Forum for Social Economics

ISSN: 0736-0932 (Print) 1874-6381 (Online) Journal homepage: https://www.tandfonline.com/loi/rfse20

Effects of Higher Spousal Earnings on Women's Social Empowerment in Ghana

Nkechi S. Owoo, Monica P. Lambon-Quayefio & Nicole Amara Onuoha

To cite this article: Nkechi S. Owoo, Monica P. Lambon-Quayefio & Nicole Amara Onuoha (2019): Effects of Higher Spousal Earnings on Women's Social Empowerment in Ghana, Forum for Social Economics, DOI: 10.1080/07360932.2019.1627671

To link to this article: https://doi.org/10.1080/07360932.2019.1627671

Forum for Social Economics, 2019
Vol. 0, No. 0, 1–27, https://doi.org/10.1080/07360932.2019.1627671

Effects of Higher Spousal Earnings on Women's Social Empowerment in Ghana

Nkechi S. Owoo[1], Monica P. Lambon-Quayefio[1] and Nicole Amara Onuoha[2]

[1]*Economics Department, University of Ghana, Legon, Ghana;* [2]*School of Public Health, Boston University, Talbot Building, Boston, MA, USA*

Abstract Existing research shows that access to employment and earnings appears to have ambiguous effects on women's bargaining power and subsequent empowerment. This study explores the effect of higher relative earnings by women on the likelihood of social empowerment and examines to what extent the relationship is moderated by husbands' education levels. The 2008 and 2014 rounds of the Ghana Demographic and Health Survey are used for the analyses, and a Probit regression model, with interaction effects, is employed as a base model. In order to account for potential selectivity bias, a propensity matching technique is also employed. Findings indicated a strong positive relationship between wives' higher earnings in Ghanaian households and a higher probability of social empowerment. The relationship appears to be moderated, to a significant extent, by partners' education—the presence of educated husbands widens the social empowerment gap between women who earn more than their husbands and women who do not. Although the effect of differential earnings on social empowerment is smaller once selectivity was controlled for, the positive relationship is consistent. Other findings highlighted the role of various occupations, age at marriage, education, religion as contributory factors to women's empowerment in Ghana, with attendant implications for policy.

Keywords: social empowerment, earnings, reproductive health, propensity score, Ghana

Supplemental data for this article is available online at https://doi.org/10.1080/07360932.2019.1627671.

I. INTRODUCTION

Improvements in gender equality and the empowerment of women and girls are integral to achieving the Sustainable Development Goals (SDGs). Empowerment refers generally to the enhancement of freedom of choice and action and is particularly important because of its implications for poverty reduction and household welfare. Empowerment of individuals contributes to poverty reduction through the removal of barriers that would otherwise prevent them from taking decisions to enhance their level of living. Although women can be empowered in many ways; socially, economically, politically and legally, the present study focuses on the social construct of empowerment, as it relates to the freedom and ability to wield significant control over one's own reproductive health (Bandiera et al., 2017).

Sexual and reproductive health and associated rights are crucial for empowering women and facilitating gender equality. Women's ability to exercise their sexual and reproductive rights to make choices about their sexual and reproductive life, and about whether and when to have children, is a central component of gender equality. In a number of developing countries, progress with women's empowerment relating to their capacity for reproductive decision-making is slow (Doepke, Tertilt, & Voena, 2012), and studies demonstrate an imbalance in decision-making about the use of contraceptives in a number of developing-country settings (Speizer, Whittle, & Carter, 2005). Where couples disagree about the use of family planning techniques, the male partner's opinion often overrules his female partner, even though females are more closely linked with the outcomes of these decisions (Bankole & Singh, 1998; Becker, 1999; Speizer, 1999).

Access to employment and earnings have been identified as one of the pathways to increasing women's empowerment (Allendorf, 2007; Anderson & Eswaran, 2009). In Ghana, employment and earnings disparities continue to persist, with less-than-desired progress on gender equality and women's social empowerment. According to the 2015 Ghana Labour Report, a slightly higher proportion of men (71.4%) are employed, compared to women (64.7%). Majority of Ghanaian workers (approximately 90%) are employed in the informal sector, with males constituting 45.1% and females, 54.9%. The informal economy operates on a small-scale basis, with low levels of organization. It is characterized by low skill, low productivity and subsequently, low contribution per head (Abraham, Ohemeng, & Ohemeng, 2017). On average, currently employed persons in the country earn on average of GH¢898; with males (GH¢1,011) earning about 30% higher compensations than females (GH¢715). These differences in earnings may have implications for women's

empowerment status and their autonomy over decisions relating to their reproductive health.

Indeed, a major indicator of progress with empowerment may be women's freedoms to make decisions regarding their own sexual reproductive health. In Ghana, there remains some progress to be made in promoting equal rights and opportunities between men and women. Although gender relations in Ghana may be perceived as more egalitarian, compared to other countries in the African region, there is room for improvement. Using data from the 2008 and 2014 waves of the Ghana Demographic and Health Survey (GDHS), only about three-quarters of women report having some control over their reproductive health. The study examines reasons why the remainder of women are not similarly empowered. Low education levels of women, combined with low earnings capacity, are singled out as important deterrents to social empowerment. In Ghana, differences in labour market returns between men and women are well-noted. Women are often segregated into less prestigious and low-rewarding jobs, leading to lower pay (Baah-Boateng, 2012). This situation, combined with low education attainment of girls, is related with a lower degree of own control over women's reproductive health.

A 2008 Gender Profile Assessment conducted by the African Development Bank (AfDB) reinforced the fact that gender inequality remains persistent despite constitutional and other legislative provisions made to protect and secure the rights of women, a situation which undermines existing local and national efforts at improving welfare outcomes. The targets entrenched in the SDGs, particularly in Goals 3 and 5, indicate behavioural linkages among women's reproductive health, human capital, labour force participation, productivity and poverty.

The present study therefore examines the factors that inhibit and encourage women's social empowerment with respect to their reproductive health, with particular focus on the role of earnings differentials between couples. Although probit regressions are employed as the base model specification, propensity score matching (psm) techniques are also used to account for potential self-selection bias with the study. There is a concern that women may self-select into very high-paying jobs, thereby sorting themselves into groups which may differ on the underlying factors which motivated their decision. For example, more motivated women may "self-select" to higher paying jobs; and this higher motivation and self-confidence, rather than their higher relative earnings, could actually account for their higher social empowerment. To remove the threat of validity therefore, statistical techniques such as instrumental variables, structural equation modelling, and propensity scores are available to confront some of the biases characteristic of observational studies of women's social empowerment.

The present study employs the propensity matching technique to deal with this. The research objectives are summarized below:

1. Are women more likely to be socially empowered when they have relatively higher earnings than their partners?
2. Given social and cultural expectations of women's reproductive responsibilities, do these effects differ between women above 40 years of age, who have likely completed their fertility, and women below 40 years of age, who are less likely to have completed their fertility? It is expected that women who are above 40 years of age and likely to have completed their fertility would be more socially empowered as they may feel less pressure to have children.
3. Are these effects (if any) moderated by women's partners' education? It is expected that husbands who are educated may be more accommodating—even in the instance where a woman is earning more—and feel less pressure to conform with social and/or cultural expectations. This situation may then allow a woman to freely communicate her feelings about her reproductive health.

The present study proposes a focus on women's labour market opportunities and earnings potential, vis-à-vis that of her partner, given that the existing literature identifies a woman's bargaining power to affect welfare outcomes as more effective when it is measured relative to her spouse's/partner's (Gibson-Davis, Magnuson, Gennetian, & Duncan, 2005; Heise, 2011; Resko, 2010). Although it may be unrealistic, and perhaps even unethical, for policy-makers to articulate a policy that promotes differences in relative earnings between men and women, the study attempts to provide an evidence-based impetus for improving the scope of women's earning potential in Ghana as it could have far-reaching implications for welfare outcomes at the individual and macro-levels. Studies like these are important because they highlight economics as more societal- and human-focused field and demonstrate how human behaviour and interactions can lead to socially desired outcomes and therefore inform policy and other institutional adjustments (Hellmich, 2017) . There is also the need for this area of research (i.e. socioeconomics) to clarify how customs and contracts are negotiated (Streeck, 2010)—in the present case, how women's household bargaining power, proxied by her relative earnings, affects her own social empowerment, despite the social and cultural milieu in Ghana.

Despite the relevance of these relationships, no study, to the best of the author's knowledge, has examined the effects of differential earnings between couples, on women's level of social empowerment in Ghana. Similarly, no studies have examined the moderating influence of husband's education levels.

A second contribution of the present research is by the use of nationally representative data in the examination of these relationships in the African context. Studies that have examined effects of income and employment on empowerment measures have generally not been nationally representative (Bates, Maselko, & Schuler, 2007; Lee-Rife, 2010). Of the studies that have employed nationally representative data, these have largely focused on outcomes in South Asia (Bhatt, 1989; Dyson & Moore, 1983; Vlassoff, 1982).

The remainder of the article is structured as follows: Section II briefly discusses the literature on the measurement of empowerment while Section III describes the data and presents some relevant summary statistics. Section IV discusses the empirical methodology, while Section V presents results from empirical specifications and discusses these. Section VI concludes with a number of policy recommendations derived from the study.

II. EARNINGS AND WOMEN'S EMPOWERMENT—THEORETICAL AND EMPIRICAL CONSIDERATIONS

According to the intra-household bargaining literature, access to economic resources contributes in a significant way to women's degree of empowerment within the household (Blumberg, 2005; Browning & Chiappori, 1998; Duflo, 2003). Women tend to have a higher bargaining power with higher incomes, assets and educational achievements, which might have implications for their decision-making authority (Agarwal, 2001). Empowerment has however been described more as a "process", than a state of being, and the ever-evolving nature of empowerment presents some challenges to its measurement. Proxies such as employment and education which have therefore traditionally been used as indicators for women's levels of empowerment face some criticism (Ackerly, 1995; Kishor, 2000; Woldemicael, 2009) as they are more suggestive of a state of being, than an ever-changing process. An increasing body of researchers has therefore argued that these proxies for empowerment may be misleading. For instance, it would be difficult to perceive a woman who works, earns an income but still shoulders an overwhelming share of childcare and domestic responsibilities as being empowered. In response, recent literature highlights new strategies to capture the process of empowerment through measures of decision-making and control/choice.

Recent literature tends to relegate employment status and earning capacity as controls in regression models of empowerment (Blumberg, 2005). The rationale here is that employment and earnings enhance women's economic and bargaining power within the household (Ashraf, Karlan, & Yin, 2010; Majlesi, 2016) but are not adequate measures of the process of empowerment. It has been

suggested that attention be paid less to income holdings of women, and instead, to the enhanced *control* over household resources that this higher income brings. For example, Kabeer (1997) found that access to earnings did not improve the bargaining power of Bangladesh women in their households. Another study on the effects of micro-finance in India found no effects on female decision-making power in the household (Banerjee, Duflo, Glennerster, & Kinnan, 2015). Indeed, women's access to income may not translate to increased bargaining power if their earnings are not on a large enough scale to be fundamental to the household. This may occur in the situation where the husband earns more than his wife and therefore provides sufficiently for the household, even in the absence of women's earnings (Endeley, 2001; Kibria, 1995; Malhotra & Mather, 1997). The marital dependence theory argues that women who are more dependent on their husbands for support are less empowered because these women have few economic resources and cannot easily exit an abusive relationship (Kalmuss & Strauss, 1982). Conversely, women who earn sufficient income are less vulnerable, may have more household bargaining power and may therefore be more empowered.

In situations where women earn relatively more than their husbands therefore, the conclusions may be different. A woman who earns more than her husband may be expected to contribute in more significant ways to the household, be significantly involved in household decision-making processes and therefore be more socially empowered. This is consistent with the relative resource theory (Gupta, 2007; Risman, 2011). The relative resource theory predicts that women who have a higher income-earning status than their partners also enjoy higher household bargaining power and contend with less abuse (Gibson-Davis et al., 2005; Heise, 2011; Resko, 2010).

This is not always the case, however, and in some cases, women suffer worse outcomes when they earn relatively more than their partners. Using data on Canada, Macmillan and Gartner (1999) found that Canadian women's participation in the labour market was associated with a lower risk of spousal violence when their partners were employed, but significantly increased when partners were unemployed. Cools and Kotsadam (2017) find that, using Demographic and Health surveys of women in sub-Saharan Africa, women with more years of schooling than their partners are more likely to be abused. Indeed, power theories like the male backlash model posit that women who have more resources than their male partners may be at a higher risk of mistreatment. This is because the household or family is perceived to be a power system where men will use various means at their disposal to ensure their continued dominance and control (Vyas & Watts, 2009).

Theories such as the male backlash and relative resource models therefore imply that women who are breadwinners and who have traditional husbands

may be at a higher risk of abuse from their husbands and subject to unequal relations at home. Indeed, in a setting like Ghana, where social and cultural views and belief systems continue to persist, and gender is closely associated with socially and culturally constructed roles, men are viewed as breadwinners and the head of the household. Men who rigidly adhere to these kinds of socially constructed values of male and female behaviour, and traditional gender-roles, may experience negative psychological effects when these roles are violated (Levant, 2011). With changing norms brought about by increasing education and Westernization, however, male partners may be more open-minded and feel less threatened by higher earnings of their wives. Indeed, existing research has found that more educated individuals tend to be more open to ideas and practice of egalitarianism within households (Bolzendahl & Myers, 2004; Kyoore & Sulemana, 2019). More educated male partners are therefore likely to be more progressive and tolerant, enabling women to take more control of their reproductive health in this more conducive environment. We hypothesize that while higher-earning women may be more socially empowered, this effect of higher relative earnings on social empowerment is likely to be enhanced by educated male partners. These are assertions that the paper tests empirically.

The present study focuses on social empowerment in the Ghanaian context, proxied by women's ability to ask their partners to use condoms during sexual activity. An important feature of this empowerment measure is its context specificity (Malhotra & Schuler). In Ghana, evidence suggests that family planning services and contraceptive use can cause tensions in gender relations within the household. In the Ghanaian society, where payment of bride-wealth signifies a woman's requirement to bear children, there are deeply ingrained expectations about women's reproductive obligations (Bawah, Akweongo, Simmons, & Phillips, 1999). Neoclassical economics tended to view women's primary role as wives and mothers (Hewitson, 2013); sexual division of labour was deemed to be critical to economic progress and while men worked and earned wages, women stayed home and nurtured children.

In Ghana, these sentiments persist, and women's roles are defined less as labour market contributors and more as reproductive units of men (Amanor-Wilks, 2009). Anyidoho and Manuh (2010) point out that social expectations of womanhood in the Ghanaian context continues to be geared around their ability and responsibility to reproduce, a source of disempowerment of women, and a situation which significantly reduces their access to productive resources such as education. This is worthy of concern, given that access to education and work opportunities have been acknowledged as critical to women's empowerment (Darkwah, 2010).

Similar to other researchers who have employed context-specific measures of empowerment in their studies (e.g. Lee-Rife, 2010; Upadhyay & Hindin,

2005) to reflect locally defined dimensions of women's status, this research employs a contextually specific social empowerment measure. Women's ability to choose and exercise their reproductive rights, in a cultural setting like Ghana where high fertility is encouraged, is therefore critical to an assessment of their wellbeing and empowerment. Additionally, according to Harper, Nowacka, Alder, and Ferrant (2014), a woman's ability to exercise control over sexual and reproductive choices is a good measure of their empowerment. The focus on social context is aligned with work on post-colonial feminism, which attempts to incorporate the voices and experiences of women from non-Western cultures and allows them to participate in the global construction of economic well-being (Aguinaga, Lang, Mokrani, & Santillana, 2013; Moser, 1993).

It is important to note that the present study focuses on women's *attitudes* and *behaviours* surrounding their reproductive health. The ability of a woman to insist that her partner uses contraceptives during sexual activity may be perceived as an indicator of changing social norms, as opposed to the actual *use* of contraceptives as an indicator of empowerment. This is because low contraceptive use may be a consequence of limited access to contraceptives due to lower supply, and therefore not necessarily indicative of lower empowerment. Conversely, even where contraceptives use is high, this may be less indicative of higher empowerment, and instead due to an increased availability of contraceptives.

III. DATA

The study uses pooled data from the 2008 and 2014 rounds of the Ghana Demographic and Health Survey (GDHS) and is restricted to the sample of married and working women in the year preceding the survey. The GDHS is a nationally representative survey that includes information on women between 15 and 49 years of age. Individual and household data are collected from the then-ten (10) regions of Ghana in 2008 and 2014; six (6) extra regions were created in 2018. Summary statistics are pooled from the 2008 and 2014 waves of the GDHS (see Table 1). Descriptive statistics for the analytic sample are disaggregated by women who earn more than their spouses and women who do not (i.e. earn less or the same as their husbands). Survey weights are employed in the construction of these descriptive statistics.

About 73% of the married women in the sample report that they are able to ask their partners to use condoms during sexual activity. This is the proxy for social empowerment used in this study. Married women who are able to ask their partners to use protection during sexual activity are perceived to be more empowered than women who report that they cannot. As mentioned above, this

Table 1: Summary Statistics, Pooled Data, GDHS 2008 and 2014.

	Aggregate		Not Earn More (NE)		Earn More (*E*)		*T*-Tests	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*NE-E*[4]	*T-stats*
Socially Empowered	0.73	0.44	0.73	0.45	0.78	0.41	–0.07***	(–3.67)
Wife earns more	0.11	0.31	–	–	–	–	–	–
Wife earns less	0.80	0.40	–	–	–	–	–	–
Wife earns same	0.09	0.29	–	–	–	–	–	–
Husband Education (i.e. at least Primary education)	0.84	0.37	0.83	0.37	0.86	0.35	–0.06**	(–3.18)
Woman age	34.23	7.71	33.94	7.65	36.64	7.75	–2.57***	(–7.36)
Spousal age difference	6.66	6.25	6.75	6.26	5.9	6.12	0.68**	(2.31)
Age at first marriage	20.01	4.74	20.01	4.73	20.03	4.79	–0.16	(–0.76)
No education (Woman)	0.24	0.43	0.24	0.43	0.20	0.4	0.07***	(3.30)
Primary education (Woman)	0.21	0.4	0.21	0.41	0.19	0.39	0.02	(1.16)
Secondary education (Woman)	0.49	0.5	0.49	0.5	0.51	0.5	–0.05*	(–2.11)
Post-secondary education (Woman)	0.06	0.24	0.06	0.23	0.1	0.29	–0.04***	(–4.13)
Number of living children	3.15	1.99	3.13	1.99	3.32	1.96	–0.14	(–1.49)
Religion								
Christian	0.81	0.39	0.81	0.39	0.81	0.39	–0.00	(–0.00)
Muslim	0.12	0.32	0.12	0.33	0.11	0.31	0.00	(0.26)
Traditionalist	0.04	0.19	0.04	0.19	0.03	0.17	0.01	(0.95)
No religion	0.04	0.19	0.03	0.18	0.05	0.22	–0.01	(–1.47)
Household wealth scores	20852.52	97545.15	19088.12	98289.34	35685.02	89593.27	–25022.5***	(–5.58)
Woman's Occupation								
Professional/Tech/Managerial	0.06	0.24	0.06	0.24	0.1	0.3	–0.04***	(–3.81)

(*Continued*)

	Aggregate		Not Earn More (NE)		Earn More (*E*)		*T*-Tests	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*	*NE-E*[4]	*T-stats*
Clerical	0.01	0.11	0.01	0.12	0.01	0.1	0.00	(0.12)
Sales	0.47	0.5	0.46	0.5	0.58	0.49	–0.14***	(–6.49)
Agric (Employee)	0	0.06	0	0.06	0	0.04	0.00	(0.84)
Agric (self-employed)	0.27	0.44	0.29	0.45	0.12	0.33	0.20***	(9.75)
Services	0.05	0.22	0.05	0.22	0.05	0.21	0.00	(0.35)
Skilled manual	0.12	0.32	0.12	0.32	0.13	0.34	–0.02	(–1.26)
Unskilled manual	0.01	0.11	0.01	0.11	0.01	0.11	–0.00	(–0.85)
Locational Variables								
Urban	0.49	0.5	0.48	0.5	0.57	0.49	–0.11***	(–4.72)
Western	0.1	0.31	0.1	0.31	0.11	0.31	–0.02	(–1.13)
Central	0.1	0.3	0.1	0.3	0.11	0.32	–0.02	(–1.51)
Greater Accra	0.19	0.39	0.19	0.39	0.23	0.42	–0.03	(–1.90)
Eastern	0.09	0.29	0.09	0.28	0.13	0.34	–0.05***	(–3.97)
Volta	0.1	0.3	0.1	0.3	0.1	0.3	–0.01	(–0.66)
Ashanti	0.2	0.4	0.21	0.4	0.19	0.39	0.00	(0.23)
Brong Ahafo	0.08	0.27	0.08	0.27	0.05	0.22	0.04**	(2.87)
Northern	0.07	0.25	0.07	0.26	0.03	0.18	0.06***	(4.20)
Upper East	0.04	0.21	0.05	0.21	0.03	0.16	0.03**	(1.97)
Upper West	0.02	0.13	0.02	0.13	0.02	0.12	0.00	(0.37)
Year (2008)	0.37	0.48	0.37	0.48	0.37	0.48	–0.01	(–0.43)
Observations	5335		4786		549		5335	

t statistics in parentheses:.

*$p < 0.10$.

**$p < 0.05$.

***$p < 0.01$.

is likely to be because of the cultural and social expectations of the reproductive responsibility of women in this setting.

The question "Would you say that the money that you earn is more than what your (husband/partner) earns, less than what he earns, or about the same" is asked to only women who report that they have been engaged in market work in the past year. The possible responses were "More than him"; "less than him; "about the same; "husband or partner has no earnings"; "don't know". Approximately 5% of women in the sample in 2008 and 2014 datasets responded that partners had no earnings, or they did not know. These women (305 of them) were dropped from the analysis. About 11% of women reported that they earn more than their husbands; 80% of women earn less than their partners; while 9% have the same earnings as their partners.

Male partners' education is categorized into two—men with above-primary education and men with no formal education.[1] About 80% of women report that their partners have at least a primary school education (i.e. primary, secondary or post-secondary education). The proportion is slightly higher among women who earn more than their partners.

The average age of women in the sample is 34 years of age, and on average, men are about 7 years older than their partners, with a larger spousal age difference among women who do not earn more than their husbands. The age at first marriage among women in the sample is about 19.5 years and women have an average of three children, with no significant differences between women of both relative earnings categories.

Twenty-four percent of women have had no formal education. While 21% of women have had a primary school education, the largest proportion of women (49%) have secondary school education. Only 6% of women report that they have had a post-secondary education.

A dominant proportion (80%) of women belong to the Christian religion and there are no significant differences in religious affiliation between women who earn more than their partners, and women who do not. Examining wealth scores, women who earn more than their husbands are from wealthier households, compared to women who do not earn more than their partners. Forty-nine percent of the sample resides in urban areas, with a significantly higher proportion of women who earn more than their husbands living in these urban centres.

A majority of women work in the sales industry (47%), followed by self-employed agricultural workers (27%). A larger proportion of women who earn more than their partners are professional and managers, and also engaged in the

[1] In a separate specification, we examine the moderating effect of men with secondary and post-secondary school education, who make up 75% of the sample

sales industry, compared to women who do not earn more than their partners. The reverse is true for self-employed agricultural workers—a larger proportion of relatively lower-earning wives are found in this sector.

Regional controls are also included in the model—there are significantly different concentrations of women who earn more and women who do not in regions such as the Greater Accra region, Eastern, Brong Ahafo, Northern and Upper East regions. While a significantly larger concentration of relatively higher-earning women is found in the Greater Accra and Eastern regions; a larger concentration of women who do not earn more than their husbands is found in the Brong Ahafo, Northern and Upper East regions, indicating some significant variations in relative spousal earnings by north/south regions. Contextually, these differences are not surprising—regions like the Greater Accra and Eastern regions tend to have better employment opportunities and higher literacy levels compared to Brong Ahafo, Northern and Upper East regions, according to the country's latest population and housing census.

This information is summarized in Figure 1. Bars below the origin indicate regions where a higher proportion of women earn higher wages than their husbands, while bars above the origin indicate regions where a higher proportion of women do *not* earn more than their husbands. Results indicate that women who earn more than their husbands are concentrated in the southern parts of the country while women who do not earn more than their partners are concentrated in the northern parts of the country. Significance stars indicate which regions display statistically significant differences.

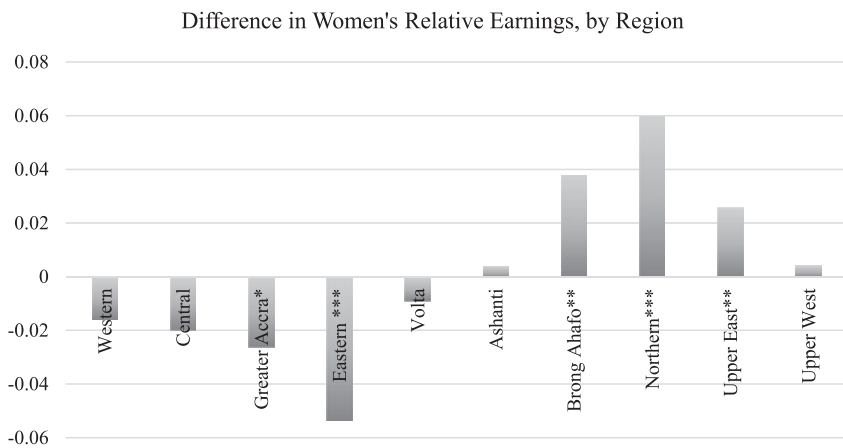

Figure 1:
Relative Earnings of Working Women by Region, GDHS 2008 and 2014.

In addition to earning differentials, it may also be useful to present some information on which types of jobs women in Ghana are engaged in, as this could be an important correlate of earnings differentials. Figure 2 displays relative earnings, by occupational status of women. Women are classified into the following occupations—Professional/Technical/Managerial; Clerical; Sales; Agriculture (self-employed); Agriculture (employee); Services; Skilled manual labour and Unskilled manual labour. A significantly higher proportion of higher earnings women are in the Professional/Technical/Managerial occupation category, as well as in Sales occupations, with the highest proportion of women who earn more than their husbands found in sales occupations. A significantly higher portion of women who do *not* earn less than their husbands are observed to be self-employed agricultural workers. These results, even at this preliminary stage, have important implications for policy-making.

Selection by women into these various occupations could pose a threat to validity in this research and is a basis for the adoption of the propensity score matching technique as an alternative empirical specification in the study.

IV. METHODOLOGY

The empirical analysis uses pooled data from the 2008 and 2014 GDHS and a probit regression estimation technique in the examination of the effect of spousal differential earnings on Ghanaian women's social empowerment.

The model specifications are described below:

Figure 2:
Relative Earnings by Occupational Status of Working Women, GDHS 2008 and 2014.

Model 1

$$S_{Emp_i} = \alpha_0 + \alpha_1 HigherEarnings_i + \alpha_2 Partner\ Education + \alpha_3 X_i + \varepsilon_i \quad (1)$$

Where S_{Emp_i} is a dummy variable for the *i*th woman's social empowerment that takes on a value of 1 if a woman reports that she is able to ask her partner to use protection during sexual activity, and 0 if she reports than she is not. $HigherEarnings_i$ is a dummy variable that takes on a value of 1 if women report that they earn higher incomes than their husbands, and 0 if they report that they earn the same, or lower incomes. *Partner Education* is a dummy variable that takes on a value of 1 if husbands have completed at least a primary school education; it takes on a value of 0 for husbands who do not have any education at all. X_i includes the full set of control variables in the model—the age of women, including a quadratic term; spousal age differences with positive and larger differences observed when husbands are older than wives; dummy variables for women's education attainment levels i.e. none (base category), primary, secondary and post-secondary; dummy variable for whether husbands have at least a primary school education; the age at marriage and its quadratic term; a dummy variable for urban locality; household wealth scores generated from household ownership of assets, constructed using principal component analysis; the number of living children; religion i.e. Christian, Muslim, Traditionalist (base category), None; and women's occupations. Geographical controls are included to account for regional variations—the northern region is assigned as the base category. ε_i represents the error term.

The sample is then disaggregated by women who have completed their fertility, and those who may have not. Here, the regression model above is run separately for women above 40 years of age, who are likely to have completed their fertility; and women younger than forty years, who may not have completed their fertility.

Model 2 is specified differently from Model 1 as it includes interactions between wives' higher earnings and husband's education:

Model 2

$$S_{Emp_i} = \alpha_0 + \alpha_1 HigherEarnings_i + \alpha_3 Partner\ Education + \alpha_4 HigherEarnings{*}PartnerEducation + \alpha_2 X_i + \varepsilon_i \quad (2)$$

HigherEarnings∗PartnerEducation is an interaction term between women's relative earnings and their partner's education. X_i and ε_i are as previously

specified. Again, the model is run separately for women with competed and incomplete fertility.

It is important to note that, in specifications Equations (1) and (2) above, there is the potential for women to self-select into very high-paying jobs, thereby sorting themselves into groups which may differ on the underlying factors which motivated their decision (see Figure 2). For example, more motivated women may "self-select" to higher paying jobs; and this higher motivation and self-confidence, rather than their higher relative earnings, could actually account for their higher social empowerment. A limitation of the probit model is that it is unable to detect and ensure suitable comparability in terms of distribution overlap on observed social, economic, and demographic characteristics. The PSM technique is able to adjust covariates between treatment and control groups and ensure "balance" between both groups so that observed outcomes are more likely to be due to relative earnings. Propensity scores determine each woman's probability of being assigned to the treatment (i.e. receiving higher relative wages, compared to her husband), given the set of observed covariates. Matching on these scores then ensures that women who are equally likely to be assigned to the treatment are compared with each other. In the next step of the analysis, the Average Treatment Effects on the Treated (ATT) is calculated to determine the average effects of women's higher relative earnings on their social empowerment. Although the propensity score model is run as an improvement over the probit regression specifications, an important limitation of the PSM approach is that unobserved characteristics cannot be accounted for in the PSM model, such as women's preferences for a specific kind of a husband.

A radius matching technique is employed. Here, women from the comparison group (i.e. women who do not earn more than their partners) are chosen as matching partners for treated women (i.e. woman who earn more than their partners) based on their position within the propensity range specified and their proximity in terms of the propensity scores. The radius matching technique is useful because it uses only as many comparison units as are available within the propensity range and therefore allows for usage of extra (fewer) units when good matches are (not) available. Hence, it shares the attractive feature of oversampling, but avoids risks of bad matches (Caliendo & Kopeinig, 2005; Dehejia & Wahba, 2002). Balancing tests from the propensity score matching show that balance conditions are satisfied.[2] Results from both the probit and PSM specifications are reported in the next section.

[2] Balancing test results are available upon request

V. RESULTS AND DISCUSSION

This section summarizes results from probit and PSM model specifications. Results are presented first for the probit model (Table 2), and then for the propensity score matching specification (Table 3).

Table 2 summarizes the output for the specifications Equations (1) and (2) under the Probit model. The table is divided into two noticeable columns—one set includes specifications with interaction effects, while the other set does not. In each set, in addition to the full sample, results are also disaggregated by women with complete (i.e. $>=$ 40 years) and incomplete fertility (i.e. $<$ 40 years).

In the first set of regressions without interaction effects, women who earn more than their partners are more likely to be socially empowered, compared to women who do not. This is consistent with the relative resource theory which states that as women earn relatively more resources compared to their spouses, they achieve higher bargaining powers within their respective households. As expected, the coefficients are smaller for women below 40 years of age, who may not have completed their fertility. This is because women who have not completed their fertility may feel some societal pressure to bear more children. Partners may therefore be less tolerant of other benefits of contraceptives, as long as there remains some potential for higher fertility. While earning more than their partners therefore empowers them, they may be less likely to ask partners to use a condom to reduce the likelihood of pregnancy, compared to women who have completed their fertility. The effect of partner's education is also positive and significant. Women who are married to men who have attained at least a primary school education have higher probabilities of social empowerment. This is however only true for women who have not completed their fertility.[3] It is in this instance that a man's education, and subsequent progressiveness, complements a woman's desire for fertility limitation, even in the situation where childbearing is still possible.

With the inclusion of interaction effects, results remain consistent. Women who earn more than their husbands have a higher likelihood of social empowerment. Partner's education significantly increases the likelihood of women's social empowerment, again, particularly among women who have not completed their fertility. Results from the interaction of women's relative earnings and men's education indicate a positive and highly significant relationship. With the inclusion of these interactions, women who earn more than their husbands are more socially empowered, but only significantly so if they are

[3] Similar results are observed among women whose husbands have at least a secondary school education (Appendix 1)

Table 2: Regression Results, GDHS 2008 and 2014.

	With Interactions (Model 1)			With Interactions (Model 2)		
	Full Sample	Complete Fertility	Incomplete Fertility	Full Sample	Complete Fertility	Incomplete Fertility
Woman earns more	0.16**	0.19*	0.16**	0.22	0.21	0.19
	(2.33)	(1.68)	(2.33)	(1.46)	(0.82)	(0.99)
Partner education	0.27***	0.14	0.27***	0.28***	0.14	0.32***
(i.e. at least primary education)[5]	(4.65)	(1.16)	(4.65)	(4.61)	(1.13)	(4.66)
Earn more* Partner education	–	–	–	0.42***	0.33**	0.46***
				(4.58)	(1.99)	(4.06)
Woman's age	0.05**	–1.01	0.05**	0.05**	–1.01	0.02
	(2.21)	(–1.59)	(2.21)	(2.20)	(–1.59)	(0.39)
Woman's age (sq)	–0.00***	0.01	–0.00***	–0.00***	0.01	–0.00
	(–2.69)	(1.56)	(–2.69)	(–2.69)	(1.55)	(–0.41)
Spousal age difference	–0.00	0.00	–0.00	–0.00	0.00	–0.00
	(–1.15)	(0.00)	(–1.15)	(–1.15)	(0.00)	(–1.36)
Age at marriage	0.03	–0.04	0.03	0.03	–0.04	0.08**
	(1.13)	(–0.87)	(1.13)	(1.13)	(–0.87)	(2.30)
Age at marriage (sq)	–0.00	0.00	–0.00	–0.00	0.00	–0.00**
	(–1.43)	(0.63)	(–1.43)	(-1.43)	(0.63)	(–2.48)
Primary education (Woman)	0.13**	0.02	0.13**	0.13**	0.02	0.17**
	(2.16)	(0.20)	(2.16)	(2.16)	(0.20)	(2.44)
Secondary education (Woman)	0.35***	0.28**	0.35***	0.35***	0.28**	0.38***
	(6.01)	(2.46)	(6.01)	(6.00)	(2.46)	(5.44)

(*Continued*)

	With Interactions (Model 1)			With Interactions (Model 2)		
	Full Sample	Complete Fertility	Incomplete Fertility	Full Sample	Complete Fertility	Incomplete Fertility
Post-sec. education (Woman)	0.46***	0.34	0.46***	0.46***	0.34	0.49***
	(3.04)	(0.93)	(3.04)	(3.05)	(0.93)	(2.90)
Number of children	0.01	0.01	0.01	0.01	0.01	0.02
	(0.97)	(0.55)	(0.97)	(0.96)	(0.55)	(0.83)
Christian	0.27***	0.44**	0.27***	0.27***	0.44**	0.21*
	(2.84)	(2.35)	(2.84)	(2.82)	(2.35)	(1.86)
Muslim	0.31***	0.45**	0.31***	0.31***	0.45**	0.26**
	(3.03)	(2.21)	(3.03)	(3.00)	(2.21)	(2.15)
No religion	0.02	0.03	0.02	0.02	0.03	–0.00
	(0.15)	(0.12)	(0.15)	(0.14)	(0.11)	(–0.03)
Household wealth	0.00***	0.00	0.00***	0.00***	0.00	0.00***
	(2.97)	(0.72)	(2.97)	(2.96)	(0.72)	(3.13)
Professional/Technical/	0.29**	0.71**	0.29**	0.29**	0.71**	0.18
Managerial	(2.17)	(2.19)	(2.17)	(2.17)	(2.19)	(1.17)
Clerical	0.34	0.89	0.34	0.34	0.89	0.22
	(1.47)	(1.52)	(1.47)	(1.46)	(1.52)	(0.84)
Sales	0.15***	0.24**	0.15***	0.15***	0.24**	0.11*
	(2.64)	(2.17)	(2.64)	(2.64)	(2.17)	(1.65)
Agriculture (employee)	–0.17	0.34	–0.17	–0.17	0.34	–0.32
	(-0.60)	(0.48)	(-0.60)	(-0.60)	(0.48)	(-1.01)

(*Continued*)

	With Interactions (Model 1)			With Interactions (Model 2)		
	Full Sample	Complete Fertility	Incomplete Fertility	Full Sample	Complete Fertility	Incomplete Fertility
Service	0.39***	0.80**	0.39***	0.39***	0.80***	0.30**
	(3.31)	(2.58)	(3.31)	(3.31)	(2.58)	(2.32)
Skilled manual labour	0.10	0.29**	0.10	0.10	0.29**	0.03
	(1.47)	(2.02)	(1.47)	(1.45)	(2.01)	(0.36)
Unskilled manual	0.58***	0.52	0.58***	0.57***	0.52	0.62**
Labour	(2.76)	(1.22)	(2.76)	(2.75)	(1.22)	(2.52)
Urban	0.04	0.15	0.04	0.04	0.15	−0.01
	(0.71)	(1.40)	(0.71)	(0.72)	(1.40)	(–0.12)
Western	–0.24**	–0.12	–0.24**	–0.24**	–0.12	–0.27**
	(–2.51)	(–0.61)	(–2.51)	(–2.52)	(–0.62)	(–2.44)
Central	0.10	0.36*	0.10	0.10	0.36*	0.02
	(1.07)	(1.81)	(1.07)	(1.05)	(1.80)	(0.20)
Greater Accra	0.17	0.18	0.17	0.17	0.18	0.17
	(1.59)	(0.84)	(1.59)	(1.58)	(0.83)	(1.39)
Eastern	0.22**	0.50***	0.22**	0.22**	0.50***	0.14
	(2.41)	(2.65)	(2.41)	(2.38)	(2.63)	(1.33)
Volta	–0.05	0.06	–0.05	–0.05	0.06	–0.07
	(-0.51)	(0.33)	(–0.51)	(–0.53)	(0.33)	(–0.64)
Ashanti	–0.28***	–0.17	–0.28***	–0.28***	–0.17	–0.30***
	(–3.09)	(–0.92)	(–3.09)	(–3.11)	(–0.92)	(–2.84)

(*Continued*)

	With Interactions (Model 1)			With Interactions (Model 2)		
	Full Sample	Complete Fertility	Incomplete Fertility	Full Sample	Complete Fertility	Incomplete Fertility
Brong Ahafo	0.24**	0.56***	0.24**	0.23**	0.55***	0.15
	(2.56)	(2.81)	(2.56)	(2.55)	(2.80)	(1.45)
Upper East	1.07***	1.23***	1.07***	1.07***	1.23***	1.02***
	(10.45)	(5.73)	(10.45)	(10.45)	(5.73)	(8.75)
Upper West	0.44***	0.55***	0.44***	0.44***	0.55***	0.41***
	(4.38)	(2.66)	(4.38)	(4.37)	(2.65)	(3.53)
Year (2008)	0.18***	0.28***	0.18***	0.18***	0.28***	0.15***
	(4.37)	(3.31)	(4.37)	(4.36)	(3.30)	(3.13)
Constant	–1.23***	22.82	–1.23***	–1.23***	22.76	–1.16*
	(–2.68)	(1.60)	(–2.68)	(–2.69)	(1.59)	(–1.71)
N	5335.00	1257.00	5335.00	5335.00	1257.00	4078.00

t statistics in parentheses.

*$p < 0.10$.

**$p < 0.05$.

***$p < 0.01$.

Table 3: Propensity Score Matching, Stratification Technique, GDHS (2008 and 2014).

Variable	Sample	Treated	Controls	Difference	SE	*t*-statistics
Social Empowerment	Average Treatment on the Treated (ATT)	0.791	0.745	***0.046***	0.019	2.41

married to educated men. This finding is particularly true for women who have not completed their fertility and would be most likely to opt for some protection against pregnancy. Husbands' higher education and consequent lower conformity to societal and/or cultural expectations, may allow a woman to freely express her feelings and her husband to be more accommodating. Education of male partners may reduce the need to adhere to traditionally held roles of men as sole breadwinners and rather, create an environment of equality and dialogue that would empower a woman to take control of her reproductive health, even when she is still within her child-bearing years. This sentiment is related to work by Kyoore and Sulemana (2019) who find that in Ghana, and a few other countries in sub-Saharan Africa, increased education improves attitudes towards gender equality. More educated partners may also be more amenable to changing norms that encourage the notion of smaller family sizes. It is important to note, therefore, that although focus has been on the education of women and girls in many developing country settings, men's higher education in the present care appears to be complementary to desired female empowerment outcomes.

Although not the focus of the research, a few other findings are noteworthy. Older women and women who married at more mature ages have a higher probability of social empowerment; this relationship is however non-linear. Women's education is very highly correlated with their level of social empowerment and higher education is associated with higher probabilities of social empowerment (Musonera & Heshmati, 2016; Rahman & Rao, 2004). Women with higher education may be better exposed to new ideas and alternative behaviours and gender norms and roles. Women with higher education may be less likely to accept wife beating and other forms of violence and may be more likely to believe that it is a woman's right to refuse sex with her husband, for example. With higher education, women may understand their rights better, take more appropriate household decisions and have some degree of bargaining power within the household.

With regards to religion, Christians and Muslims, compared to Traditionalists, have a higher likelihood of social empowerment. Household wealth is also positively associated with a higher probability of social empowerment. Using women who are self-employed in the agricultural sector as the base group, women in professional, sales and services sector appear to have a higher likelihood of social empowerment. Surprisingly, women employed in unskilled manual labour are also more likely to be empowered, compared to self-employed agricultural workers. If empowerment is generally understood to be a process of bestowing power and giving ability to individuals who may be deficient, then occupational choices can have important implications for empowerment (Hammell, 2016).

The results presented above are likely to be plagued by selection bias, as discussed in the methodology section above. The propensity score matching approach is therefore employed to account for potential bias in the estimates. Results are presented in Table 3 and indicate a consistent positive relationship between higher relative earnings and women's social empowerment in Ghana.

Results from the PSM technique on social empowerment show a positive and statistically significant coefficient for the ATT, indicating that women who earn more than their husbands are more likely to be socially empowered, compared to "similar" women who do not earn more than their husbands. The magnitudes of the effects are however smaller under the PSM approach, compared to the probit regression models, indicating the presence of some selection bias in the latter.

VI. CONCLUSION AND POLICY RECOMMENDATIONS

Improvements in the empowerment of women are critical to progress in achieving the sustainable development goals. Understanding contextual women's experience of empowerment and its determinants is vital to ensuring gender equity and empowering women. Although the literature has identified access to employment and incomes as vital to women's empowerment, it has been emphasized that these are unlikely to have significant effects unless they translate into a larger control of household resources, and therefore substantial bargaining power. To test this construct, the present study examined the situation where women in Ghana reported earning higher incomes than their partners/husbands.

The study examined and found consistent evidence of higher social empowerment in reproductive health behaviours, among women who have relatively higher earnings. In the first set of regressions, there was a positive effect of women's higher earnings on their empowerment, consistent with theories like the relative resource theory. Interaction effects showed that this relationship was moderated to a large extent by partner's education. Findings indicated that where higher-earning women were married to more educated and enlightened men, they were more socially empowered.

Given the contextual measure of the social empowerment proxy (i.e. ability to ask a partner to use protection), the analyses were disaggregated by women of complete and incomplete fertility. Results indicated stronger effects among women who had not completed their fertility. Partners' education significantly moderated this relationship.

Continued emphasis should be placed on the education of women and the provision of better labour market opportunities. Women should be particularly

encouraged to enter into areas that are often regarded as the preserve of men. Women, for instance, are poorly represented in high-skill, high-paying occupations in Ghana. An example is the country's mining sector. This is a challenge that has been acknowledged by the government—the Gender Mainstreaming in the Energy Sector Project is aimed at increasing female participation in Ghana's Energy Sector. Led by the Local Content Unit in the Petroleum Directorate of the Ministry of Energy, the first phase of the project focuses on a sensitization and career guidance programme in the Petroleum and Power sector at Senior High Schools (SHS) across the country. The sensitization programme takes the form of forums across selected SHS, preferably female SHS in the-then 10 Regions of the country. This is aimed at whipping up enthusiasm among female students and encouraging them to choose courses relevant to the industry at the tertiary level. The current free SHS initiative of the current government is also well-aligned with the motive of increasing education of girls in the country. Continued focus on education and skills-training would be critical to raising women's employment potential, increasing their earnings and lifting them out of poverty.

Regional effects were also found to be pronounced. Policy makers may focus on underlying factors like differences in regional access to educational and labour market opportunities which may be expected to influence both earnings potentials and women's social agency and empowerment. Other factors found to be important determinants of social empowerment include a women's age, her age at first marriage, occupation and religion.

ORCID

Monica P. Lambon-Quayefio http://orcid.org/0000-0003-4126-6430

REFERENCES

Abraham, A. Y., Ohemeng, F., & Ohemeng, W. (2017). Female labour force participation: Evidence from Ghana. *International Journal of Social Economics*, *44*, 1489–1505. doi: 10.1108/IJSE-06-2015-0159

Ackerly, B. A. (1995). Testing the tools of development: credit programs, loan involvement and women's empowerment, in Getting Institutions Right for Women in Development. *IDS Bulletin*, *26*, 56–68. doi:10.1111/j.1759-5436.1995.mp26003007.x

Agarwal, B. 2001. Gender inequality, cooperation, and environmental sustainability. In P. Bardhan, S. Bowles, & J. M. Baland (Eds.), *Economic inequality, collective action, and environmental sustainability*.Princeton, NJ: Princeton University Press

Aguinaga, M., Lang, M., Mokrani, D., & Santillana, A. (2013) Development critiques and alternatives: A feminist perspective. In M. Lang & D. Mokrani (Eds.), *Beyond*

development: Alternative visions from Latin America (pp. 41–60). Amsterdam: Transnational Institute/Rosa Luxemburg Foundation.

Allendorf, K. (2007). Do women's land rights promote empowerment and child health in Nepal?. *World Development*, *35*, 1975–1988. doi:10.1016/j.worlddev.2006.12.005

Amanor-Wilks, D. (2009). Land, labour and gendered livelihoods in a "peasant" and a "settler" economy. *Feminist Africa*, *12*, 31–49.

Anderson, S., & Eswaran, M. (2009). What determines female autonomy? Evidence from Bangladesh. *Journal of Development Economics*, *90*, 179–191. doi:10.1016/j.jdeveco.2008.10.004

Anyidoho, N. A., & Manuh, T. (2010). Discourses on women's empowerment in Ghana. *Development*, *53*, 267–273. doi:10.1057/dev.2010.30

Ashraf, N., Karlan, D., & Yin, W. (2010). Female empowerment: Impact of a commitment savings product in the Philippines. *World Development*, *38*, 333–344. doi:10.1016/j.worlddev.2009.05.010

Baah-Boateng, W. (2012). *Labour market discrimination in Ghana: A gender dimension*. Germany:LAMBERT Academic Publishing.

Bandiera, O., Buehren, N., Burgess, R. S. L., Goldstein, M. P., Gulesci, S., Rasul, I., & Sulaimany, M. (2017). *Women's empowerment in action: Evidence from a randomized control trial in Africa (English)*. Washington, D.C: World Bank Group. http://documents.worldbank.org/curated/en/707081502348725124/Women-s-empowerment-in-action-evidence-from-a-randomized-control-trial-in-Africa

Banerjee, A., Duflo, E., Glennerster, R., & Kinnan, C. (2015). The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics*, *7*, 22–53. doi:10.1257/app.20130533

Bankole, A., & Singh, S. (1998). Couples' fertility and contraceptive decision-making in developing countries: hearing the man's voice. *International Family Planning Perspectives*, *24*, 15–24.

Bates, L. M., Maselko, J., & Schuler, S. R. (2007). Women's education and the timing of marriage and childbearing in the next generation: evidence from rural Bangladesh. *Studies in Family Planning*, *38*, 101–112[Mismatch.

Bawah, A. A., Akweongo, P., Simmons, R., & Phillips, J. F. (1999). Women's fears and men's anxieties: The impact of family planning on gender relations in northern Ghana. *Studies in Family Planning*, *30*, 54–66. doi:10.1111/j.1728-4465.1999.00054.x

Becker, S. (1999). Measuring unmet need: wives, husbands or couples? *International Family Planning Perspectives*, *25*, 172–180.

Bhatt E. (1989). Toward empowerment. *World Development*, *17*, 1059–1065. doi:10.1016/0305-750X(89)90168-X

Blumberg R. L. (2005, August). *Women's Economic empowerment as the "Magic Potion" of Development?* Paper presented at the 100th annual Meeting of the American Sociological Association, Philadelphia.

Bolzendahl, C. I., & Myers, D. J. (2004). Feminist attitudes and support for gender equality: Opinion change in women and men, 1974–1998. *Social Forces*, *83*, 759–789. doi:10.1353/sof.2005.0005

Browning, M., & Chiappori, P. A. (1998). Efficient intra-household allocations: A general characterization and empirical tests. *Econometrica*, *66*, 1241–1278. doi:10.2307/2999616

Caliendo, M., & Kopeinig, S. (2005). Some practical guidance for the implementation of propensity score matching. *IZA Discussion Paper Series, No. 1588*.

Cools S., & Kotsadam A. (2017). Resources and intimate partner violence in sub-Saharan Africa. *World Development*, *95*, 211–30. doi:10.1016/j.worlddev.2017.02.027

Darkwah, A. K. (2010). Education: Pathway to empowerment for Ghanaian women? *IDS Bulletin*, *41*, 28–36. doi:10.1111/j.1759-5436.2010.00120.x

Dehejia, R. H., & Wahba, S. (2002). Propensity score matching methods for nonexperimental causal studies. *Review of Economics and Statistics*, *84*, 151–161. doi:10.1162/003465302317331982

Doepke, M., Tertilt, M., & Voena, A. (2012). The economics and politics of women's rights. *Annual Review of Economics*, *4*, 339–372.

Duflo, E. (2003). Grandmothers and granddaughters: Old-age pensions and intrahousehold allocation in South Africa. *The World Bank Economic Review*, *17*, 1–25. doi:10.1093/wber/lhg013

Dyson M, & Moore M. (1983). On kinship structure, female autonomy, and demographic behaviour in India. *Population and Development Review*, *9*, 35–60. doi:10.2307/1972894

Endeley, J. B. (2001). Conceptualizing women's empowerment in societies in Cameroon: How does money fit in. *Gender and Development*, *9*, 34–41., doi:10.1080/13552070127728

Gibson-Davis, C. M., Magnuson, K., Gennetian, L. A., & Duncan, G. J. (2005). Employment and the risk of domestic abuse among low income women. *Journal of Marriage and Family*, *67*, 1149–1168. doi:10.1111/j.1741-3737.2005.00207.x

Gupta, S. (2007). Autonomy, dependence or display? The relationship between married women's earnings and housework. *Journal of Marriage and Family*, *69*, 399–417. doi:10.1111/j.1741-3737.2007.00373.x

Hammell, K., R. (2016). Empowerment and occupation: A new perspective. *Canadian Journal of Occupational Therapy*, *83*, 281–287. doi:10.1177/0008417416652910

Harper, C., Nowacka, K., Alder, H., & Ferrant, G. (2014). Measuring women's empowerment and social transformation in the post-2015 agenda. *ODI, OECD Development Center*.

Heise L. (2011). What works to prevent partner violence? An evidence overview (Working paper (version 2.0)). London: Department for International Development.

Hellmich, S. N. (2015). What is socioeconomics? An overview of theories, methods, and themes in the field. *Forum for Social Economics*, *46*, 1–23. doi:10.1080/07360932.2014.999696

Hewitson, G. (2013). Economics and the family: A postcolonial perspective. *Cambridge Journal of Economics*, *37*, 91–111. doi:10.1093/cje/bes037

Kabeer, N. (1997). Women, wages and intra-household power relations in Urban Bangladesh.*Development and Change*, *28*, 261. doi:10.1111/1467-7660.00043

Kalmuss, D. S., & Strauss, M. (1982). Wife's marital dependency and wife abuse. *Journal of Marriage and Family*, *44*, 277. doi:10.2307/351538

Kibria, N. (1995). Culture, social class, and income control in the lives of women garment workers in Bangladesh. *Gender and Society*, *9*, 289–309. doi:10.1177/089124395009003003

Kishor, S. (2000). Empowerment of women in Egypt and links to the survival and health of their infants. In H.B. Presser and G. Sen (Eds.), *Women and demographic processes – Moving beyond Cairo* (pp. 119–156). New York: Oxford University Press.

Kyoore, J. E., & Sulemana, I. (2019). Do educational attainments influence attitudes towards gender equality in Sub-Saharan Africa? *Forum for Social Economics*, doi:10.1080/07360932.2018.1509797

Lee-Rife, S. M. (2010). Women's empowerment and reproductive experiences over the life-course. *Social, Science and Medicine*, *71*, 634–642. doi:10.1016/j.socscimed.2010.04.019

Levant, R. F. (2011). Research in the psychology of men and masculinity using the gender role strain paradigm as a framework. *American Psychologist*, *66*, 765–776. doi:10.1037/a0025034

Macmillan, R. and R. Gartner. (1999). When she brings home the bacon: Labor-force participation and the risk of spousal violence against women. *Journal of Marriage and the Family*, *61*, 947–958. doi:10.2307/354015

Majlesi, K. (2016). Labor market opportunities and women's decision making power within households. *Journal of Development Economics*, *119*, 34–47. doi:10.1016/j.jdeveco.2015.10.002

Moser, C. (1993). *Gender planning and development: Theory, practice and training*. New York and London: Routledge

Musonera, A., & Heshmati, A. (2016) *Measuring women's empowerment in Rwanda*. Jönnköping University and Institute for the Study of labor (IZA).

Rahman, L., & Rao, V. (2004). The determinants of gender equity in India: Examining Dyson and Moore's thesis with new data. *Population and Development Review*, *30*, 239–268. doi:10.1111/j.1728-4457.2004.012_1.x

Resko, S. M. (2010). *Intimate partner violence and women's economic insecurity*. El Paso, TX: LFB Scholarly Publishing.

Risman, B. (2011). Gender as structure or trump card? *Journal of Family Theory and Review*, *3*, 18–22. doi:10.1111/j.1756-2589.2010.00076.x

Speizer, I. S. (1999). Are husbands a barrier to women's family planning use? The case of Morocco. *Social Biology*, *46*, 1–16.

Speizer, I. S., Whittle, L., & Carter, M. (2005). Gender relations and reproductive decision making in Honduras. *International Family Planning Perspectives*, *31*, 131–139. doi:10.1363/3113105

Streeck, W. (2010). Does 'behavioural economics' offer an alternative to the neoclassical paradigm?. *Socio- Economic Review*, *8*, 387–397.

Upadhyay, U. D., & Hindin, M. J. (2005). Do higher status and more autonomous women have longer birth intervals? Results from Cebu, Philippines. *Social Science and Medicine*, *60*, 2641–2655. doi:10.1016/j.socscimed.2004.11.032

Vlassoff C. (1982). The status of women in rural India: A village study. *Social Action*, *32*, 380–407.

Vyas S, & Watts C. (2009). How does economic empowerment affect women's risk of intimate partner violence in low and middle income countries? A systematic review of published evidence. *Journal of International Development*, *21*, 577–602. doi:10.1002/jid.1500

Woldemicael, G. (2009). Women's autonomy and reproductive preferences in Eritrea. *Journal of Biosocial Science*, *41*, 161–181. doi:10.1017/S0021932008003040