	3	1	9	8	0.28
Scale of incomes	4.97	2.41	6	1	11	10	-0.29
Feeling of happiness	3.10	0.86	3	1	4	3	-0.70
State of health (subjective)	3.99	0.96	4	1	5	4	-0.91

4.1.1 Self-efficacies

The descriptive statistics of the variables used in the analysis are presented in Table 2. The mean self-efficacy, which asked participants how much freedom of choice and control they feel they have over their lives, is 7.38 out of 10, with 10 denoting a great deal of choice. The sample mean is fairly average globally, compared to other country's means in the WVS Wave 7. For example, it is below the United States (7.74), Argentina (7.69) and Vietnam (8.07), but well above Japan (6.05), France (6.96) and Thailand (6.14). This indicates a strong influence of country culture and socio-politics on people's feeling of choice and control over their lives, as the countries which share similar mean self-efficacies have little in common in terms of economic characteristics or geographic region. Within our sample, the countries have fairly similar mean efficacies, with Ethiopia having the highest, at 7.48, while Kenya has the lowest, at 7.03, with Zimbabwe falling in between with a mean of 7.26. This indicates similarity in cultural traits surrounding people's report of their self-efficacy within the region.

Family planning self-efficacy (FPSE) is a measure of how much choice and control people feel they have over if, when and how many children to have. The mean FPSE in our sample is 7.76, and the median is 9, as seen in Table 2. These measures are higher than for general self-efficacy, indicating that, on the whole, the choice of if, when and how many children they have is something that people feel is more in their control than other aspects of life. This is surprising given the high burdens of adverse SRHR outcomes in the region, and lack of resources for family planning (Svallfors et al., 2023). Of the three countries in the sample, Zimbabwe had the highest FPSE mean score, of 7.97, followed by Ethiopia at 7.46 and then Kenya at 7.18. This is a fairly significant difference in FPSE between countries, indicating that country fixed effects may play a large role in determining FPSE. We will therefore run a model controlling for country-fixed effects as a robustness check, to determine the generalisability of our main analysis, which treats the sample as representative of SSA as a whole. Since the FPSE survey question was one of the Gender Module H set questions only asked to respondents in Ethiopia, Zimbabwe and Kenya in WVS Wave 7, we cannot compare their values to other countries.

Table 3 shows the differences in statistics for the males and the females in the sample. We see that both self-efficacy means are higher for males, and Mann-Whitney U tests confirm that the differences are statistically significant ($p < 0.05$). FPSE is notably higher, with a mean difference of 0.36, and a median of 9 compared to 8. This indicates that men in the region feel that they have more control over if, when and how many children to have than women feel they do. This

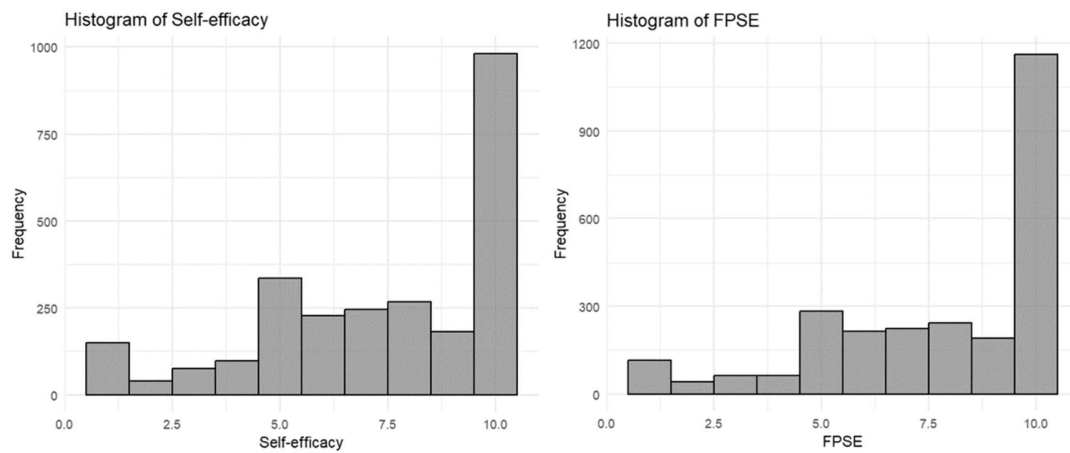
disparity is likely a result of the region’s normative emphasis on women’s role in fertility, and decision-making in the household being characterised by male domination (Tandrayen-Ragoobur, 2021).

TABLE 3: MALE VS FEMALE DESCRIPTIVE STATISTICS

	n		mean		sd		median	
	Male	Female	Male	Female	Male	Female	Male	Female
Self-efficacy	1597	1014	7.46	7.24	2.80	2.64	8	8
FPSE	1597	1014	7.89	7.53	2.63	2.65	9	8
Patriarchal Norms	1597	1014	2.60	2.45	0.67	0.68	2.6	2.4
Masculinity Norms	1597	1014	1.80	1.71	0.64	0.62	2	1.667
Bridging	1597	1014	4.11	3.96	2.97	2.92	3	3
Bonding	1597	1014	1.41	1.17	1.94	1.87	0	0
Literacy	1597	1014	1.86	1.74	0.35	0.44	2	2
Age	1593	1012	34.85	29.67	14.08	9.34	30	27
Marital status	1595	1013	3.03	2.75	2.38	2.23	1	1
Highest educational level	1597	1014	3.86	3.47	1.75	1.91	4	3
Employment status	1597	1014	3.64	4.32	2.13	2.03	3	5
Scale of incomes	1597	1014	4.87	5.12	2.44	2.37	5	6
Feeling of happiness	1594	1009	2.98	3.29	0.91	0.73	3	3
State of health (subjective)	1596	1012	3.88	4.18	1.03	0.81	4	4

Both of these measures of self-efficacy, however, have high standard deviations, of 2.38 and 2.64 respectively, shown in Table 2. These figures are high relative to the range of the data, and indicate significant variability in the responses. Their medians (8 and 9 respectively) are also relatively high compared to their means (7.38 and 7.76 respectively). This indicates that the distribution of the data is slightly left-skewed and that there are some lower values pulling the mean down more than the median. This can be seen clearly in Figure 2 below, showing that the majority of the responses to the questions were in fact 10. This skewed distribution of our outcome variables means that OLS regression may not be the best fitting model, since the data may violate the assumption of normality. We will therefore use an alternative estimation method which is suitable for dealing with count data, a Poisson regression analysis, as a robustness check, to confirm whether the regression results are reliable.

FIGURE 2: HISTOGRAMS SELF-EFFICACIES

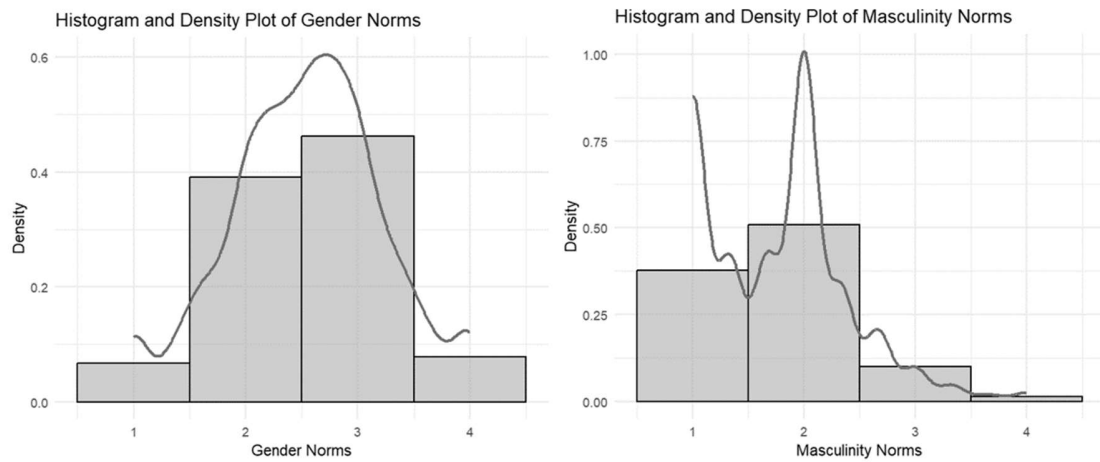


4.1.2 Norms

Table 2 shows that the sample mean for patriarchal norms, where 4 would be full agreement with the statements that make up the patriarchal norms factor, such as that a man should always have the final say about decisions in his relationship or marriage or that it is a man's job to earn money and a woman's job to take care of home and family, is 2.54. This indicates that, on average, people prescribe to these patriarchal norms in the societies in the sample. The standard deviation is moderate, at 0.68, and the graph below in Figure 3 shows that the distribution is close to normal, indicating that most people's beliefs fall around the average value. Men tend to ascribe to these gender beliefs more than women, with a statistically significant difference in means, 2.60 compared to 2.45, seen in Table 3.

Masculinity beliefs are lower than patriarchal norms beliefs in the sample, with a mean of 1.76. The distribution, shown in Figure 3 is also skewed to the left, with most responses being a 1 or a 2 out of 4. This indicates that most respondents don't fully agree with statements like "a man should use violence, to get respect, if necessary". However, the beliefs are significantly higher for men (mean of 1.80 and median of 2) than for women (1.71 and median of 1.67), as seen in Table 3.

FIGURE 3: HISTOGRAMS NORMS

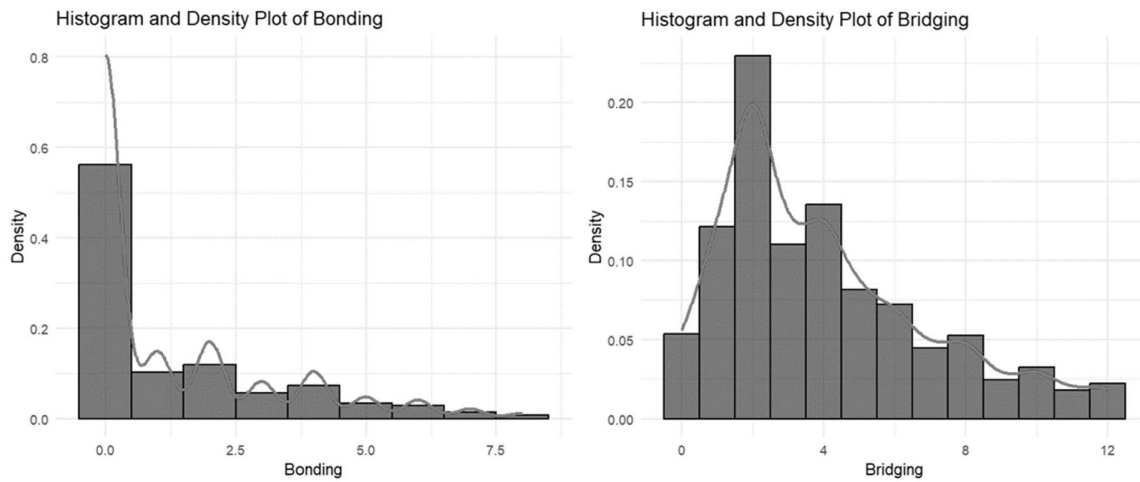


4.1.3 Social Capital

From Table 2 we can see that Bridging social capital is much higher than Bonding social capital for the respondents in the sample. Out of a possible score of 12, with 2 points for being active in a group and 1 point for being an inactive member, the mean Bridging score is 4.05, with a median of 3. This is higher than Bonding's mean of 1.32 and a median of 0. The graphs in Figure 4 below also show that bonding responses are extremely skewed to the right, with most responses being 0. This indicates that the people in the sample are much more likely to be a member of, for example, a church/religious or sports/recreational group than they are to be in a labour union or political party group.

Notably, men's means for both kinds of social capital, seen in Table 3, are higher than women's. Men have particularly higher bonding social capital, with a mean of 1.41 compared to 1.17, and their bridging social capital is 4.11 compared to women's 3.96.

FIGURE 4: HISTOGRAMS SOCIAL CAPITAL



4.1.4 Controls

Table 2 shows the descriptive statistics for all controls. We note the majority of the sample is literate (91%). The majority are also married (56%).

37% of the sample answered that they were self-employed, with only 17% answering full time employed, and 6% part-time. 19% of respondents answered that they were unemployed.

We note that the women in the sample report a higher feeling of happiness than men, on average (3.29 and 2.98 respectively), as well as a higher subjective state of health (4.18 and 3.88 respectively), seen in Table 3. This might be due to the lower average age of women in the sample, at 29.67 compared to men's 34.85. Men, however, have higher educational level on average (3.86 and 3.47) and were more likely to be in some form of employment. Women tended to live in households with slightly higher incomes, with a mean of 5.12 out of 10 compared to 4.87 for men.

4.2 Pearson's Correlations

TABLE 4: WHOLE SAMPLE CORRELATION TABLE

	SE	FPSE	Patri N	Masc N	Bridging	Bonding	Education	Income	Happiness	Health
SE	-	0.26***	0.05*	-0.10***	0.08***	0.03	0.03	0.05*	0.12***	0.13***
FPSE		-	-0.02	-0.15***	-0.03	-0.07***	0.15***	0.01	0	0.02
Patriarchal N			-	0.30***	-0.09***	0.02	-0.30***	-0.22***	-0.10***	-0.13***
Masculine N				-	0.16***	0.21***	-0.05*	-0.11***	0.06**	-0.07***
Bridging					-	0.69***	0.18***	0.08***	0.15***	0.09***
Bonding						-	0.14***	0.05**	0.10***	0.02
Education							-	0.25***	0	0.07***
Income								-	0.13***	0.14***
Happiness									-	0.42***
Health										-

4.2.1 Norms

The raw correlation between patriarchal norms and self-efficacy is unexpectedly positive, though it is very small and insignificant at the chosen threshold of $p < 0.05$. For FPSE, the relationship is negative, though also very small and insignificant.

Masculinity norms have a stronger, negative relationship with both forms of self-efficacy. This negative effect is stronger for women, with a coefficient of $-0.17***$ on self-efficacy and $-0.20***$ on FPSE, seen in Table 6. This suggests that women who live in towns that more strongly endorse masculinity norms tend to report lower self-efficacies. The same is true for men, though to a lesser degree, with coefficients of -0.05^* for SE and $-0.14***$ for FPSE, seen in Table 5. We note that the negative effect is stronger on FPSE than it is for GSE, for both genders, indicating that masculinity norms particularly affect people reproductive autonomy.

Patriarchal and masculinity norms unsurprisingly correlate positively, with a coefficient of $0.30***$ in Table 4. Towns that endorse masculinity norms are more likely to endorse patriarchal norms, and vice versa.

TABLE 5: MALE CORRELATION TABLE

	SE	FPSE	Patri N	Masc N	Bridging	Bonding	Education	Income	Happiness	Health
SE	-	0.24***	0.04	-0.05*	0.08**	0.02	-0.01	0.04	0.12***	0.13***
FPSE		-	-0.02	-0.14***	-0.05*	-0.07**	0.12***	-0.03	0	0.02
Patriarchal N			-	0.31***	-0.09***	0.02	-0.28***	-0.18***	-0.11***	-0.17***
Masculine N				-	0.17***	0.20***	-0.06*	-0.06*	0.07**	-0.07**
Bridging					-	0.68***	0.16***	0.13***	0.19***	0.13***
Bonding						-	0.12***	0.08**	0.12***	0.05*
Education							-	0.22***	-0.02	0.11***
Income								-	0.16***	0.18***
Happiness									-	0.43***
Health										-

TABLE 6: FEMALE CORRELATION TABLE

	SE	FPSE	Patri N	Masc N	Bridging	Bonding	Education	Income	Happiness	Health
SE	-	0.31***	0.01	-0.17***	0.07*	0.03	0.09**	0.07*	0.14***	0.17***
FPSE		-	-0.08*	-0.20***	0	-0.07*	0.18***	0.09**	0.03	0.06
Patriarchal N			-	0.23***	-0.06*	0.03	-0.34***	-0.22***	0.02	0.03
Masculine N				-	0.16***	0.22***	-0.06*	-0.13***	0.06	-0.06
Bridging					-	0.71***	0.19***	-0.01	0.10**	0.02
Bonding						-	0.15***	0.01	0.10**	0
Education							-	0.30***	0.07*	0.04
Income								-	0.06	0.03
Happiness									-	0.36***
Health										-

4.2.2 Social Capital

Both forms of social capital have a positive relationship with self-efficacy, seen in Table 4. This can be explained by the fact that building relationships and being part of these groups is good for a person’s self-esteem and therefore the feeling of control they have over their lives (Putnam, 2000). However, these forms of social capital have a negative correlation with FPSE. This observation is in line with our hypothesis, that in some instances, more social capital can negatively affect whether someone feels they have control over this family-planning aspect of their lives, potentially due to the ascription to patriarchal and masculinity norms (Andrist, 2008).

Bonding social capital has a coefficient of -0.07** on FPSE for both males and females, seen in Table 5 and Table 6. This is stronger than for Bridging, which overall is -0.03, and insignificant.

For males, the positive effect of Bridging on SE is significant, at 0.08**, as is the negative effect of Bonding on FPSE, at -0.07**. However, for females, none of the relationships are significant at the $p < 0.05$ level, which may be due to the smaller sample size. These coefficients are all very

small, at smaller than $+0.1$. Further investigation is thus needed for confirmation of the relationships being seen.

4.2.3 Controls

In terms of other determinants of both self-efficacies, we see that self-rated health and happiness are strongly positively correlated with GSE, which is supported by the literature in that good health and positive psychological factors improve the control individuals feel they have over their lives (Assarzadeh et al., 2019). For FPSE, education and income were positive predictors, both as socio-economic factors that factually enable people to make their choices with less constraints (Assarzadeh et al, 2019). This discrepancy between the determinants of each self-efficacy is evidence that they are influenced by different factors.

4.3 Regressions

We ran all 4 models (compositional effects only, covariates only, contextual predictor and interaction), for both dependent variables (GSE and FPSE), and for both types of norms (patriarchal and masculine norms). We therefore have 16 models using the entire sample. We then ran all 16 models for the split sample of males and females. We focus here on the outcomes from the model 4 for each relationship, which included the individual effects and the interaction effect, and tended to have the best model fit. All references to coefficients therefore refer to the outputs in model 4 for the relationship being discussed.

4.3.1 Norms

A. Patriarchal norms

Firstly, the intraclass correlation model for patriarchal norms returned an ICC of 0.257, the output for which can be seen in Appendix 1. This means that approximately 25.7% of the variance in patriarchal beliefs is attributed to differences between towns. This is a significant proportion of the total variance in patriarchal norms and indicates that there is substantial clustering at the group level, which justifies the use of multilevel modelling.

i. General Self-efficacy

The results with patriarchal norms for all 4 models with the entire sample can be seen in

Table 7 with both bridging and bonding social capital. It indicates that patriarchal norms have an overall positive and significant effect on GSE, with coefficients of 0.182*** and 0.186*** for bridging and bonding models respectively. Given that the patriarchal norms variable has been centered and scaled (mean = 0, standard deviation = 1), this indicates that an increase of 1 standard deviation in patriarchal norms leads to an increase of approximately 0.182 of a standard deviation in GSE. Since GSE has a standard deviation of 2.7, the effect size can be understood as $0.182/2.7 = 0.067$ standard deviations of GSE. This means that increasing patriarchal norms by one standard deviation leads to about 6.7% of a standard deviation increase in GSE. Since patriarchal norms has a range of 3 and a standard deviation of 0.68, the full range of the norm could lead to a difference of 29.6% ($6.7\% \times 3/0.68$) of a standard deviation, or 0.799 units. This is a substantial variation on a scale to 10, indicating a meaningful positive effect of patriarchal norms on the feeling of control people feel they have over their lives in general. This is contrary to expectations and prior literature, which has discussed how patriarchal ideologies can pressure women to silence their thoughts, feelings, and desires and behave in inauthentic ways (Impett, Sorsoli, Schooler, Henson, and Tolman, 2008).

However, when the sample was split into males and females, where the results can be seen in Table 8 and Table 9, the significance of the effect fell away for females (0.057 and 0.051), and lessened for males (0.152* and 0.165*). This indicates that the positive effect of patriarchal norms on SE is likely only true for males, which is likely due to traditional gender norms allocating more power to the males in the communities they are present.

ii. FPSE

Patriarchal norms' effect on FPSE for the overall sample, seen in Table 7, is negative but not significant (-0.066 and -0.042). This effect remains insignificant for the split samples for both men and women, seen in Table 8 and Table 9. Since it is insignificant, we cannot support our hypothesis that patriarchal norms have a negative impact on people's FPSE.

TABLE 7

Patriarchal Norms Regression Results for Whole Sample												
<i>Dependent variable:</i>												
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.122 (0.080)	0.194** (0.082)	0.192** (0.084)	0.190** (0.083)	0.182** (0.084)	0.186** (0.083)	-0.177** (0.078)	-0.054 (0.082)	-0.053 (0.081)	-0.036 (0.080)	-0.066 (0.081)	-0.042 (0.080)
Bridging			0.245*** (0.058)		0.235*** (0.058)				-0.089 (0.056)		-0.103* (0.056)	
Bonding				0.048 (0.056)		0.039 (0.056)				-0.193*** (0.054)		-0.205*** (0.054)
PN:Bridging					0.139** (0.054)						0.193*** (0.052)	
PN:Bonding						0.096* (0.053)						0.120** (0.051)
Constant	7.395*** (0.085)	7.345*** (0.084)	7.326*** (0.086)	7.342*** (0.085)	7.339*** (0.086)	7.340*** (0.085)	7.623*** (0.083)	7.598*** (0.084)	7.605*** (0.083)	7.611*** (0.082)	7.623*** (0.083)	7.608*** (0.082)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,258.7	-6,220.3	-6,213.5	-6,221.9	-6,212.2	-6,222.3	-6,153.1	-6,113.5	-6,114.2	-6,109.0	-6,109.4	-6,108.3
Akaike Inf. Crit.	12,525.3	12,464.6	12,452.9	12,469.8	12,452.4	12,472.6	12,314.2	12,250.9	12,254.3	12,244.1	12,246.8	12,244.6
Bayesian Inf. Crit.	12,548.8	12,535.0	12,529.1	12,546.0	12,534.5	12,554.7	12,337.6	12,321.3	12,330.5	12,320.3	12,328.8	12,326.7

TABLE 8

Patriarchal Norms Regression Results for Male Models												
<i>Dependent variable:</i>												
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.147* (0.084)	0.169** (0.086)	0.164* (0.087)	0.167* (0.086)	0.152* (0.086)	0.165* (0.086)	-0.175** (0.089)	-0.087 (0.092)	-0.083 (0.092)	-0.071 (0.092)	-0.098 (0.091)	-0.074 (0.092)
Bridging			0.209*** (0.075)		0.204*** (0.075)				-0.122* (0.070)		-0.131* (0.070)	
Bonding				0.026 (0.072)		0.018 (0.073)				-0.176*** (0.067)		-0.183*** (0.068)
PN:Bridging					0.177** (0.072)						0.180*** (0.068)	
PN:Bonding						0.088 (0.072)						0.071 (0.067)
Constant	7.508*** (0.092)	7.437*** (0.091)	7.418*** (0.093)	7.436*** (0.092)	7.431*** (0.092)	7.433*** (0.092)	7.698*** (0.100)	7.658*** (0.103)	7.673*** (0.102)	7.672*** (0.101)	7.686*** (0.101)	7.670*** (0.101)
Observations	1,593	1,587	1,587	1,587	1,587	1,587	1,593	1,587	1,587	1,587	1,587	1,587
Log Likelihood	-3,888.3	-3,869.6	-3,867.4	-3,871.2	-3,866.1	-3,872.2	-3,760.9	-3,744.5	-3,744.7	-3,742.9	-3,743.0	-3,744.1
Akaike Inf. Crit.	7,784.5	7,763.2	7,760.8	7,768.4	7,760.2	7,772.4	7,529.7	7,512.9	7,515.4	7,511.8	7,514.1	7,516.2
Bayesian Inf. Crit.	7,806.0	7,827.6	7,830.6	7,838.2	7,835.4	7,847.6	7,551.2	7,577.4	7,585.2	7,581.6	7,589.2	7,591.4

Table 9

Patriarchal Norms Regression Results for Female Models												
<i>Dependent variable:</i>												
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	-0.005 (0.107)	0.058 (0.111)	0.056 (0.111)	0.056 (0.111)	0.057 (0.111)	0.051 (0.112)	-0.227** (0.096)	-0.096 (0.104)	-0.094 (0.103)	-0.067 (0.103)	-0.091 (0.103)	-0.075 (0.102)
Bridging			0.185** (0.089)		0.175* (0.090)				-0.083 (0.090)		-0.107 (0.090)	
Bonding				0.016 (0.087)		0.0003 (0.087)				-0.266*** (0.087)		-0.290*** (0.087)
PN:Bridging					0.089 (0.085)						0.243*** (0.085)	
PN:Bonding						0.124 (0.081)						0.192** (0.082)
Constant	7.259*** (0.114)	7.252*** (0.110)	7.249*** (0.111)	7.252*** (0.110)	7.256*** (0.111)	7.247*** (0.111)	7.518*** (0.100)	7.511*** (0.099)	7.512*** (0.099)	7.516*** (0.098)	7.531*** (0.099)	7.509*** (0.097)
Observations	1,009	1,006	1,006	1,006	1,006	1,006	1,009	1,006	1,006	1,006	1,006	1,006
Log Likelihood	-2,382.0	-2,372.7	-2,372.1	-2,374.2	-2,373.1	-2,374.6	-2,408.7	-2,397.2	-2,398.3	-2,394.1	-2,395.7	-2,392.9
Akaike Inf. Crit.	4,772.1	4,769.4	4,770.1	4,774.4	4,774.2	4,777.3	4,825.4	4,818.4	4,822.6	4,814.1	4,819.5	4,813.8
Bayesian Inf. Crit.	4,791.8	4,828.4	4,834.0	4,838.3	4,842.9	4,846.1	4,845.1	4,877.4	4,886.4	4,878.0	4,888.3	4,882.6

B. Masculinity Norms

The intraclass correlation model for masculinity norms returned an ICC of 0.205, as can be seen in Appendix 2. This means that approximately 20.5% of the variance in masculinity beliefs is attributed to differences between towns. This is a significant proportion of the total variance in masculinity norms and indicates that there is substantial clustering at the group level, which justifies the use of multilevel modelling.

i. Self-efficacy

Masculinity norms uniformly negatively affect both kinds of self-efficacy, meaningfully (-0.331***, -0.278***, -0.416***, -0.395***). The results in Table 10 give a clear indication that masculinity norms, such as the belief that man should use violence, to get respect, if necessary, and have as many sexual partners as he can, are bad for the self-efficacy of the individuals in communities that hold these norms. They influence both men and women to feel as though they have less freedom of control over their lives in general, and their family planning choices. This is

in accordance with our hypothesis, that masculinity norms impose pressures that inhibit the autonomy of the individuals in the communities where they are prevalent. This is supported, for example, by Varga’s (2001) study, where men in South Africa admitted to having sex before marriage despite wanting to abstain, for fear of social rejection due to not acting in accordance with norms and expectations for a man to “have as many sexual partners as he can”.

This effect is notably stronger for women, (-0.428***, -0.400***, -0.478***, and -0.441***) than for men (-0.221***, -0.164***, -0.373***, -0.367***), as seen in Table 12 and

Table 11 respectively, though significant and meaningful for both. The stronger effect on women reflects the inequitable nature of these norms, which endanger female agency by prioritizing the needs and desires of male partners over those of girls and women (Holland, Ramazanoglu, Sharpe, & Thomson, 2004).

We also note that the negative effect is larger on family-planning self-efficacy than on general self-efficacy. This indicates that reproductive choices are one of the areas of an individual’s life in which they feel their freedom is particularly curtailed by the masculinity norms.

TABLE 10

Masculinity Norms Regression Results for Whole Samples												
<i>Dependent variable:</i>												
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.285*** (0.074)	-0.289*** (0.074)	-0.341*** (0.076)	-0.311*** (0.075)	-0.331*** (0.077)	-0.278*** (0.077)	-0.442*** (0.069)	-0.425*** (0.070)	-0.416*** (0.071)	-0.39*** (0.071)	-0.416*** (0.073)	-0.395*** (0.073)
Bridging			0.280*** (0.058)		0.286*** (0.059)				-0.049 (0.056)		-0.049 (0.057)	
Bonding				0.095* (0.056)		0.115** (0.058)				-0.15*** (0.054)		-0.151*** (0.055)
MN:Bridging					-0.030 (0.049)						0.002 (0.047)	
MN:Bonding						-0.084* (0.047)						0.012 (0.044)
Constant	7.382*** (0.083)	7.326*** (0.083)	7.307*** (0.084)	7.323*** (0.083)	7.313*** (0.084)	7.344*** (0.083)	7.654*** (0.077)	7.616*** (0.078)	7.619*** (0.078)	7.622*** (0.078)	7.619*** (0.079)	7.619*** (0.079)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,252.6	-6,215.7	-6,206.2	-6,216.3	-6,208.1	-6,216.8	-6,136.5	-6,096.5	-6,098.1	-6,094.	-6,100.2	-6,096.8
Akaike Inf. Crit.	12,513.2	12,455.4	12,438.5	12,458.5	12,444.3	12,461.6	12,280.9	12,216.9	12,222.1	12,215.	12,228.4	12,221.7
Bayesian Inf. Crit.	12,536.7	12,525.8	12,514.7	12,534.7	12,526.3	12,543.6	12,304.4	12,287.3	12,298.3	12,291.	12,310.4	12,303.7

Table 11

Masculinity Norms Regression Results for Male Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.147*	-0.171**	-0.217***	-0.185**	-0.221**	-0.164*	-0.389***	-0.383***	-0.368***	-0.355***	-0.373***	-0.367***
	(0.081)	(0.080)	(0.082)	(0.082)	(0.087)	(0.085)	(0.082)	(0.083)	(0.084)	(0.084)	(0.088)	(0.086)
Bridging			0.246***		0.245***				-0.080		-0.081	
			(0.076)		(0.077)				(0.071)		(0.071)	
Bonding				0.066		0.082				-0.135**		-0.143**
				(0.073)		(0.075)				(0.068)		(0.069)
MN:Bridging					0.010						0.011	
					(0.066)						(0.062)	
MN:Bonding						-0.056						0.033
						(0.059)						(0.056)
Constant	7.480***	7.410***	7.387***	7.407***	7.385***	7.420***	7.731***	7.676***	7.685***	7.684***	7.682***	7.676***
	(0.091)	(0.091)	(0.092)	(0.091)	(0.094)	(0.092)	(0.095)	(0.097)	(0.097)	(0.097)	(0.098)	(0.098)
Observations	1,593	1,587	1,587	1,587	1,587	1,587	1,593	1,587	1,587	1,587	1,587	1,587
Log Likelihood	-3,888.2	-3,869.3	-3,865.8	-3,870.6	-3,867.6	-3,872.1	-3,751.9	-3,734.7	-3,735.8	-3,734.5	-3,737.6	-3,736.3
Akaike Inf. Crit.	7,784.3	7,762.6	7,757.5	7,767.2	7,763.1	7,772.1	7,511.7	7,493.4	7,497.6	7,494.9	7,503.3	7,500.6
Bayesian Inf. Crit.	7,805.8	7,827.1	7,827.3	7,836.9	7,838.3	7,847.3	7,533.2	7,557.8	7,567.4	7,564.8	7,578.4	7,575.4

TABLE 12

Masculinity Norms Regression Results for Female Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.423***	-0.400***	-0.438***	-0.421***	-0.428***	-0.400***	-0.525***	-0.482***	-0.480***	-0.440***	-0.478***	-0.441***
	(0.100)	(0.099)	(0.100)	(0.100)	(0.100)	(0.101)	(0.090)	(0.091)	(0.092)	(0.093)	(0.092)	(0.094)
Bridging			0.237***		0.263***				-0.017		-0.012	
			(0.089)		(0.092)				(0.089)		(0.092)	
Bonding				0.092		0.124				-0.186**		-0.187**
				(0.087)		(0.089)				(0.087)		(0.090)
MN:Bridging					-0.090						-0.017	
					(0.076)						(0.077)	
MN:Bonding						-0.113						0.003
						(0.075)						(0.074)
Constant	7.269***	7.260***	7.258***	7.259***	7.274***	7.287***	7.532***	7.522***	7.522***	7.524***	7.525***	7.523***
	(0.109)	(0.106)	(0.106)	(0.105)	(0.106)	(0.106)	(0.094)	(0.094)	(0.094)	(0.093)	(0.095)	(0.095)
Observations	1,009	1,006	1,006	1,006	1,006	1,006	1,009	1,006	1,006	1,006	1,006	1,006
Log Likelihood	-2,373.5	-2,365.1	-2,363.0	-2,366.0	-2,364.0	-2,366.6	-2,395.3	-2,384.2	-2,385.7	-2,383.4	-2,387.3	-2,385.1
Akaike Inf. Crit.	4,755.0	4,754.1	4,752.1	4,758.1	4,756.0	4,761.2	4,798.7	4,792.3	4,797.3	4,792.8	4,802.6	4,798.2
Bayesian Inf. Crit.	4,774.6	4,813.1	4,815.9	4,821.9	4,824.8	4,829.9	4,818.4	4,851.3	4,861.2	4,856.7	4,871.4	4,866.9

Note:

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

** p<0.01

* p<0.05

4.3.2 Social Capital

A. Bridging

Bridging social capital has a significant and positive effect on GSE for the whole sample in both norms models, as indicated by the coefficients of 0.235*** (Table 7) and (0.286***) (Table 10). This suggests that a one standard deviation increase in bridging social capital, there is a corresponding increase of 0.235 or 0.286 units in GSE, assuming other variables are held constant. Considering the centred bridging variable has a range of 12 units in the sample, people could experience up to a 1.16 unit difference $((0.286/2.7) \times (12/2.95) = 43.12\% \times 2.7)$ in GSE, on its scale up to 10, based on their level of bridging social capital. This difference is substantial and highlights the meaningful impact that bridging social capital has on individuals' perceptions of control over their lives. The result indicates that people who are part of organisations such as the church or sports clubs report feeling more freedom of choice and control over their lives.

The effect of bridging social capital on SE is more pronounced for men (0.204***) under the patriarchal norms model (Table 8), compared to women (0.175***) (Table 9). This may be attributed to the fact that, under these norms, men have more opportunities and face fewer restrictions on their social interactions (Andrist, 2008). However, under the masculinity norms models, the positive effect is more pronounced for women (0.263***) (Table 12) compared to men (0.245***) (

Table 11). This may be due to how masculine norms discourage behaviours of men that might lead to stronger social ties outside of traditional masculine frameworks. The benefit for women may stem from bridging social capital providing them access to new resources and support systems to overcome restrictive masculinity norms (Putnam, 2000). Considering the centered bridging variable ranges over 12 units in the sample and has a standard deviation of 2.97 in the male sample, men could experience up to a 0.989 unit difference $((0.245/2.8) \times (12/2.97) = 0.353 \times 2.8)$ in GSE, and women up to 1.08 difference $((0.263/2.64) \times (12/2.92) = 0.409 \times 2.64)$ in GSE, on its scale up to 10, based on their level of bridging social capital. These differences are substantial and highlight the meaningful impact of bridging social capital has on individuals' perceptions of control over their lives.

These results indicate that, as Putnam (2000) suggested, the benefits of bridging social capital outweigh the potential negative consequences. Bridging social capital provides individuals with the resources, knowledge and instrumental support that can build their confidence in their

capability to achieve their desired outcome or goal (Ramos et al., 2018). The fact that it is bridging social capital specifically indicates that individuals with more diverse and inclusive social networks feel more capable and confident in their abilities.

Bridging SC's effect on FPSE is negative but insignificant, meaning we cannot determine whether this type of SC has an effect on people's feeling of freedom of choice over their family planning. It may indicate that bridging social capital may not influence whether people feel they have control in their family lives, suggesting that the pressure to conform and belong to the "ingroup" with regard to family planning choices is not as strong for bridging groups as we will see it is for bonding groups.

B. Bonding

Bonding social capital has a significant and negative effect on FPSE, as indicated by the coefficients of -0.205*** in the patriarchal norms model (Table 7) and -0.151*** in the masculinity norms model (Table 10). This suggests that for every standard deviation increase in bonding social capital, there is a corresponding decrease of 0.205 or 0.151 of a standard deviation in GSE, with a possible total decrease of 0.862 or 0.635 units in FPSE over the range of bonding social capital ($-0.205/2.6 \times 8/1.9 = 0.331*2.6$ and $-0.151/2.6 \times 8/1.9 = 0.244*2.6$), assuming other variables are held constant. This is a meaningful difference in its scale up to 10. The effect of bonding social capital on FPSE is more pronounced for women (-0.290*** or -0.187***) (Table 9 and Table 12) compared to men (-0.183*** or -0.143***) (Table 8 and

Table 11). This implies that women who are part of bonding organizations, such as labour unions or professional associations, report feeling less control over their family planning compared to women who are not part of these organizations. The difference is substantial and highlights the meaningful impact of bonding social capital on a woman's perceptions of control over family planning. The effect on men is slightly less severe but still significant and meaningful.

This supports Portes' (1998) theory mentioned above, which purported that increased social capital can limit autonomy for ingroup members due to excessive informal control. He particularly emphasized bonding social capital, noting that it can restrict the freedoms of members through surveillance and strict norm enforcement, and lead to a "down-leveiling" of norms, which prevent any single member from doing markedly better than the group. Our results find support for this theory in the context of family planning self-efficacy, but not for general self-efficacy, indicating that there may be strong pressure for conformity emanating from close-knit groups with regard to

decisions on if and when to have children in the communities in the sample, limiting their autonomy in this regard.

Bonding social capital was found to have a positive relationship with SE (0.115**) under the masculinity norms model for the whole sample (Table 10), though all other results in this regard were insignificant. We therefore can't confirm the relationship between bonding and general self-efficacy, though we have some indication that, overall, it has a beneficial effect.

4.3.3 Interactions

A. General Self-efficacy

With regard to how social capital and patriarchal norms interact to affect GSE, we see that the interaction term is significant and positive, at 0.139**, indicating that the positive effects of patriarchal norms on self-efficacy are enhanced by increasing bridging social capital. The coefficient indicates that a one standard deviation increase in both bridging and patriarchal norms together corresponds to a 0.139 standard deviation increase in GSE, which translates to approximately $0.139 * 2.7 = 0.3753$ units increase in GSE on its scale to 10. This is a surprising result, but makes more sense when we consider the regression models for males and females separately. The significance of the interaction term disappears for the female only sample, indicating that for women, the presence of traditional gender norms does not enhance the positive effects of bridging social capital. This effect only occurs for males, with an interaction term of 0.177***, which can be explained by the fact that traditional gender norms allow men to feel more power and control, especially within the household (Tandrayen-Ragoobur, 2021), and this feeling is supported and enhanced by their networks who hold the same norms.

This effect is confirmed by the interaction graphs shown in Figure 5 and Figure 6. These show the interactions between patriarchal norms and bridging social capital for males and females respectively. Both show that, for people with high bridging social capital, the effect of patriarchal norms is positive, though this effect is significantly stronger for males, shown by the steeper upward sloping blue line. This explains why this interaction was only significant for males in our regression Table 8. Both Figure 5 and Figure 6 also show that, for people with low bridging social capital, the effect of patriarchal norms is negative, shown by the negative sloping red lines representing people with low bridging. This is something we could not see in the interaction term

alone, and indicates that at very low levels of bridging, higher patriarchal norms can have a negative effect on individuals' general self-efficacy.

FIGURE 5: INTERACTION GRAPH PATRIARCHAL NORMS AND BRIDGING ON GSE FOR MALES

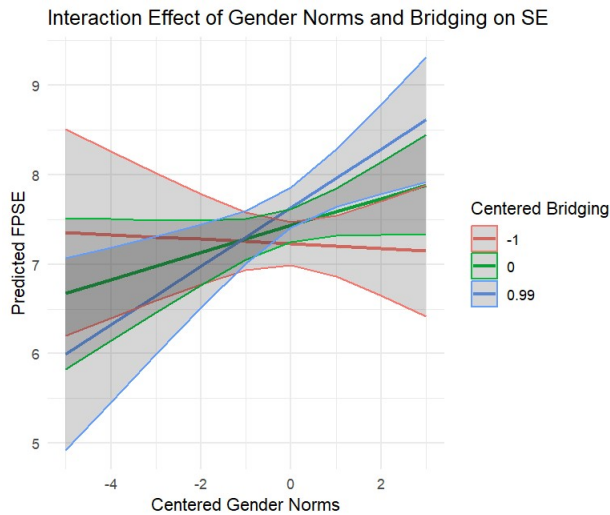
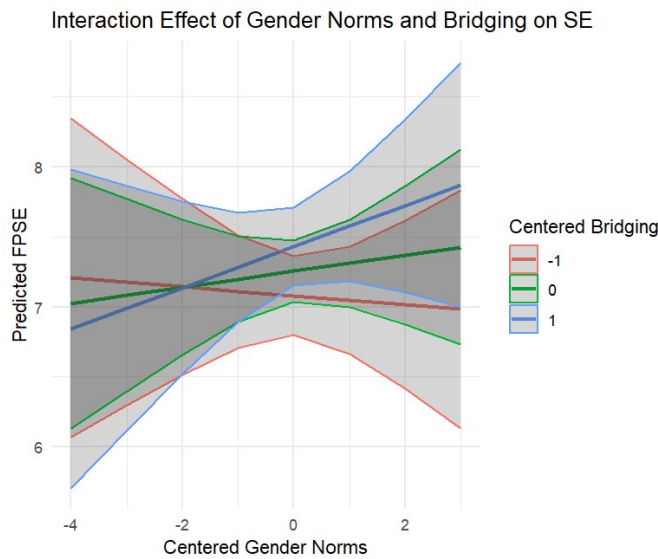


FIGURE 6: INTERACTION GRAPH PATRIARCHAL NORMS AND BRIDGING ON GSE FOR FEMALES



B. Family-planning self-efficacy

With regard to the how patriarchal norms and social capital interact to influence FPSE, we see significant interactions with both types of social capital, with interaction terms of at 0.193*** for bridging, and 0.120*** for bonding. The interaction terms imply that the restrictive effects of

bonding social capital on FPSE are moderated by patriarchal norms, meaning that in environments with strongly held traditional gender norms, the negative impact of bonding social capital on FPSE is less severe. Similarly, the interaction with bridging social capital is positive, indicating that the negative effect of patriarchal norms on FPSE is also moderated by bridging social capital. This effect, surprisingly, is true for both genders, and is in fact stronger for females (0.243*** for bridging and 0.192*** for bonding) than for males (0.180*** for bridging and 0.071 for bonding).

We initially hypothesized that stronger social capital would interact with the presence of patriarchal norms to more strongly harm family planning self-efficacy. This was based on the idea that traditional norms, combined with strong social capital, might increase the pressure on individuals to conform to prevailing norms, in order to avoid sanctions or exclusion, thereby reducing their sense of control over family planning decisions (Andrist, 2008). However, the results suggest a different dynamic, in which people with higher levels of individual social capital, whether bonding or bridging, might feel a greater sense of control over FPSE in the face of stronger patriarchal norms.

These results have been visualised in Figure 7 to Figure 10, illustrating the differing effects of patriarchal norms for people with different levels of social capital. In Figure 5, we see that for men with low bridging social capital, there is a negative effect of patriarchal norms on FPSE, shown by the negative slope of the red line, which represents people with the lowest bridging social capital in the sample. For men with high bridging social capital, the effect of patriarchal norms is positive, as seen by the positive slope of the blue line, representing people with high bridging social capital. Very similar results are seen for females, in Figure 8, though their positive effect for women with high bridging is steeper.

FIGURE 7: INTERACTION GRAPH PATRIARCHAL NORMS AND BRIDGING ON FPSE FOR MALES

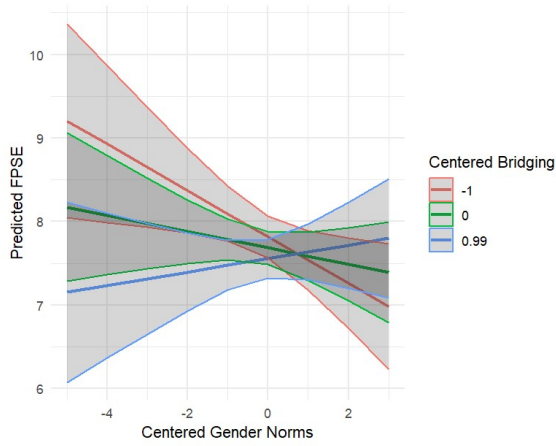
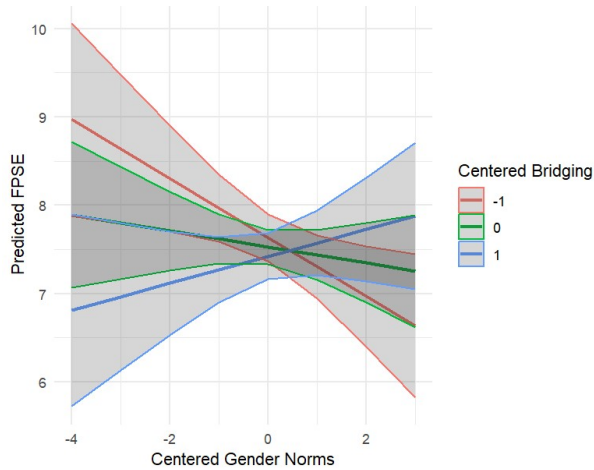


FIGURE 8: INTERACTION GRAPH PATRIARCHAL NORMS AND BRIDGING ON FPSE FOR FEMALES



For people with low levels of bonding social capital, there is again a negative effect of increasing patriarchal norms on their FPSE, as seen by the red lines in Figure 9 and Figure 10, showing the relationships for males and females respectively. For people with high bonding social capital, patriarchal norms have a positive impact on their FPSE, represented by the slope of the pink lines. Both of these effects of bonding social capital are stronger for women, as seen by the steeper pink and red lines for the female interaction graph, hence the significance of the interaction effect for women only in the regression Table 9.

FIGURE 9: INTERACTION GRAPH PATRIARCHAL NORMS AND BONDING ON FPSE FOR MALES

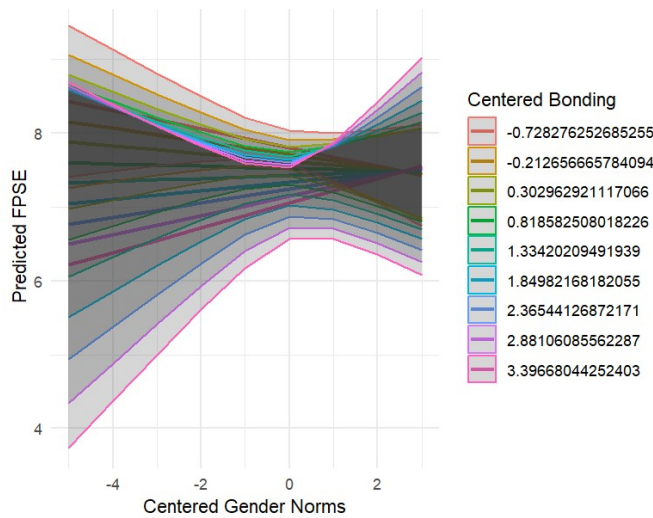
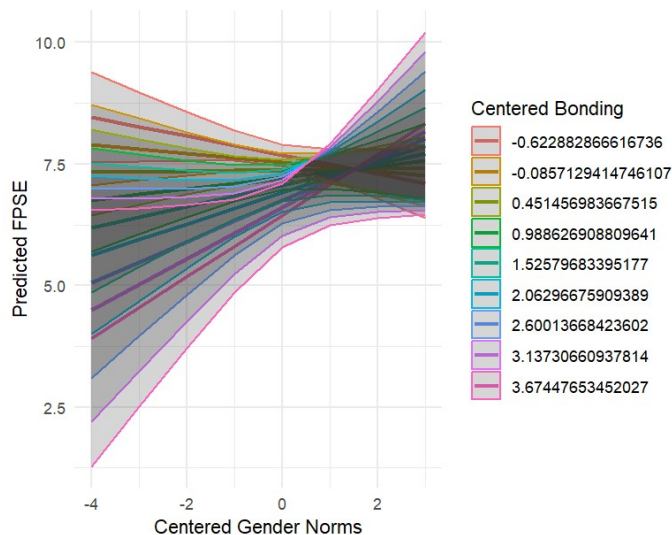


FIGURE 10: INTERACTION GRAPH PATRIARCHAL NORMS AND BONDING ON FPSE FOR FEMALES



These outcomes indicate that being part of stronger social networks, whether they are close-knit (bonding) or diverse (bridging), provides individuals with a sense of belonging and support that enhances their perceived control over family planning, even in the context of traditional gender norms. This supports the thrust of Putnam's (2000) work, which suggested that the good social capital might nearly always outweigh the bad. It also indicates that, of Portes's (1998) four reasons as to why social capital is not invariably positive, the negative effect it has on outgroup members is the dominating consequence for the communities in our sample. He highlighted that some forms of social capital act to restrict the freedoms of outgroup members, which is seen in these results,

as those who have lower levels of social capital in the face of harmful norms exhibit lower FPSE. These individuals on the periphery of networks might experience lower FPSE because they lack the same level of support and influence within the group.

This interaction between patriarchal norms and social capital highlights the complex relationship between social structures and cultural norms. While traditional gender norms might generally be expected to limit autonomy, the presence of strong social networks can mitigate this effect, supporting the idea that social capital can provide a buffer against the restrictive aspects of traditional norms (Sen et al., 2010). This underscores the importance of considering both social and cultural contexts when examining factors that influence family planning self-efficacy.

For both bridging and bonding social capital, the interaction terms with masculinity norms are not significant for FPSE. This means that the negative impact of bonding social capital on FPSE is not significantly influenced by traditional masculinity norms. While all three variables independently affect self-efficacy and FPSE, the presence of social capital does not significantly moderate these relationships. This may be due to the fact that the negative influence of masculinity norms on GSE and FPSE is substantial enough on its own that the additional effects of social capital does not significantly alter the relationship. Figure 11 and Figure 12 below show that as masculinity norms increase (moving right on the x-axis), the predicted FPSE decreases sharply for all levels of bridging and bonding social capital. This means we did not find support for our hypothesis that stronger social capital can be harmful to self-efficacy in towns where masculinity norms are strongly present, though we did find support for our hypothesis that masculinity norms are harmful to self-efficacies.

Figure 11: Interaction Effect of Masculinity Norms and Bridging on FPSE for Whole Sample

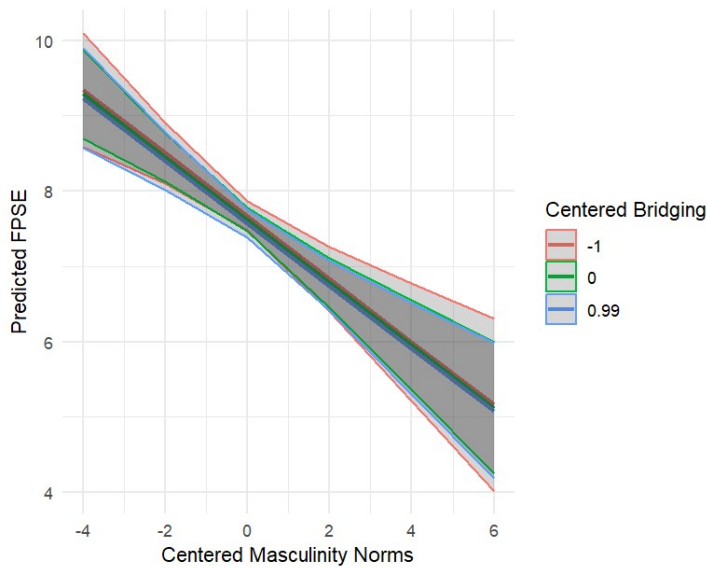
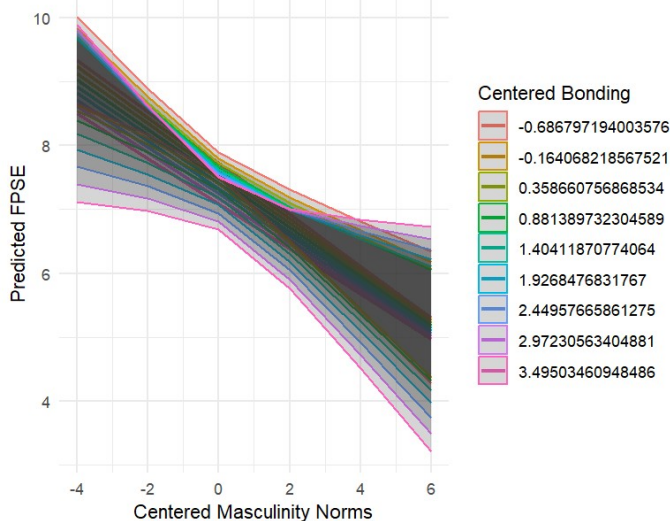


FIGURE 12: INTERACTION EFFECT FOR MASCULINITY NORMS AND BONDING ON FPSE FOR WHOLE SAMPLE



4.3.4 Goodness of fit

With regard to the goodness of fit of the models, both for General Self-Efficacy and FPSE as dependent variables, the models show reasonable explanatory power. The inclusion of gender norms, social capital (both bridging and bonding), and control variables significantly enhances the models' fit. This is evidenced by progressively improving Log Likelihood values and decreasing Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) from Model 1 to Model 4, indicating that the models increasingly better explain the variability in self-efficacies.

An exception is noted in the bonding models on self-efficacy, where Log Likelihood values worsened, and AIC and BIC increased between Model 1 and Model 4. This suggests that bonding social capital does not significantly explain the GSE of individuals in the sample, further evidenced by its insignificance. However, for the FPSE models, metrics improve significantly from Model 1 to Model 4, indicating that social capital and patriarchal norms, along with control variables, play an important role in explaining the perceived freedom of control over family planning.

In the models focusing on masculinity norms, the improving Log Likelihood and decreasing AIC and BIC values as norms, bridging social capital, and controls are added for both Self-Efficacy and FPSE indicate better data fit and explanatory power. However, from Model 3 onward for GSE, these indicators worsen, suggesting the interaction between social capital and norms may not significantly influence self-efficacy, further evidenced by the insignificance of the interaction coefficient. Conversely, for FPSE, the move from Model 3 to Model 4, including the interaction, significantly improves the metrics, hinting at a stronger role of interaction effects in family planning self-efficacy. This confirms results above that norms play a more powerful role in controlling people's reproductive choices than their general choices. The metrics support further research into these relationships and their interactions, as there are statistical indications of mutual influence on self-efficacies, particularly for FPSE.

4.3.5 Controls

In terms of controls, as can be seen in the full regression tables in Appendix 3 to Appendix 8, feeling of happiness and state of health were found to be significant positive predictors of general self-efficacy across all models. For males, marital status had a negative coefficient, indicating that unmarried men feel they have less freedom and choice of control over their lives (Appendix 4 and Appendix 7). This was expected based on literature, which purports that the intimacy and support that a relationship provides benefits people's self-efficacy (Hinchcliff & Gott, 2016). However, the same effect is not seen for females in our sample, showing a potential discrepancy in the benefits obtained from marriage for each gender (Appendix 5 and Appendix 8). For females, educational level had a significantly positive relationship with self-efficacy, as would also be expected from the literature, as higher education offers opportunities and provides with more practical control over their life's choices (Vissekul et al., 2015).

Educational level was the only consistent predictor of family-planning self-efficacy across all models. This was to be expected based on the same reasons mentioned above for SE (Vissekul et

al., 2015). Moreover, feeling of happiness has a strongly significant effect on FPSE for males only, further emphasizing the complexity of factors influencing men's family-planning self-efficacy.

Surprisingly, for men, FPSE has a negative relationship with age, indicating that older men felt they had less control over if, when and how many children to have (Appendix 4 and Appendix 7). A similar study, done in Nigeria, also found a negative direct relationship between age and self-efficacy for condom purchase and use, despite their expectation of a positive relationship based on personal learning (Ajayi & Olamijuwon, 2019). Other literature, however, done in other regions, has found sexual self-efficacy to increase with age, as a result of increasing sexual knowledge and shaping of gender identity (Vissekul et al, 2015). This discrepancy might therefore be attributed to factors beyond knowledge and identity, such as societal pressures or cultural differences. The men in this sample, supported by the other study based in Sub-Saharan Africa (Ajayi & Olamijuwon, 2019), might face unique societal influences that diminish their perceived control over reproductive choices over time. Further research would help to determine the mechanisms behind this unexpected relationship.

5 Robustness Checks

We ran three different robustness checks to further confirm or analyse the results obtained above. The first was a Poisson regression, which aimed to address concerns regarding the model's suitability to an OLS model. Second, we re-ran the model with country-fixed effects, in order to assess the model's generalisability to the Sub-Saharan African region as a whole, or whether country characteristics, such as culture or politics, play a significant enough role to override the effects. Finally, we then ran models using the singular survey questions for masculinity norms, as opposed to the whole factor, to address concerns about its fairly low Cronbach's alpha.

5.1 Poisson regression

To test for robustness, we ran a Poisson regression model, suitable for count data such as our dependent variables measured on a scale from 1 to 10 (Coxe et al., 2009). This was done to validate the patterns observed in the LMER models and ensure conclusions were not solely based on the assumptions of the LMER framework. The Poisson regression results validated the LMER findings, offering further insight into the data distribution.

We chose Poisson regression as a robustness check to address concerns that the model did not meet all OLS assumptions. Diagnostic tests indicated non-normality and heteroskedasticity. Non-normal residuals could bias parameter estimates, and lead to incorrect standard errors and misleading test statistics. Heteroskedasticity implies that residual variance is not constant across all levels of the independent variables, leading to inconsistent standard errors and unreliable hypothesis tests. This also affects goodness of fit measures, potentially inflating the model's explanatory power.

Poisson regression addresses these concerns by allowing for outcome transformations, linearizing a potentially nonlinear relationship between the dependent variable and predictors. The predicted scores are natural logarithms of the counts (Coxe et al., 2009), and the error structure of Poisson regression is more flexible than that of OLS regression, which assumes a conditional normal error structure. Poisson regression assumes that variance equals the mean (Coxe et al., 2009), making it suitable for data violating normality assumptions and addressing heteroskedasticity issues. The model also provides robust standard errors, leading to more reliable hypothesis tests and confidence intervals. The Poisson model results, consistent with LMER model findings, thus alleviate concerns arising from normality and heteroskedasticity violations.

The results, detailed in Appendix 9 and Appendix 10, corroborate the initial analysis findings, with significant relationships maintaining the same direction of impact across models. The Poisson model coefficients, representing the log-rate or log-count of the outcome variable (Coxe et al., 2009), are smaller than LMER coefficients, which assume a linear relationship. For example, a Poisson coefficient of 0.026 suggests a 2.6% increase in the expected count of self-efficacy for a one-unit increase in patriarchal norms, compared to an LMER coefficient of 0.186 indicating a linear increase in self-efficacy. While comparison is complex, the Poisson model confirms significant and meaningful coefficients in the same direction as the initial analysis.

5.2 Country fixed effects

We ran the main models of the analysis, with the whole samples, including country fixed effects, in order to determine whether controlling for these effects would have significant impact on the results. The results can be seen in the regression tables in Appendix 11 and Appendix 12. This helps determine whether the results we found are generalizable across the Sub-Saharan Africa region, as the literature and theory pose. We excluded these fixed effects from the main analysis

in order to generate findings that are more broadly applicable across multiple contexts, and can thus be used to analyse the region more broadly. This method also allowed for an understanding of the individual level relationships, without their being moderated by country-specific contexts. Since the relationships in the analysis had yet to be tested before, a strategy with a larger sample, with a more straightforward interpretation on an individual level could provide a useful starting point for further research on the topic, at lower levels such as country and region.

The inclusion of country fixed effects confirmed the robustness of the negative relationship that masculinity norms have on both kinds of self-efficacy. Both the direction and size of the coefficients were similar. The robustness of the relationships found between the types of social capital on the self-efficacies was also found to be robust. Bridging had a significantly positive effect on self-efficacy, and bonding had a significantly negative effect on FPSE. The size and directions of all interactions also remained the same after the inclusion. The effect of all controls was stable.

One considerable difference, however, was the effect of patriarchal norms. When country fixed effects were included, patriarchal norms had a significant negative effect on FPSE, which it did not have before. Its positive effect on self-efficacy also lost its significance. This is likely due to the fact that countries have differing cultural and social norms surrounding gender, which impact how the same norm may impact their self-efficacies (Mansyur et al., 2008). Countries also have differing economic conditions such as labour market structures and institutional support for gender equality, which may have an influence on how norms affect the self-efficacy of individuals in each country (Mansyur., 2008).

5.3 Masculinity single variables

The Cronbach's alpha for masculinity norms, denoting the internal reliability of the factor, was 0.65. Fields (2009) stated that results of 0.7 (or larger) are deemed suitable, as an, arbitrary, indicator for reliability. We therefore also tested the models using the single survey responses in order to ensure that the relationships being seen with masculinity norms are robust. The results can be seen in the Appendix 13, Appendix 14 and Appendix 15.

The effect from the original analysis that masculinity norms had on FPSE are consistent throughout all three models employing separate variables, including that a man should be able to use violence to get respect, if necessary, that a man should have as many sexual partners as he can,

and that a man who talks a lot about his worries, fears, and problems doesn't deserve respect. This indicates that the results with respect to how masculinity norms negatively influence the freedom people feel about their family planning choices are robust.

However, with regard to GSE, for two of the models, the negative impact of the norm question on self-efficacy were not significant. The only significant negative relationship on self-efficacy among the three was for the question regarding whether a man who talks a lot about his worries, fears, and problems deserves respect. This indicates that this belief in society, that a man should keep his problems and emotions to himself, are particularly harmful to general self-efficacy.

6 Discussion

The current paper studied how patriarchal and masculine norms affect the self-efficacies of people living in the societies that hold them in Sub-Saharan Africa. It then further investigated the role of different forms of social capital in moderating the effect of these norms. The study explored the differing impact that these norms and social capital factors have on men and women. The analysis revealed a few key findings that will be discussed here.

Patriarchal norms were found to have a positive influence on male's overall self-efficacy. This was unsurprising and to be expected given that these norms extend more power and control to men in society. The results did not, however, show support for H1, that patriarchal norms are harmful for women's self-efficacies (**rejecting H1**). Despite this, it is clear that men benefit from these norms while women do not, indicating a relative disadvantage to women who live in communities that strongly endorse such norms.

Masculinity norms, on the other hand, were found to have a significantly negative effect on both self-efficacies, for men and for women (**supporting H2**). These norms, which value male "toughness," virility, and dominance over women, result in relationship power inequities, directly affecting the control women have over their own choices (Holland, Ramazanoglu, Sharpe, & Thomson, 2004). These results confirm that these norms also harm men and the freedom they feel over their lives, by applying pressure to act in certain ways in order to achieve status and the respect of others, to be mentally, emotionally, and physically tough and self-reliant, and to avoid stereotypically feminine activities and occupations (MacPhail and Campbell, 2001). These norms thus negatively affect both genders, both in terms of general self-efficacy, and in terms of the freedom they feel over their reproductive and sexual choices.

In terms of the effects of social capital we found two main results. Firstly, that bridging social capital positively affects general self-efficacy (**supporting H3 in terms of GSE only**). Secondly, that bonding social capital negatively affects family-planning self-efficacy significantly (**rejecting H4 in terms of FPSE only**). We expected both kinds of social capital to positively influence both forms of self-efficacy, due to the resources, knowledge and support that they provide access to (Putnam, 2000). While we found this to be true for bridging social capital on general self-efficacy, the results indicate that bonding social capital can be harmful to whether people feel they can successfully manage and control their reproductive choices and family planning. This finding is in line with Portes' (1998) theory, that, in some instances, higher bonding social capital in particular can engender a curtailment of autonomy due to an excessive informal control. While bridging social ties connect people from more diverse backgrounds, and offer a wider range of resources, information, and support systems, bonding ties are more tight-knit and connect people of similar backgrounds and cultures. Portes (1998) discussed these ties might serve as a mechanism to restrict the freedom of group members, who fear sanctions or exclusion for operating outside the group norms. These findings suggest that there is a large degree of informal control in the region surrounding people's reproductive choices (**offering some support for H5**).

These results were further supported by our interaction terms in the patriarchal norms models. We found that the positive influence of patriarchal norms on male's self-efficacy is enhanced by stronger bridging social capital. This likely occurs through the validation and influence that males get through their wider networks that they are powerful and in control (Ajayi & Olamijuwon, 2019).

The interaction analysis revealed that people with lower bridging and bonding social capital experience negative effects of patriarchal norms on their FPSE, whereas those with higher social capital experience positive effects. This suggests that social capital equips individuals with better tools to manage, challenge, or adapt to patriarchal norms, enhancing their FPSE. However, it also means that social capital benefits are often limited to established networks, excluding outgroup members and reinforcing existing inequalities. In communities with strong patriarchal norms, belonging to social networks can mitigate the harmful effects or enhance the positive effects of these norms on self-efficacies. This implies that outsiders suffer more than insiders from inequitable gender norms, as they lack the protective buffer provided by social capital.

This result supports the theory that there is a moderating effect of social capital on the effect of gender-inequitable norms on self-efficacy, though it is not in the direction we expected (**offering evidence against H5**). We expected to see social capital negatively affect the self-efficacy of the people who hold it. Looking back to Portes's (1998) four negative consequences of social capital; 'exclusion of outsiders, excess claims on group members, restrictions on individual freedoms, and downward levelling norms', our results indicate that the first consequence, the exclusion of outsiders, is the most damaging to self-efficacies in SSA, and outweighs the negative consequences that the social capital may have on ingroup members.

The masculinity norms models with social capital provided some evidence that the factors should be considered together, by improving the significance of both variables in the model that considered their interaction. Overall, the results show evidence that social capital and patriarchal and masculinity norms do work in tandem to determine the self-efficacies of the people in the region, and this relationship warrants further research to garner understanding.

Finally, an important observation we saw when considering the effects of social capital on both self-efficacies, is that men in the sample derive more substantial benefits from their social capital compared to women, in the presence of gender-inequitable norms (**supporting H6**). Firstly, the positive effect of bridging SC on general self-efficacy is more pronounced for men, supporting the theory that men are able to leverage the resources they have access to through their connections across diverse social groups to more effectively gain confidence and achieve their goals (Mayoux, 2001). Secondly, the negative effect of bonding social capital on FPSE is weaker for men. This implies that the pressures for conformity and restrictions on individual autonomy that occur through these close-knit relationships are more restrictive for women (Goetz and Gupta, 1996). Taken together, these findings suggest that men are better positioned to harness the benefits of social capital for enhancing their self-efficacy, while mitigating the drawbacks on the family planning self-efficacy.

7 Limitations and future research

There are a few caveats to the findings of this study. Mainly, due to the cross-sectional nature of our data, causality cannot be implied. Despite the robustness of the results and seemingly good fit of the models, the direction of the relationship cannot be ascertained. For example, it may be that people with higher self-efficacy are more likely to join bridging groups, and not that being part of

bridging groups improves their self-efficacy. However, the hypothesised directions of the relationships found were supported by several studies and descriptive findings. This caveat could be improved by using a panel data set, which may become possible after future waves of the WVS that continue to ask these questions, to determine how the relationships change over time and whether they change together.

The findings could also be improved with more qualitative research into the relationships. The current study cannot determine the reasons behind the relationships being seen, but only that there is a relationship. For example, a deeper investigation into the relationship between patriarchal norms and family planning self-efficacy may find direct links, such as the patriarchal norms exerting pressure on women to bear children, thereby reducing their FPSE (Ajayi & Olamajuwon, 2019). However, it may also find that indirect links are more impactful, such as the prevalence of patriarchal norms leading to minimal resources for family planning, such as contraceptive availability or family-planning clinics, that ultimately diminish women's FPSE (Svallfors et al., 2023). More qualitative research on the region and the avenue through which the norms are limiting family-planning self-efficacy is necessary to better determine how to solve the problem.

Another limitation of our study is the self-reported nature of many of the variables, especially our self-efficacy dependent variables. We cannot rule out the possibility of social desirability bias in the response of the participants. We note that the median responses for GSE and FPSE were very high, at 8 and 9 respectively, with a large number of respondents answering 10, indicating that they felt that had total control over their lives and their family planning. The responses may thus not be fully reflective of how people feel. This effect may be particularly strong for males, since holding the norm of masculine dominance and power presupposes that a man might profess he feels he has control, when he may not truly feel it (Sen et al., 2010). This could be improved by using a more complex self-efficacy scale that has been validated and uses multiple items which interrogate the concept more deeply to obtain a more accurate representation of a person's self-efficacy. This method has been used in multiple studies (Schwarzer & Jerusalem, 1995; Yuasa et al., 2015; Ramos et al., 2015; Hannuksela & Tiihonen, 2024), and the developed scales could be used in future research on self-efficacies to better capture it and its determinants. This is perhaps also a consideration for future WVS waves which are attempting to gather information about SRHR, to include more specific reproductive self-efficacies in their survey questions, to better investigate their determinants and impacts and inform policy on SRHR issues.

While the measures of social capital used in the study were supported by prior research using the WVS (Knack and Keefer, 1997; Cortinovis et al., 2017; Muringani et al., 2021), the measures are limited to what was available in the WVS, and may not truly capture an individual's social capital, especially their bonding social capital. It omits close familial relations and community relations outside of bonding groups like labour unions. Ramos (2017) suggested that scales measuring how much respondents feel they can rely on others in times of need, and how much time they spend with family, friends and other groups of people, may more accurately reflect their bonding social capital. This may be especially true for the context of this study, as theory has found that sub-Saharan African communities tend to be categorised as Amoral Familism types, with high bonding social capital and low bridging, as they tend to be closed communities or have families as their primary source of social capital (Wallace & Pichler, 2007). The descriptive statistics of the sample show the opposite, with people having a much higher mean of bridging capital (Table 2). Capturing familial types of social capital more accurately may reveal different relationships between social capital, norms and self-efficacy.

One statistical drawback of the study is the difference in sample sizes between males and females. Where the male sample was made of 1,587, the female sample was only 1,006. This discrepancy can lead to reduced statistical power for women, meaning that the findings with respect to women may be less reliable or generalizable compared to the findings for males. In addition, direct comparison between the groups may lead to bias, since the estimates for women are less likely to be precise, making it hard to draw clear comparisons between the groups.

Future studies should consider expanding the sample size and broadening it beyond the three countries used in the sample, if aiming to make the findings more robust and generalisable to the SSA region. On the other hand, because social capital and self-efficacy are culturally mediated (Ramos et al., 2017), more culturally specific research is necessary, on a more zoomed-in scale, to best inform policy.

Another limitation of the study, outside of the statistical issues, is that the theory in which it is based, in particular for family-planning self-efficacy, is scarce. This means that there is a lack of a solid foundation upon which to base the hypotheses and little lens through which to interpret the results. Without these frameworks, the ability to confidently interpret the results and draw actionable recommendations is limited. This underscores the need for further investigation into the determinants and effects of varying levels of self-efficacy to better inform policy and develop

actionable recommendations. Despite these drawbacks, this study is valuable in providing initial empirical insights and highlighting significant factors influencing general and family-planning self-efficacy in SSA, thereby laying groundwork for future research.

8 Policy Recommendations

These results can help inform the discussion of the effect of norms and social capital on self-efficacy. Our clearest and most consistent finding is that masculinity norms have negative consequences for self-efficacy. To address this, policy recommendations should focus on promoting interventions that challenge and reshape harmful masculinity constructs. A holistic approach, that combines education, community engagement, and structural support, can foster a culture that promotes more equitable gender norms and enhances SE and FPSE outcomes (Closson et al., 2018). Specifically, educational programs should incorporate components that deconstruct traditional masculinity norms and promote gender equity, emphasising the importance of mutual respect and shared responsibility, especially in the realm of sexual and reproductive health. Community-based interventions can play a crucial role, for example by engaging male role models to demonstrate and advocate for progressive masculinity ideals (Closson et al., 2018).

Buller and Schulte (2018) propose that SRHR interventions targeted at boys and men, aimed at dismantling inequitable norms, since males are more likely to endorse such norms, confirmed in our study, yet there is a notable scarcity of interventions tailored to them (Buller & Schulte, 2018). According to Doyle et al. (2014), gender-transformative programs that encourage men to critically examine gender norms can foster greater male involvement, thereby redistributing care responsibilities and rectifying power imbalances.

The evident power of social capital can be harnessed when designing these interventions, acknowledging the social makeup of the society for whom it is aimed. Incorporating Sub-Saharan cultural values such as Ubuntu, the concept that “I am because we are” (Sulamoyo, 2010); communalism, the emphasis on communal living and sharing; and respect for elders, who hold significant influence within communities, in designing interventions may help ensure that these programs are relevant, meaningful, and efficacious within the region (Ramos, 2017).

In addition, the results indicate the importance of interventions that address the inequities in social capital access and benefits. For example, providing incentives for associations to actively recruit and retain members from underrepresented groups, or creating community engagement

programs that specifically target and involve women and other marginalized groups in local governance and development projects (Mayoux, 2001).

Furthermore, for FPSE specifically, addressing the negative impact of bonding social capital is crucial. Programs should incorporate strategies to mitigate the close-knit community pressures that hinder FPSE, such as promoting open dialogues about family planning within these communities and providing accessible, anonymous family planning resources. Previous studies have found, for example, that increasing focus on self-efficacy in condom use and sexual negotiation for men can significantly contribute to HIV prevention efforts (Closson et al., 2018). This involves shifting some of the empowerment messaging traditionally directed at women towards men, ensuring that young men develop high SE for safe sexual behaviours. For women, interventions should move beyond individual-level strategies and address structural factors that impede SE and FPSE (Closson et al., 2018). This could occur through methods that simultaneously enhance their bridging social capital, such as community support programmes and improved access to education.

9 Conclusion

In conclusion, the current study adds to the empirical literature by examining the relations between self-efficacy, gender norms and social capital. Our findings suggest that patriarchal norms disproportionately benefit male self-efficacies, while masculinity norms have a strong negative effect on self-efficacies for both genders. We also found that, while bridging social capital can be beneficial for an individual's confidence in their ability to make choices and achieve their goals in general, bonding social capital has negative consequences for the control people feel they have over their reproductive choices specifically. Examining the interaction of these variables showed an overarching trend that gender-inequitable norms are more harmful to outsiders than they are to insiders, as individuals with higher social capital stocks did not experience as negative of an influence on their self-efficacies as those who lacked social capital, implying a buffering effect of social capital. Finally, our analysis revealed that the impact of both social capital and gender-inequitable norms disproportionately disadvantage women. These findings have implications for the design of interventions to enhance self-efficacy in the context of gender-inequitable norms and social capital. Such interventions need to specifically address barriers to self-efficacy among women and out-group members, who are disproportionately disadvantaged by gender-inequitable norms.

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11 Appendices

11.1 ICC Outputs

APPENDIX 1

Patriarchal Norms				
Linear mixed model fit by REML ['lmerMod']				
Formula: Gender_Equitable ~ (1 Town)				
Data: cleaned_merged_data				
REML criterion at convergence: 5780.7				
Scaled residuals:				
Min	1Q	Median	3Q	Max
-3.4414	-0.5716	0.0204	0.5884	3.4761
Random effects:				
Groups	Name	Variance	Std.Dev.	
Town	(Intercept)	0.1209	0.3476	
	Residual	0.3495	0.5912	
Number of obs: 3022, groups: Town, 240				
Fixed effects:				
	Estimate	Std. Error	t value	
(Intercept)	2.53196	0.02546	99.46	

APPENDIX 2

Masculinity Norms				
Linear mixed model fit by REML ['lmerMod']				
Formula: Masculinity_Norms ~ (1 Town)				
Data: cleaned_merged_data				
REML criterion at convergence: 5682.7				
Scaled residuals:				
Min	1Q	Median	3Q	Max
-4.3567	-0.5489	-0.0437	0.7422	2.3470
Random effects:				
Groups	Name	Variance	Std.Dev.	
Town	(Intercept)	0.08948	0.2991	
	Residual	0.34618	0.5884	
Number of obs: 3013, groups: Town, 240				
Fixed effects:				
	Estimate	Std. Error	t value	
(Intercept)	3.2100	0.0227	141.4	

11.2 Main Analysis Regression Tables

APPENDIX 3: REGRESSION TABLE PATRIARCHAL NORMS WHOLE SAMPLE

Regression Results for All Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.122 (0.080)	0.194** (0.082)	0.192** (0.084)	0.190** (0.083)	0.182** (0.084)	0.186** (0.083)	-0.177** (0.078)	-0.054 (0.082)	-0.053 (0.081)	-0.036 (0.080)	-0.066 (0.081)	-0.042 (0.080)
Bridging			0.245*** (0.058)		0.235*** (0.058)				-0.089 (0.056)		-0.103* (0.056)	
Bonding				0.048 (0.056)		0.039 (0.056)				-0.193*** (0.054)		-0.205*** (0.054)
Literacy		-0.005 (0.161)	0.028 (0.161)	-0.003 (0.161)	0.032 (0.160)	-0.006 (0.161)		0.014 (0.154)	0.001 (0.155)	0.004 (0.154)	0.006 (0.154)	0.001 (0.154)
Age		0.0001 (0.005)	0.0003 (0.005)	-0.0002 (0.005)	0.0004 (0.005)	0.0001 (0.005)		-0.011** (0.005)	-0.011** (0.005)	-0.010** (0.005)	-0.011** (0.005)	-0.010** (0.005)
Marital Status		-0.035 (0.026)	-0.045* (0.026)	-0.035 (0.026)	-0.044* (0.026)	-0.035 (0.026)		-0.038 (0.025)	-0.035 (0.025)	-0.038 (0.025)	-0.034 (0.025)	-0.037 (0.025)
Educational Level		0.074** (0.036)	0.060 (0.036)	0.071* (0.037)	0.058 (0.036)	0.071* (0.037)		0.215*** (0.035)	0.220*** (0.035)	0.228*** (0.035)	0.217*** (0.035)	0.228*** (0.035)
Employment Status		0.009 (0.026)	0.011 (0.026)	0.010 (0.026)	0.014 (0.026)	0.013 (0.026)		-0.032 (0.025)	-0.033 (0.025)	-0.037 (0.025)	-0.028 (0.025)	-0.034 (0.025)
Scale Of Incomes		0.032 (0.023)	0.031 (0.023)	0.031 (0.023)	0.032 (0.023)	0.031 (0.023)		-0.007 (0.022)	-0.007 (0.022)	-0.006 (0.022)	-0.005 (0.022)	-0.006 (0.022)
Feeling Of Happiness		0.273*** (0.068)	0.249*** (0.068)	0.268*** (0.069)	0.247*** (0.068)	0.264*** (0.069)		0.093 (0.065)	0.101 (0.066)	0.111* (0.066)	0.099 (0.066)	0.106 (0.066)
State Of Health		0.319*** (0.064)	0.320*** (0.063)	0.320*** (0.064)	0.311*** (0.063)	0.317*** (0.064)		0.086 (0.061)	0.085 (0.061)	0.080 (0.061)	0.073 (0.061)	0.076 (0.061)
PN:Bridging					0.139** (0.054)						0.193*** (0.052)	
PN:Bonding						0.096* (0.053)						0.120** (0.051)
Constant	7.395*** (0.085)	7.345*** (0.084)	7.326*** (0.086)	7.342*** (0.085)	7.339*** (0.086)	7.340*** (0.085)	7.623*** (0.083)	7.598*** (0.084)	7.605*** (0.083)	7.611*** (0.082)	7.623*** (0.083)	7.608*** (0.082)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,258.7	-6,220.3	-6,213.5	-6,221.9	-6,212.2	-6,222.3	-6,153.1	-6,113.5	-6,114.2	-6,109.0	-6,109.4	-6,108.3
Akaike Inf. Crit.	12,525.3	12,464.6	12,452.9	12,469.8	12,452.4	12,472.6	12,314.2	12,250.9	12,254.3	12,244.1	12,246.8	12,244.6
Bayesian Inf. Crit.	12,548.8	12,535.0	12,529.1	12,546.0	12,534.5	12,554.7	12,337.6	12,321.3	12,330.5	12,320.3	12,328.8	12,326.7

Note:

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

** p<0.01

* p<0.05

APPENDIX 4: REGRESSION TABLE PATRIARCHAL NORMS MALES

Regression Results for Male Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.147* (0.084)	0.169** (0.086)	0.164* (0.087)	0.167* (0.086)	0.152* (0.086)	0.165* (0.086)	-0.175** (0.089)	-0.087 (0.092)	-0.083 (0.092)	-0.071 (0.092)	-0.098 (0.091)	-0.074 (0.092)
Bridging			0.209*** (0.075)		0.204*** (0.075)				-0.122* (0.070)		-0.131* (0.070)	
Bonding				0.026 (0.072)		0.018 (0.073)				-0.176*** (0.067)		-0.183*** (0.068)
Literacy		0.039 (0.230)	0.048 (0.229)	0.038 (0.230)	0.041 (0.229)	0.033 (0.230)		0.119 (0.212)	0.111 (0.212)	0.120 (0.211)	0.101 (0.211)	0.116 (0.211)
Age		-0.006 (0.006)	-0.005 (0.006)	-0.006 (0.006)	-0.005 (0.006)	-0.006 (0.006)		-0.012** (0.006)	-0.012** (0.006)	-0.011** (0.006)	-0.012** (0.006)	-0.011** (0.006)
Marital Status		-0.094** (0.037)	-0.099*** (0.037)	-0.093** (0.037)	-0.096*** (0.037)	-0.092** (0.037)		-0.031 (0.034)	-0.028 (0.034)	-0.033 (0.034)	-0.026 (0.034)	-0.032 (0.034)
Educational Level		0.008 (0.048)	-0.006 (0.048)	0.006 (0.048)	-0.009 (0.048)	0.006 (0.048)		0.189*** (0.045)	0.197*** (0.045)	0.202*** (0.045)	0.194*** (0.045)	0.201*** (0.045)
Employment Status		0.047 (0.036)	0.044 (0.036)	0.047 (0.036)	0.049 (0.036)	0.049 (0.036)		-0.022 (0.033)	-0.022 (0.033)	-0.026 (0.033)	-0.018 (0.033)	-0.025 (0.033)
Scale Of Incomes		0.030 (0.030)	0.026 (0.030)	0.030 (0.030)	0.030 (0.030)	0.030 (0.030)		-0.028 (0.028)	-0.026 (0.028)	-0.026 (0.028)	-0.023 (0.028)	-0.026 (0.028)
Feeling Of Happiness		0.272*** (0.085)	0.245*** (0.086)	0.269*** (0.086)	0.244*** (0.085)	0.264*** (0.086)		0.130* (0.078)	0.143* (0.079)	0.147* (0.079)	0.143* (0.079)	0.143* (0.079)
State Of Health		0.291*** (0.080)	0.291*** (0.080)	0.291*** (0.080)	0.273*** (0.080)	0.287*** (0.080)		0.076 (0.074)	0.074 (0.074)	0.072 (0.074)	0.058 (0.074)	0.069 (0.074)
PN:Bridging					0.177** (0.072)						0.180*** (0.068)	
PN:Bonding						0.088 (0.072)						0.071 (0.067)
Constant	7.508*** (0.092)	7.437*** (0.091)	7.418*** (0.093)	7.436*** (0.092)	7.431*** (0.092)	7.433*** (0.092)	7.698*** (0.100)	7.658*** (0.103)	7.673*** (0.102)	7.672*** (0.101)	7.686*** (0.101)	7.670*** (0.101)
Observations	1,593	1,587	1,587	1,587	1,587	1,587	1,593	1,587	1,587	1,587	1,587	1,587
Log Likelihood	-3,888.3	-3,869.6	-3,867.4	-3,871.2	-3,866.1	-3,872.2	-3,760.9	-3,744.5	-3,744.7	-3,742.9	-3,743.0	-3,744.1
Akaike Inf. Crit.	7,784.5	7,763.2	7,760.8	7,768.4	7,760.2	7,772.4	7,529.7	7,512.9	7,515.4	7,511.8	7,514.1	7,516.2
Bayesian Inf. Crit.	7,806.0	7,827.6	7,830.6	7,838.2	7,835.4	7,847.6	7,551.2	7,577.4	7,585.2	7,581.6	7,589.2	7,591.4

Note:

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

** p<0.01

* p<0.05

APPENDIX 5: REGRESSION TABLE PATRIARCHAL NORMS FEMALES

Regression Results for Female Models

	<i>Dependent variable:</i>											
	Model 1	Self-Efficacy					FPSE					
		Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	-0.005 (0.107)	0.058 (0.111)	0.056 (0.111)	0.056 (0.111)	0.057 (0.111)	0.051 (0.112)	-0.227** (0.096)	-0.096 (0.104)	-0.094 (0.103)	-0.067 (0.103)	-0.091 (0.103)	-0.075 (0.102)
Bridging			0.185** (0.089)		0.175* (0.090)				-0.083 (0.090)			-0.107 (0.090)
Bonding				0.016 (0.087)		0.0003 (0.087)					-0.266*** (0.087)	-0.290*** (0.087)
Literacy		0.220 (0.229)	0.269 (0.229)	0.223 (0.229)	0.282 (0.230)	0.227 (0.229)		0.037 (0.236)	0.010 (0.237)	-0.018 (0.235)	0.049 (0.237)	-0.010 (0.235)
Age		-0.003 (0.009)	-0.002 (0.009)	-0.003 (0.009)	-0.002 (0.009)	-0.002 (0.009)		-0.011 (0.009)	-0.011 (0.010)	-0.010 (0.009)	-0.011 (0.009)	-0.009 (0.009)
Marital Status		-0.012 (0.039)	-0.019 (0.039)	-0.012 (0.039)	-0.020 (0.039)	-0.013 (0.039)		-0.068* (0.040)	-0.065 (0.040)	-0.065 (0.040)	-0.066* (0.040)	-0.067* (0.039)
Educational Level		0.127** (0.055)	0.118** (0.056)	0.126** (0.056)	0.118** (0.056)	0.124** (0.056)		0.239*** (0.057)	0.243*** (0.057)	0.257*** (0.057)	0.242*** (0.057)	0.254*** (0.057)
Employment Status		0.009 (0.041)	0.009 (0.041)	0.009 (0.041)	0.011 (0.041)	0.014 (0.041)		-0.064 (0.042)	-0.064 (0.042)	-0.064 (0.042)	-0.057 (0.042)	-0.056 (0.042)
Scale Of Incomes		0.043 (0.036)	0.048 (0.036)	0.043 (0.036)	0.049 (0.036)	0.045 (0.036)		0.029 (0.037)	0.026 (0.037)	0.025 (0.037)	0.030 (0.037)	0.029 (0.037)
Feeling Of Happiness		0.219* (0.119)	0.200* (0.119)	0.217* (0.119)	0.197* (0.119)	0.219* (0.119)		0.021 (0.122)	0.030 (0.122)	0.056 (0.122)	0.023 (0.122)	0.058 (0.122)
State Of Health		0.412*** (0.107)	0.413*** (0.106)	0.412*** (0.107)	0.407*** (0.107)	0.406*** (0.107)		0.138 (0.110)	0.136 (0.110)	0.122 (0.110)	0.119 (0.110)	0.111 (0.110)
PN:Bridging					0.089 (0.085)							0.243*** (0.085)
PN:Bonding						0.124 (0.081)						0.192** (0.082)
Constant	7.259** (0.114)	7.252*** (0.110)	7.249*** (0.111)	7.252*** (0.110)	7.256*** (0.111)	7.247*** (0.111)	7.518*** (0.100)	7.511*** (0.099)	7.512*** (0.099)	7.516*** (0.098)	7.531*** (0.099)	7.509*** (0.097)
Observations	1,009	1,006	1,006	1,006	1,006	1,006	1,009	1,006	1,006	1,006	1,006	1,006
Log Likelihood	-2,382.	-2,372.7	-2,372.1	-2,374.2	-2,373.1	-2,374.6	-2,408.7	-2,397.2	-2,398.3	-2,394.1	-2,395.7	-2,392.9
Akaike Inf. Crit.	4,772.1	4,769.4	4,770.1	4,774.4	4,774.2	4,777.3	4,825.4	4,818.4	4,822.6	4,814.1	4,819.5	4,813.8
Bayesian Inf. Crit.	4,791.8	4,828.4	4,834.0	4,838.3	4,842.9	4,846.1	4,845.1	4,877.4	4,886.4	4,878.0	4,888.3	4,882.6

Note:

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

APPENDIX 6: REGRESSION TABLE MASCULINITY NORMS WHOLE SAMPLE

Regression Results for All Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.285*** (0.074)	-0.289*** (0.074)	-0.341*** (0.076)	-0.311*** (0.075)	-0.331*** (0.077)	-0.278*** (0.077)	-0.442*** (0.069)	-0.425*** (0.070)	-0.416*** (0.071)	-0.39*** (0.071)	-0.416*** (0.073)	-0.395*** (0.073)
Bridging			0.280*** (0.058)		0.286*** (0.059)				-0.049 (0.056)		-0.049 (0.057)	
Bonding				0.095* (0.056)		0.115** (0.058)				-0.15*** (0.054)		-0.151*** (0.055)
Literacy		0.008 (0.160)	0.044 (0.160)	0.010 (0.160)	0.039 (0.160)	0.001 (0.160)		-0.022 (0.153)	-0.029 (0.153)	-0.027 (0.153)	-0.029 (0.154)	-0.025 (0.153)
Age		-0.0004 (0.005)	-0.0001 (0.005)	-0.001 (0.005)	-0.0001 (0.005)	-0.001 (0.005)		-0.011** (0.005)	-0.011** (0.005)	-0.010** (0.005)	-0.011** (0.005)	-0.010** (0.005)
Marital Status		-0.043* (0.026)	-0.054** (0.026)	-0.043* (0.026)	-0.054** (0.026)	-0.043* (0.026)		-0.039 (0.025)	-0.037 (0.025)	-0.039 (0.025)	-0.037 (0.025)	-0.039 (0.025)
Educational Level		0.059* (0.036)	0.043 (0.036)	0.053 (0.036)	0.042 (0.036)	0.050 (0.036)		0.212*** (0.034)	0.215*** (0.035)	0.223*** (0.035)	0.215*** (0.035)	0.223*** (0.035)
Employment Status		0.016 (0.026)	0.019 (0.026)	0.019 (0.026)	0.019 (0.026)	0.019 (0.026)		-0.023 (0.025)	-0.024 (0.025)	-0.027 (0.025)	-0.024 (0.025)	-0.027 (0.025)
Scale Of Incomes		0.022 (0.023)	0.020 (0.023)	0.021 (0.023)	0.021 (0.023)	0.022 (0.023)		-0.015 (0.022)	-0.015 (0.022)	-0.014 (0.022)	-0.015 (0.022)	-0.014 (0.022)
Feeling Of Happiness		0.291*** (0.068)	0.266*** (0.068)	0.282*** (0.069)	0.265*** (0.068)	0.281*** (0.069)		0.121* (0.065)	0.125* (0.065)	0.134** (0.065)	0.125* (0.066)	0.134** (0.065)
State Of Health		0.306*** (0.064)	0.305*** (0.063)	0.308*** (0.064)	0.308*** (0.063)	0.317*** (0.064)		0.065 (0.061)	0.065 (0.061)	0.062 (0.061)	0.065 (0.061)	0.061 (0.061)
MN:Bridging					-0.030 (0.049)						0.002 (0.047)	
MN:Bonding						-0.084* (0.047)						0.012 (0.044)
Constant	7.382*** (0.083)	7.326*** (0.083)	7.307*** (0.084)	7.323*** (0.083)	7.313*** (0.084)	7.344*** (0.083)	7.654*** (0.077)	7.616*** (0.078)	7.619*** (0.078)	7.622*** (0.078)	7.619*** (0.079)	7.619*** (0.079)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,252.6	-6,215.7	-6,206.2	-6,216.3	-6,208.1	-6,216.8	-6,136.5	-6,096.5	-6,098.1	-6,094.7	-6,100.2	-6,096.8
Akaike Inf. Crit.	12,513.2	12,455.4	12,438.5	12,458.5	12,444.3	12,461.6	12,280.9	12,216.9	12,222.1	12,215.4	12,228.4	12,221.7
Bayesian Inf. Crit.	12,536.7	12,525.8	12,514.7	12,534.7	12,526.3	12,543.6	12,304.4	12,287.3	12,298.3	12,291.6	12,310.4	12,303.7

Note:

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

APPENDIX 7: REGRESSION TABLE MASCULINITY NORMS MALES

Regression Results for Male Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.147*	-0.171**	-0.217***	-0.185**	-0.221**	-0.164*	-0.389***	-0.383***	-0.368***	-0.355***	-0.373***	-0.367***
	(0.081)	(0.080)	(0.082)	(0.082)	(0.087)	(0.085)	(0.082)	(0.083)	(0.084)	(0.084)	(0.088)	(0.086)
Bridging			0.246***		0.245***				-0.080		-0.081	
			(0.076)		(0.077)				(0.071)		(0.071)	
Bonding				0.066		0.082				-0.135**		-0.143**
				(0.073)		(0.075)				(0.068)		(0.069)
Literacy		0.074	0.085	0.072	0.087	0.064		0.102	0.097	0.105	0.099	0.109
		(0.229)	(0.228)	(0.229)	(0.229)	(0.229)		(0.210)	(0.210)	(0.210)	(0.211)	(0.210)
Age		-0.006	-0.006	-0.007	-0.006	-0.007		-0.012**	-0.013**	-0.012**	-0.013**	-0.012**
		(0.006)	(0.006)	(0.006)	(0.006)	(0.006)		(0.005)	(0.006)	(0.005)	(0.006)	(0.005)
Marital Status		-0.101***	-0.107***	-0.100***	-0.107***	-0.099***		-0.034	-0.032	-0.035	-0.031	-0.036
		(0.037)	(0.037)	(0.037)	(0.037)	(0.037)		(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
Educational Level		-0.009	-0.026	-0.014	-0.026	-0.015		0.190***	0.195***	0.199***	0.196***	0.200***
		(0.047)	(0.047)	(0.048)	(0.048)	(0.048)		(0.044)	(0.044)	(0.044)	(0.044)	(0.044)
Employment Status		0.056	0.054	0.058	0.054	0.058		-0.012	-0.012	-0.015	-0.012	-0.015
		(0.036)	(0.036)	(0.036)	(0.036)	(0.036)		(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Scale Of Incomes		0.025	0.020	0.024	0.020	0.026		-0.032	-0.031	-0.030	-0.031	-0.031
		(0.030)	(0.030)	(0.030)	(0.030)	(0.030)		(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
Feeling Of Happiness		0.289***	0.261***	0.282***	0.262***	0.280***		0.159**	0.167**	0.171**	0.167**	0.172**
		(0.086)	(0.086)	(0.086)	(0.086)	(0.086)		(0.078)	(0.079)	(0.079)	(0.079)	(0.079)
State Of Health		0.277***	0.275***	0.277***	0.274***	0.282***		0.056	0.056	0.055	0.055	0.052
		(0.080)	(0.080)	(0.080)	(0.080)	(0.080)		(0.073)	(0.073)	(0.073)	(0.074)	(0.074)
MN:Bridging					0.010						0.011	
					(0.066)						(0.062)	
MN:Bonding						-0.056						0.033
						(0.059)						(0.056)
Constant	7.480***	7.410***	7.387***	7.407***	7.385***	7.420***	7.731***	7.676***	7.685***	7.684***	7.682***	7.676***
	(0.091)	(0.091)	(0.092)	(0.091)	(0.094)	(0.092)	(0.095)	(0.097)	(0.097)	(0.097)	(0.098)	(0.098)
Observations	1,593	1,587	1,587	1,587	1,587	1,587	1,593	1,587	1,587	1,587	1,587	1,587
Log Likelihood	-3,888.2	-3,869.3	-3,865.8	-3,870.6	-3,867.6	-3,872.1	-3,751.9	-3,734.7	-3,735.8	-3,734.5	-3,737.6	-3,736.3
Akaike Inf. Crit.	7,784.3	7,762.6	7,757.5	7,767.2	7,763.1	7,772.1	7,511.7	7,493.4	7,497.6	7,494.9	7,503.3	7,500.6
Bayesian Inf. Crit.	7,805.8	7,827.1	7,827.3	7,836.9	7,838.3	7,847.3	7,533.2	7,557.8	7,567.4	7,564.8	7,578.4	7,575.4

Note:

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

** p<0.01

* p<0.05

APPENDIX 8: REGRESSION TABLE MASCULINITY NORMS FEMALES

Regression Results for Female Models

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.423*** (0.100)	-0.400*** (0.099)	-0.438*** (0.100)	-0.421*** (0.100)	-0.428*** (0.100)	-0.400*** (0.101)	-0.525*** (0.090)	-0.482*** (0.091)	-0.480*** (0.092)	-0.440*** (0.093)	-0.478*** (0.092)	-0.441*** (0.094)
Bridging			0.237*** (0.089)		0.263*** (0.092)				-0.017 (0.089)		-0.012 (0.092)	
Bonding				0.092 (0.087)		0.124 (0.089)				-0.186** (0.087)		-0.187** (0.090)
Literacy		0.218 (0.226)	0.282 (0.226)	0.229 (0.226)	0.264 (0.227)	0.205 (0.226)		-0.034 (0.230)	-0.040 (0.232)	-0.064 (0.230)	-0.044 (0.233)	-0.063 (0.231)
Age		-0.005 (0.009)	-0.004 (0.009)	-0.005 (0.009)	-0.004 (0.009)	-0.005 (0.009)		-0.012 (0.009)	-0.012 (0.009)	-0.011 (0.009)	-0.012 (0.009)	-0.011 (0.009)
Marital Status		-0.022 (0.038)	-0.033 (0.038)	-0.023 (0.038)	-0.033 (0.038)	-0.023 (0.038)		-0.067* (0.039)	-0.066* (0.039)	-0.066* (0.039)	-0.066* (0.039)	-0.066* (0.039)
Educational Level		0.115** (0.054)	0.104* (0.054)	0.109** (0.055)	0.100* (0.055)	0.104* (0.055)		0.235*** (0.055)	0.236*** (0.056)	0.247*** (0.056)	0.235*** (0.056)	0.247*** (0.056)
Employment Status		0.018 (0.041)	0.018 (0.041)	0.018 (0.041)	0.018 (0.041)	0.019 (0.041)		-0.048 (0.042)	-0.048 (0.042)	-0.049 (0.042)	-0.048 (0.042)	-0.049 (0.042)
Scale Of Incomes		0.030 (0.036)	0.035 (0.036)	0.030 (0.036)	0.036 (0.036)	0.029 (0.036)		0.013 (0.037)	0.013 (0.037)	0.011 (0.037)	0.013 (0.037)	0.011 (0.037)
Feeling Of Happiness		0.255** (0.118)	0.234** (0.118)	0.245** (0.119)	0.233** (0.118)	0.242** (0.119)		0.065 (0.120)	0.066 (0.121)	0.086 (0.121)	0.066 (0.121)	0.086 (0.121)
State Of Health		0.384*** (0.106)	0.384*** (0.106)	0.388*** (0.106)	0.391*** (0.106)	0.403*** (0.107)		0.088 (0.109)	0.088 (0.109)	0.081 (0.109)	0.089 (0.109)	0.081 (0.109)
MN:Bridging					-0.090 (0.076)							-0.017 (0.077)
MN:Bonding						-0.113 (0.075)						0.003 (0.074)
Constant	7.269*** (0.109)	7.260*** (0.106)	7.258*** (0.106)	7.259*** (0.105)	7.274*** (0.106)	7.287*** (0.106)	7.532*** (0.094)	7.522*** (0.094)	7.522*** (0.094)	7.524*** (0.093)	7.525*** (0.095)	7.523*** (0.095)
Observations	1,009	1,006	1,006	1,006	1,006	1,006	1,009	1,006	1,006	1,006	1,006	1,006
Log Likelihood	-2,373.5	-2,365.1	-2,363.0	-2,366.0	-2,364.0	-2,366.6	-2,395.3	-2,384.2	-2,385.7	-2,383.4	-2,387.3	-2,385.1
Akaike Inf. Crit.	4,755.0	4,754.1	4,752.1	4,758.1	4,756.0	4,761.2	4,798.7	4,792.3	4,797.3	4,792.8	4,802.6	4,798.2
Bayesian Inf. Crit.	4,774.6	4,813.1	4,815.9	4,821.9	4,824.8	4,829.9	4,818.4	4,851.3	4,861.2	4,856.7	4,871.4	4,866.9

Note:

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

11.3 Robustness Checks

APPENDIX 9: POISSON REGRESSION MASCULINITY NORMS WHOLE SAMPLE

Poisson Regression Results for All Models

	<i>Dependent variable:</i>											
	Model 1	Self-Efficacy					FPSE					
		Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.017 (0.011)	0.027** (0.011)	0.026** (0.011)	0.026** (0.011)	0.025** (0.011)	0.026** (0.011)	-0.022** (0.010)	-0.006 (0.011)	-0.006 (0.011)	-0.003 (0.011)	-0.007 (0.011)	-0.004 (0.011)
Bridging			0.031*** (0.008)		0.029*** (0.008)				-0.014* (0.008)		-0.015* (0.008)	
Bonding				0.006 (0.008)		0.004 (0.008)				-0.027*** (0.008)		-0.029*** (0.008)
Literacy		-0.001 (0.023)	0.004 (0.023)	-0.0004 (0.023)	0.005 (0.023)	-0.001 (0.023)		-0.004 (0.023)	-0.006 (0.023)	-0.005 (0.023)	-0.005 (0.023)	-0.006 (0.023)
Age		0.00003 (0.001)	0.0001 (0.001)	0.00001 (0.001)	0.0001 (0.001)	0.00004 (0.001)		-0.001** (0.001)	-0.001** (0.001)	-0.001* (0.001)	-0.001** (0.001)	-0.001* (0.001)
Marital Status		-0.005 (0.004)	-0.006 (0.004)	-0.005 (0.004)	-0.006 (0.004)	-0.005 (0.004)		-0.005 (0.004)	-0.004 (0.004)	-0.005 (0.004)	-0.004 (0.004)	-0.004 (0.004)
Educational Level		0.010* (0.005)	0.008 (0.005)	0.010* (0.005)	0.008 (0.005)	0.010* (0.005)		0.027*** (0.005)	0.028*** (0.005)	0.029*** (0.005)	0.028*** (0.005)	0.029*** (0.005)
Employment Status		0.001 (0.004)	0.001 (0.004)	0.001 (0.004)	0.002 (0.004)	0.002 (0.004)		-0.005 (0.004)	-0.005 (0.004)	-0.005 (0.004)	-0.004 (0.004)	-0.005 (0.004)
Scale Of Incomes		0.004 (0.003)	0.004 (0.003)	0.004 (0.003)	0.005 (0.003)	0.004 (0.003)		-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)
Feeling Of Happiness		0.038*** (0.010)	0.034*** (0.010)	0.037*** (0.010)	0.034*** (0.010)	0.036*** (0.010)		0.010 (0.010)	0.012 (0.010)	0.013 (0.010)	0.012 (0.010)	0.012 (0.010)
State Of Health		0.044*** (0.009)	0.044*** (0.009)	0.044*** (0.009)	0.043*** (0.009)	0.044*** (0.009)		0.010 (0.009)	0.009 (0.009)	0.009 (0.009)	0.008 (0.009)	0.008 (0.009)
GN:Bridging					0.017** (0.008)						0.026*** (0.008)	
GN:Bonding						0.012 (0.008)						0.016** (0.008)
Constant	1.993*** (0.012)	1.985*** (0.012)	1.982*** (0.012)	1.984*** (0.012)	1.983*** (0.012)	1.984*** (0.012)	2.026*** (0.011)	2.022*** (0.011)	2.023*** (0.011)	2.024*** (0.011)	2.025*** (0.011)	2.023*** (0.011)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,435	-6,380.1	-6,373.0	-6,379.9	-6,370.5	-6,378.6	-6,359.9	-6,307.3	-6,305.9	-6,301.3	-6,300.4	-6,299.1
Akaike Inf.	12,876	12,782.3	12,770.1	12,783.8	12,767.1	12,783.2	12,725.8	12,636.6	12,635.8	12,626.7	12,626.8	12,624.3
Bayesian Inf. Crit.	12,894	12,846.7	12,840.4	12,854.1	12,843.3	12,859.4	12,743.4	12,701.1	12,706.2	12,697.0	12,703.0	12,700.5

APPENDIX 10: POISSON REGRESSION MASCULINITY NORMS WHOLE SAMPLE

Poisson Regression Results for All Models

	<i>Dependent variable:</i>											
	SelfEfficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	0.040*** (0.010)	-0.040*** (0.010)	0.047*** (0.011)	0.043*** (0.010)	0.045*** (0.011)	0.038*** (0.011)	0.059*** (0.009)	0.056*** (0.010)	0.055*** (0.010)	0.052*** (0.010)	-0.054*** (0.010)	-0.051*** (0.010)
Bridging			0.037*** (0.008)		0.037*** (0.008)				-0.007 (0.008)		-0.007 (0.008)	
Bonding				0.012 (0.008)		0.015* (0.008)				0.021*** (0.008)		-0.020** (0.008)
Literacy		0.001 (0.023)	0.006 (0.023)	0.002 (0.023)	0.006 (0.023)	0.001 (0.023)		-0.009 (0.023)	-0.010 (0.023)	-0.009 (0.023)	-0.010 (0.023)	-0.009 (0.023)
Age		0.00004 (0.001)	0.00001 (0.001)	-0.0001 (0.001)	0.00001 (0.001)	-0.0001 (0.001)		-0.001** (0.001)	-0.001** (0.001)	-0.001* (0.001)	-0.001** (0.001)	-0.001* (0.001)
Marital Status		-0.006 (0.004)	-0.007** (0.004)	-0.006 (0.004)	-0.008** (0.004)	-0.006 (0.004)		-0.005 (0.004)	-0.004 (0.004)	-0.005 (0.004)	-0.005 (0.004)	-0.005 (0.004)
Educational Level		0.008 (0.005)	0.006 (0.005)	0.007 (0.005)	0.005 (0.005)	0.007 (0.005)		0.027*** (0.005)	0.027*** (0.005)	0.028*** (0.005)	0.027*** (0.005)	0.028*** (0.005)
Employment Status		0.002 (0.004)	0.003 (0.004)	0.003 (0.004)	0.003 (0.004)	0.003 (0.004)		-0.003 (0.004)	-0.003 (0.004)	-0.004 (0.004)	-0.003 (0.004)	-0.004 (0.004)
Scale Of Incomes		0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)	0.003 (0.003)		-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)	-0.003 (0.003)
Feeling Of Happiness		0.040*** (0.010)	0.037*** (0.010)	0.039*** (0.010)	0.037*** (0.010)	0.039*** (0.010)		0.015 (0.010)	0.015 (0.010)	0.016* (0.010)	0.015 (0.010)	0.016* (0.010)
State Of Health		0.042*** (0.009)	0.042*** (0.009)	0.042*** (0.009)	0.042*** (0.009)	0.044*** (0.009)		0.006 (0.009)	0.006 (0.009)	0.006 (0.009)	0.006 (0.009)	0.006 (0.009)
MN:Bridging					-0.004 (0.007)						-0.001 (0.007)	
MN:Bonding						-0.012* (0.007)						-0.001 (0.007)
Constant	1.991*** (0.011)	1.982*** (0.011)	1.979*** (0.012)	1.982*** (0.011)	1.980*** (0.012)	1.985*** (0.011)	2.029*** (0.010)	2.024*** (0.011)	2.024*** (0.011)	2.024*** (0.010)	2.025*** (0.011)	2.025*** (0.011)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,429.2	-6,375.5	-6,365.9	-6,374.3	-6,365.8	-6,372.6	-6,343.5	-6,290.8	-6,290.4	-6,287.5	6,290.416	-6,287.5
Akaike Inf. Crit.	12,864.5	12,773.0	12,755.9	12,772.6	12,757.6	12,771.2	12,693.1	12,603.7	12,604.8	12,599.0	12,606.8	12,601.0
Bayesian Inf. Crit.	12,882.1	12,837.5	12,826.2	12,843.0	12,833.8	12,847.4	12,710.7	12,668.1	12,675.1	12,669.3	12,683.0	12,677.2

Note:

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

APPENDIX 11: COUNTRY FIXED EFFECTS REGRESSION PATRIARCHAL NORMS

Regression Results for Gender Norms Models with Country FE

	<i>Dependent variable:</i>											
	SelfEfficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Patriarchal norms	0.045 (0.090)	0.075 (0.090)	0.026 (0.091)	0.060 (0.091)	0.024 (0.091)	0.058 (0.091)	-0.312*** (0.086)	-0.221** (0.087)	-0.215** (0.087)	-0.189** (0.087)	-0.218** (0.087)	-0.191** (0.087)
Bridging			0.302*** (0.059)		0.291*** (0.060)				-0.040 (0.057)		-0.057 (0.057)	
Bonding				0.079 (0.057)		0.070 (0.057)				-0.167*** (0.054)		-0.18*** (0.054)
Literacy		-0.027 (0.162)	0.007 (0.162)	-0.026 (0.162)	0.014 (0.162)	-0.027 (0.162)		0.016 (0.155)	0.011 (0.156)	0.014 (0.155)	0.022 (0.155)	0.012 (0.155)
Age		-0.0003 (0.005)	0.0001 (0.005)	-0.001 (0.005)	0.00003 (0.005)	-0.0004 (0.005)		-0.012*** (0.005)	-0.012*** (0.005)	-0.011** (0.005)	-0.012*** (0.005)	-0.011** (0.005)
Marital Status		-0.034 (0.026)	-0.045* (0.026)	-0.034 (0.026)	-0.045* (0.026)	-0.034 (0.026)		-0.039 (0.025)	-0.037 (0.025)	-0.039 (0.025)	-0.037 (0.025)	-0.038 (0.025)
Educational Level		0.084** (0.037)	0.070* (0.037)	0.079** (0.037)	0.067* (0.037)	0.078** (0.037)		0.220*** (0.035)	0.222*** (0.035)	0.230*** (0.035)	0.218*** (0.035)	0.229*** (0.035)
Employment Status		0.016 (0.026)	0.020 (0.026)	0.018 (0.026)	0.023 (0.026)	0.020 (0.026)		-0.026 (0.025)	-0.027 (0.025)	-0.032 (0.025)	-0.023 (0.025)	-0.029 (0.025)
Scale Of Incomes		0.030 (0.023)	0.029 (0.023)	0.030 (0.023)	0.030 (0.023)	0.030 (0.023)		-0.007 (0.022)	-0.007 (0.022)	-0.006 (0.022)	-0.004 (0.022)	-0.005 (0.022)
Feeling Of Happiness		0.301*** (0.069)	0.281*** (0.069)	0.295*** (0.069)	0.278*** (0.069)	0.290*** (0.069)		0.133** (0.066)	0.136** (0.066)	0.146** (0.066)	0.132** (0.066)	0.140** (0.066)
State Of Health		0.315*** (0.064)	0.313*** (0.064)	0.315*** (0.064)	0.306*** (0.064)	0.313*** (0.064)		0.094 (0.062)	0.094 (0.062)	0.091 (0.062)	0.084 (0.062)	0.088 (0.061)
Country KEN	-0.490** (0.193)	-0.566*** (0.196)	-0.797*** (0.202)	-0.613*** (0.199)	-0.753*** (0.203)	-0.596*** (0.199)	-0.424** (0.185)	-0.599*** (0.189)	-0.569*** (0.194)	-0.500*** (0.190)	-0.503*** (0.194)	-0.478** (0.190)
Country ZWE	-0.304 (0.286)	0.139 (0.295)	0.172 (0.298)	0.133 (0.296)	0.200 (0.298)	0.141 (0.297)	0.622** (0.273)	0.666** (0.285)	0.662** (0.285)	0.680** (0.282)	0.704** (0.285)	0.690** (0.282)
GN:Bridging					0.121** (0.054)						0.183*** (0.052)	
GN:Bonding						0.088* (0.053)						0.113** (0.051)
Constant	7.653*** (0.133)	7.581*** (0.134)	7.660*** (0.136)	7.599*** (0.135)	7.648*** (0.136)	7.589*** (0.136)	7.741*** (0.127)	7.787*** (0.130)	7.777*** (0.131)	7.750*** (0.129)	7.758*** (0.130)	7.736*** (0.129)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,256.4	-6,216.3	-6,205.3	-6,217.2	-6,204.8	-6,217.9	-6,147.3	-6,104.2	-6,105.9	-6,101.5	-6,101.8	-6,101.0
AIK	12,524.9	12,460.6	12,440.7	12,464.5	12,441.7	12,467.8	12,306.7	12,236.4	12,241.8	12,233.0	12,235.7	12,234.1
BIC	12,560.1	12,542.6	12,528.6	12,552.0	12,535.5	12,561.6	12,341.9	12,318.5	12,329.8	12,320.9	12,329.5	12,327.9

Note:

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

** p<0.01

* p<0.05

APPENDIX 12: COUNTRY FIXED EFFECTS REGRESSION MASCULINITY NORMS

Regression Results for Masculinity Models With Country FE

	<i>Dependent variable:</i>											
	Self-Efficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Masculinity norms	-0.243*** (0.077)	-0.246*** (0.076)	-0.287*** (0.077)	-0.268*** (0.077)	-0.276*** (0.078)	-0.237*** (0.078)	-0.464*** (0.071)	-0.417*** (0.071)	-0.414*** (0.072)	-0.390*** (0.072)	-0.416*** (0.073)	-0.395*** (0.074)
Bridging			0.324*** (0.059)		0.330*** (0.060)				-0.024 (0.057)		-0.025 (0.057)	
Bonding				0.111** (0.057)		0.131** (0.058)				-0.141*** (0.054)		-0.145*** (0.055)
Literacy		-0.010 (0.162)	0.023 (0.161)	-0.010 (0.162)	0.017 (0.161)	-0.018 (0.162)		0.0005 (0.155)	-0.002 (0.155)	0.001 (0.154)	-0.001 (0.155)	0.002 (0.155)
Age		-0.001 (0.005)	-0.0004 (0.005)	-0.001 (0.005)	-0.0004 (0.005)	-0.001 (0.005)		-0.012*** (0.005)	-0.012*** (0.005)	-0.012** (0.005)	-0.012*** (0.005)	-0.012** (0.005)
Marital Status		-0.040 (0.026)	-0.051** (0.026)	-0.039 (0.026)	-0.051** (0.026)	-0.039 (0.026)		-0.039 (0.025)	-0.038 (0.025)	-0.039 (0.025)	-0.038 (0.025)	-0.039 (0.025)
Educational Level		0.073** (0.037)	0.059 (0.036)	0.066* (0.037)	0.058 (0.036)	0.064* (0.037)		0.214*** (0.035)	0.215*** (0.035)	0.223*** (0.035)	0.216*** (0.035)	0.223*** (0.035)
Employment Status		0.021 (0.026)	0.026 (0.026)	0.024 (0.026)	0.026 (0.026)	0.024 (0.026)		-0.023 (0.025)	-0.023 (0.025)	-0.027 (0.025)	-0.023 (0.025)	-0.027 (0.025)
Scale Of Incomes		0.025 (0.023)	0.024 (0.023)	0.024 (0.023)	0.024 (0.023)	0.025 (0.023)		-0.010 (0.022)	-0.010 (0.022)	-0.009 (0.022)	-0.010 (0.022)	-0.009 (0.022)
Feeling Of Happiness		0.318*** (0.069)	0.297*** (0.069)	0.310*** (0.069)	0.296*** (0.069)	0.308*** (0.069)		0.151** (0.066)	0.153** (0.066)	0.162** (0.066)	0.153** (0.066)	0.162** (0.066)
State Of Health		0.311*** (0.064)	0.309*** (0.064)	0.312*** (0.064)	0.311*** (0.064)	0.321*** (0.064)		0.086 (0.061)	0.086 (0.061)	0.084 (0.061)	0.085 (0.062)	0.083 (0.062)
Country KEN	-0.371** (0.182)	-0.450** (0.189)	-0.631*** (0.192)	-0.486** (0.189)	-0.634*** (0.191)	-0.481** (0.188)	0.125 (0.167)	-0.154 (0.176)	-0.140 (0.179)	-0.109 (0.176)	-0.140 (0.179)	-0.109 (0.176)
Country ZWE	-0.168 (0.279)	0.313 (0.289)	0.342 (0.289)	0.305 (0.288)	0.336 (0.289)	0.296 (0.286)	0.719*** (0.254)	0.787*** (0.268)	0.784*** (0.268)	0.797*** (0.267)	0.785*** (0.268)	0.798*** (0.267)
MN:Bridge					-0.032 (0.049)						0.004 (0.047)	
MN:Bond						-0.081* (0.046)						0.015 (0.044)
Constant	7.577*** (0.132)	7.500*** (0.134)	7.560*** (0.135)	7.513*** (0.134)	7.568*** (0.135)	7.532*** (0.134)	7.514*** (0.120)	7.595*** (0.125)	7.591*** (0.125)	7.578*** (0.125)	7.589*** (0.126)	7.575*** (0.125)
Observation	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594

Log Likelihood	-6,251.7	-6,211.6	-6,198.6	-6,211.7	-6,200.5	-6,212.3	-6,133.9	-6,091.3	-6,093.1	-6,089.8	-6,095.3	-6,092.0
AIK	12,515.5	12,451.3	12,427.3	12,453.4	12,433.1	12,456.6	12,279.8	12,210.6	12,216.3	12,209.7	12,222.6	12,216.0
BIC	12,550.7	12,533.4	12,515.2	12,541.3	12,526.8	12,550.4	12,315.0	12,292.7	12,304.2	12,297.7	12,316.4	12,309.8

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

APPENDIX 13: REGRESSION VIOLENCE RESPECT

Regression Results for All Models: Violence Respect Only

	<i>Dependent variable:</i>											
	SelfEfficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Violence respect	-0.057 (0.054)	-0.043 (0.053)	-0.056 (0.053)	-0.049 (0.054)	-0.048 (0.054)	-0.040 (0.054)	-0.239*** (0.051)	-0.200*** (0.051)	-0.196*** (0.051)	-0.184*** (0.051)	-0.190*** (0.051)	-0.190*** (0.052)
Bridging			0.251*** (0.058)		0.329*** (0.075)				-0.077 (0.056)		-0.015 (0.072)	
Bonding				0.061 (0.056)		0.127* (0.076)				-0.176*** (0.054)		-0.224*** (0.072)
Literacy		0.020 (0.161)	0.053 (0.160)	0.021 (0.161)	0.052 (0.160)	0.021 (0.161)		0.007 (0.154)	-0.005 (0.154)	-0.001 (0.153)	-0.006 (0.154)	-0.0001 (0.153)
Age		-0.0004 (0.005)	-0.0001 (0.005)	-0.001 (0.005)	0.0001 (0.005)	-0.001 (0.005)		-0.011** (0.005)	-0.011** (0.005)	-0.010** (0.005)	-0.011** (0.005)	-0.010** (0.005)
Marital Status		-0.040 (0.026)	-0.049* (0.026)	-0.040 (0.026)	-0.049* (0.026)	-0.040 (0.026)		-0.035 (0.025)	-0.032 (0.025)	-0.035 (0.025)	-0.032 (0.025)	-0.035 (0.025)
Educational Level		0.061* (0.036)	0.046 (0.036)	0.056 (0.036)	0.048 (0.036)	0.058 (0.036)		0.208*** (0.035)	0.212*** (0.035)	0.220*** (0.035)	0.214*** (0.035)	0.219*** (0.035)
Employment Status		0.009 (0.026)	0.011 (0.026)	0.011 (0.026)	0.011 (0.026)	0.011 (0.026)		-0.032 (0.025)	-0.033 (0.025)	-0.037 (0.025)	-0.033 (0.025)	-0.037 (0.025)
Scale Of Incomes		0.027 (0.023)	0.027 (0.023)	0.027 (0.023)	0.026 (0.023)	0.027 (0.023)		-0.006 (0.022)	-0.006 (0.022)	-0.006 (0.022)	-0.006 (0.022)	-0.005 (0.022)
Feeling Of Happiness		0.272*** (0.068)	0.248*** (0.068)	0.266*** (0.069)	0.246*** (0.068)	0.267*** (0.069)		0.104 (0.065)	0.111* (0.066)	0.119* (0.065)	0.109* (0.066)	0.119* (0.065)
State Of Health		0.315*** (0.064)	0.315*** (0.064)	0.316*** (0.064)	0.317*** (0.064)	0.318*** (0.064)		0.071 (0.061)	0.071 (0.061)	0.067 (0.061)	0.073 (0.061)	0.066 (0.061)
Violence respect:Bridging					-0.081 (0.049)						-0.063 (0.047)	
Violence respect:Bonding						-0.062 (0.048)						0.045 (0.046)
Constant	7.432*** (0.098)	7.362*** (0.098)	7.354*** (0.099)	7.365*** (0.098)	7.355*** (0.099)	7.364*** (0.098)	7.866*** (0.093)	7.790*** (0.094)	7.793*** (0.094)	7.784*** (0.093)	7.793*** (0.094)	7.784*** (0.093)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,259.6	-6,223.1	-6,215.9	-6,224.5	-6,216.7	-6,225.8	-6,145.3	-6,106.5	-6,107.5	-6,103.2	-6,108.7	-6,104.9
Akaike Inf. Crit.	12,527.2	12,470.3	12,457.9	12,475.1	12,461.4	12,479.6	12,298.7	12,237.1	12,241.1	12,232.4	12,245.5	12,237.8
Bayesian Inf. Crit.	12,550.7	12,540.7	12,534.1	12,551.3	12,543.4	12,561.7	12,322.2	12,307.4	12,317.3	12,308.6	12,327.6	12,319.8

Note:

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

APPENDIX 14: REGRESSION SEXUAL PARTNERS

Regression Results for All Models: Sexual Partners Only

	<i>Dependent variable:</i>											
	SelfEfficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Sexual Partners	-0.065 (0.054)	-0.051 (0.054)	-0.074 (0.054)	-0.060 (0.054)	-0.069 (0.054)	-0.053 (0.055)	-0.236*** (0.052)	-0.203*** (0.051)	-0.197*** (0.052)	-0.181*** (0.052)	-0.192*** (0.052)	-0.181*** (0.052)
Bridging			0.255*** (0.058)		0.327*** (0.075)				-0.069 (0.056)		0.001 (0.072)	
Bonding				0.065 (0.056)		0.122 (0.077)				-0.170*** (0.054)		-0.171** (0.073)
Literacy		0.018 (0.161)	0.051 (0.160)	0.019 (0.161)	0.053 (0.160)	0.024 (0.161)		-0.0003 (0.154)	-0.011 (0.154)	-0.007 (0.153)	-0.010 (0.154)	-0.007 (0.153)
Age		-0.0004 (0.005)	-0.0001 (0.005)	-0.001 (0.005)	0.0002 (0.005)	-0.001 (0.005)		-0.011** (0.005)	-0.011** (0.005)	-0.010** (0.005)	-0.011** (0.005)	-0.010** (0.005)
Marital Status		-0.040 (0.026)	-0.048* (0.026)	-0.039 (0.026)	-0.048* (0.026)	-0.039 (0.026)		-0.032 (0.025)	-0.030 (0.025)	-0.033 (0.025)	-0.030 (0.025)	-0.033 (0.025)
Educational Level		0.060* (0.036)	0.045 (0.036)	0.056 (0.036)	0.046 (0.036)	0.056 (0.036)		0.208*** (0.035)	0.212*** (0.035)	0.220*** (0.035)	0.214*** (0.035)	0.220*** (0.035)
Employment Status		0.009 (0.026)	0.010 (0.026)	0.010 (0.026)	0.010 (0.026)	0.011 (0.026)		-0.035 (0.025)	-0.035 (0.025)	-0.039 (0.025)	-0.035 (0.025)	-0.039 (0.025)
Scale Of Incomes		0.028 (0.023)	0.028 (0.023)	0.028 (0.023)	0.027 (0.023)	0.027 (0.023)		-0.004 (0.022)	-0.004 (0.022)	-0.004 (0.022)	-0.004 (0.022)	-0.004 (0.022)
Feeling Of Happiness		0.271*** (0.068)	0.247*** (0.068)	0.265*** (0.069)	0.246*** (0.068)	0.266*** (0.069)		0.098 (0.065)	0.105 (0.066)	0.114* (0.065)	0.104 (0.066)	0.114* (0.065)
State Of Health		0.315*** (0.064)	0.315*** (0.063)	0.316*** (0.064)	0.319*** (0.064)	0.318*** (0.064)		0.074 (0.061)	0.074 (0.061)	0.070 (0.061)	0.078 (0.061)	0.070 (0.061)
SP:Bridging					-0.075 (0.049)						-0.073 (0.047)	
SP:Bonding						-0.053 (0.048)						0.001 (0.045)
Constant	7.436*** (0.097)	7.367*** (0.097)	7.368*** (0.098)	7.372*** (0.097)	7.373*** (0.098)	7.375*** (0.097)	7.854*** (0.093)	7.784*** (0.093)	7.784*** (0.093)	7.774*** (0.092)	7.790*** (0.093)	7.774*** (0.092)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,259.4	-6,223.0	-6,215.5	-6,224.3	-6,216.4	-6,225.8	-6,145.7	-6,106.4	-6,107.6	-6,103.5	-6,108.5	-6,105.7
Akaike Inf. Crit.	12,526.9	12,470.1	12,457.1	12,474.6	12,460.9	12,479.7	12,299.5	12,236.9	12,241.3	12,233.0	12,245.1	12,239.4
Bayesian Inf. Crit.	12,550.4	12,540.4	12,533.3	12,550.8	12,543.0	12,561.7	12,322.9	12,307.2	12,317.5	12,309.2	12,327.2	12,321.4

Note:

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

APPENDIX 15: REGRESSION WORRIES

Regression Results for All Models: Worries Only

	<i>Dependent variable:</i>											
	SelfEfficacy						FPSE					
	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4	Model 1	Model 2	Model 3	Model 3	Model 4	Model 4
Worries	-0.133** (0.054)	-0.103* (0.054)	-0.125** (0.054)	-0.111** (0.054)	-0.125** (0.055)	-0.098* (0.055)	-0.269*** (0.052)	-0.225*** (0.052)	-0.219*** (0.052)	-0.205*** (0.052)	-0.210*** (0.052)	-0.202*** (0.053)
Bridging			0.260*** (0.058)		0.260*** (0.058)				-0.068 (0.056)		-0.064 (0.056)	
Bonding				0.070 (0.056)		0.083 (0.057)				-0.169*** (0.054)		-0.167*** (0.054)
Literacy		0.011 (0.161)	0.044 (0.160)	0.012 (0.161)	0.044 (0.160)	0.011 (0.161)		-0.015 (0.154)	-0.025 (0.154)	-0.021 (0.153)	-0.025 (0.154)	-0.021 (0.153)
Age		-0.0003 (0.005)	-0.0001 (0.005)	-0.001 (0.005)	-0.0001 (0.005)	-0.001 (0.005)		-0.011** (0.005)	-0.011** (0.005)	-0.010** (0.005)	-0.011** (0.005)	-0.010** (0.005)
Marital Status		-0.041 (0.026)	-0.050* (0.026)	-0.041 (0.026)	-0.050* (0.026)	-0.041 (0.026)		-0.036 (0.025)	-0.034 (0.025)	-0.036 (0.025)	-0.034 (0.025)	-0.037 (0.025)
Educational Level		0.057 (0.036)	0.041 (0.036)	0.052 (0.036)	0.041 (0.036)	0.053 (0.036)		0.206*** (0.035)	0.210*** (0.035)	0.218*** (0.035)	0.212*** (0.035)	0.218*** (0.035)
Employment Status		0.009 (0.026)	0.011 (0.026)	0.011 (0.026)	0.011 (0.026)	0.012 (0.026)		-0.032 (0.025)	-0.033 (0.025)	-0.036 (0.025)	-0.033 (0.025)	-0.036 (0.025)
Scale Of Incomes		0.027 (0.023)	0.027 (0.023)	0.027 (0.023)	0.027 (0.023)	0.026 (0.023)		-0.006 (0.022)	-0.006 (0.022)	-0.006 (0.022)	-0.006 (0.022)	-0.006 (0.022)
Feeling Of Happiness		0.270*** (0.068)	0.245*** (0.068)	0.263*** (0.069)	0.245*** (0.068)	0.264*** (0.068)		0.094 (0.065)	0.101 (0.065)	0.110* (0.065)	0.102 (0.066)	0.110* (0.065)
State Of Health		0.309*** (0.064)	0.308*** (0.064)	0.310*** (0.064)	0.308*** (0.064)	0.315*** (0.064)		0.066 (0.061)	0.066 (0.061)	0.063 (0.061)	0.068 (0.061)	0.064 (0.061)
Worries:Bridging					0.0003 (0.048)						-0.048 (0.046)	
Worries:Bonding						-0.068 (0.047)						-0.015 (0.045)
Constant	7.377*** (0.084)	7.322*** (0.084)	7.302*** (0.086)	7.319*** (0.084)	7.302*** (0.086)	7.330*** (0.084)	7.644*** (0.081)	7.606*** (0.081)	7.611*** (0.081)	7.615*** (0.080)	7.617*** (0.081)	7.617*** (0.081)
Observations	2,603	2,594	2,594	2,594	2,594	2,594	2,603	2,594	2,594	2,594	2,594	2,594
Log Likelihood	-6,257.1	-6,221.6	-6,213.8	-6,222.8	-6,215.9	-6,223.9	-6,142.6	-6,104.7	-6,105.9	-6,101.7	-6,107.5	-6,103.9
Akaike Inf. Crit.	12,522.3	12,467.3	12,453.6	12,471.7	12,459.9	12,475.9	12,293.3	12,233.4	12,237.9	12,229.6	12,243.1	12,235.8
Bayesian Inf. Crit.	12,545.8	12,537.7	12,529.8	12,547.9	12,541.9	12,558.0	12,316.7	12,303.7	12,314.1	12,305.7	12,325.2	12,317.9

Note:

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