Education and Income Imbalances Among Married Couples in Malawi as Predictors for Likelihood of Physical and Emotional Intimate Partner Violence

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Intimate partner violence is a social and public health problem that is prevalent across the world. In many societies, power differentials in relationships, often supported by social norms that promote gender inequality, lead to incidents of intimate partner violence. Among other factors, both a woman's years of education and educational differences between a woman and her partner have been shown to have an effect on her likelihood of experiencing intimate partner abuse. Using the 2010 Malawian Demographic and Health Survey data to analyze intimate partner violence among 3,893 married Malawian women and their husbands, this article focuses on understanding the effect of educational differences between husband and wife on the likelihood of physical and emotional abuse within a marriage. The results from logistic regression models show that a woman's level of education is a significant predictor of her likelihood of experiencing intimate partner violence by her current husband, but that this effect is contingent on her husband's level of education. This study demonstrates the need to educate men alongside of women in Malawi to help decrease women's risk of physical and emotional intimate partner violence.

Intimate partner violence (IPV) is a social and public health problem that is prevalent across the world. IPV encompasses economic violence, psychological violence, physical violence, and sexual violence (Heise & Garcia-Moreno, 2002; Jewkes, 2002). Often, women experience these forms of violence in conjunction with one another. Such violence, perpetrated by a woman's partner, is known as *intimate partner violence* (Avotri & Walters, 2001; Garciá-Moreno, 2002; Watts & Zimmerman, 2002). Women's socioeconomic dependence on men places women at particular risk of experiencing IPV (Anderson, 2005; Mathews & Abrahams, 2001; Young & Li, 2010). In addition to the increased risk of experiencing abuse, economic dependence can contribute to women remaining in violent relationships because they do not have the resources to leave (Anderson, 2005).

INTIMATE PARTNER VIOLENCE AND MALAWI

IPV is extremely common in Southern Africa with estimates that between 36% and 71% of sub-Saharan African women experience some form of IPV in their lifetimes (Abrahams, Jewkes, Laubscher, & Hoffman, 2006; Bazargan-Hejazi, Medeiros, Mohammadi, Lin, & Dalal, 2013; Garciá-Moreno, 2002; Kapp, 2006; Kishor & Johnson, 2004; Moore, Awusabo-Asare, Madise, John-Langba, & Kumi-Kyereme, 2007; Uthman, Lawoko, & Moradi, 2009). In a study of IPV in South Africa, it was found that 23% of young women (aged 15–24 years) had already experienced physical or sexual IPV in their lifetimes (Jewkes, Dunkle, Nduna, & Shai, 2010). In Malawi, studies have found that between 11% and 30% of women have experienced physical violence from an intimate partner in the last year (Bazargan-Hejazi et al., 2013; Jewkes, Levin, & Penn-Kakana, 2002; Pelser et al., 2002). Bazargan-Hejazi et al. (2013) found that one in four Malawian women reported being pushed, shaken, slapped, or punched in their lifetimes.

IPV has often been studied in different countries at the individual level through an analysis of risk factors. Much research on IPV focuses on what places women at risk of being victimized by her partner. In sub-Saharan Africa, prior research suggests that widespread attitudes of support for both violence in general and violence against women contribute to high levels of IPV (Abrahams et al., 2006; Alio et al., 2010; Gevers, Jama-Shai, & Sikweyiya, 2013; Uthman et al., 2009). Indeed, IPV is often supported by gender norms that place women in a social position that is subordinate to men (Garciá-Moreno, 2002). Societal norms that perpetuate gender inequality often encourage traditional gender expectations and the discrimination of women. In sub-Saharan Africa, research has shown that an acceptable response to a gender expectation transgression is the use of IPV (Alio et al., 2010; Hindin, 2003; Jewkes et al., 2002). Often, attitudes legitimatizing the use of IPV for gender expectation transgressions are prevalent among both victims and perpetrators of IPV. One study of IPV in six sub-Saharan African countries including Malawi found that women who were abused by their intimate partners often justified the abuse by agreeing to statements such as "wife beating is justified if she argues with her husband," "wife beating is justified if she refuses to have sex with her husband," and "wife beating is justified if she goes without telling" (Alio et al., 2010). Alio et al. (2010) found that IPV in Malawi was correlated with attitudes that accepted IPV as a response to domestic issues. In addition, men's attitudes and practices regarding gender and gender equality have been associated with IPV (Abrahams et al., 2006). Other risk factors for IPV in sub-Saharan Africa identified in the literature include substance use and abuse, witnessing IPV as a child, and experiencing beatings as a child (Abrahams et al., 2006; Gevers et al., 2013; Jewkes et al., 2002). Prior research has found that factors protecting Southern African women from experiencing IPV include having higher levels of education, having family support, shorter marital duration, and never having been married (Abrahams et al., 2006; Conroy, 2014; Garciá-Moreno, 2002; Klomegah, 2008; Okenwa & Lawoko, 2010; Djamba & Kimuna, 2008; Zablotska et al., 2009).

Power Differentials Between Partners and Intimate Partner Violence

A substantial amount of the literature on risk factors for IPV are related to power differentials and power imbalances between a husband and a wife and how these power differentials can lead to IPV (Blanc, 2001; Yllö, 1998). In societies where violence is normalized, power imbalances, such as one partner making more money or having a higher level of

education than the other, are more likely to be met with IPV (Abrahams et al., 2006). Choi and Ting (2008) examine IPV in South Africa and identify four potential explanations for how power imbalances and differentials might lead to IPV: the dependence hypothesis, submission hypothesis, compensation hypothesis, and the transgression hypothesis.

According to Choi and Ting, the dependence hypothesis argues that when the wife is economically dependent on her husband, she will experience more violence in the relationship. Power differentials have been measured through income, occupation, education, and decision making power in the household (Anderson, 1997; Babcock, Waltz, Jacobson, & Gottman, 1993; Blanc, 2001; Garciá-Moreno, 2002; Kalmuss & Straus, 1982; Lawoko, Dalal, Jiayou, & Jansson, 2007; Mason & Smith, 1999; Rahman, Hoque, & Makinoda, 2011; Young & Li, 2010; Yount, 2005). The dependence hypothesis suggests that when men have higher levels of education, bring in more resources, make more money, and dominate decision making in the home, women are more likely to be abused because they are dependent on their husbands (Babcock et al., 1993; Hindin & Adair, 2002; Kalmuss & Straus, 1982; Yount, 2005). Indeed, studies in the United States and Egypt suggest that women with significantly less education than their husbands are at a greater risk for experiencing IPV (Kalmuss & Straus, 1982; Yount, 2005). Not only wives are more likely to be abused when their husbands have more education, more earning power, and dominate decision making in the home, but also women have fewer resources to leave abusive situations (Kalmuss & Straus, 1982; Yount, 2005). This research also suggests that if women have more education, bring in more resources, or make more money, they would be less likely to be abused because they would have more economic independence, potentially more decision making power in the home, and better resources. Similarly, the submission hypothesis argues that when women are submissive to their husbands, they are more likely to be abused by them (Choi & Ting, 2008), especially if they are expected by their societies or communities to be submissive.

However, other research suggests that when women have more power or more resources than their husbands, they also might be at greater risk of IPV (Anderson, 1997; Garciá-Moreno, 2002). Anderson (1997) found that in the United States, women who made more money than their partners were at a greater risk of experiencing IPV, whereas women in relationships where their husband made more money were at a lower risk of experiencing IPV. In addition, researchers have found that women with more education than their husbands are more likely to experience IPV in countries such as India, Kenya, and Egypt (Ackerson & Subramanian, 2008; Lawoko et al., 2007; Young & Li, 2010). This argument focuses on the links between masculinity, gender expectations, and violence (Gevers et al., 2013; Yllö, 1998). When men have few educational and occupational opportunities, they may attempt to prove their masculinity through violence against their women partners, particularly if those partners have greater education or occupational attainment than they do (Garciá-Moreno, 2002). Choi and Ting (2008) label this as the *compensation hypothesis*—where men will compensate with violence for their inability to fulfill their role as the provider and leader of the household. Another explanation for increased IPV in relationships where the wife has higher education, makes more money, and/or dominates household decision-making is the transgression hypothesis (Choi & Ting, 2008). The argument for these findings is that when a woman has more education or makes more money, she is more likely to be assertive and reject subordination in marriage. It is this increased assertiveness and her rejection of an inferior status in the home that some claim leads men to feel that their power is threatened and therefore increases the likelihood of IPV (Ackerson & Subramanian, 2008; Amoakohene, 2004; Moore, 2008). In this way, IPV

can be used to maintain gender inequality and power for the perpetrator within the home, (Bisika, Ntata, Konyani, 2009; Choi & Ting, 2008) especially in societies where traditional gender expectations are predominantly practiced (Atkinson, Greenstein, & Lang, 2005). In one comparative study of sub-Saharan African countries, including Malawi, it was found that when gender norms were transgressed by women, violence against women, including intimate partners, was viewed an acceptable response (Uthman et al., 2009).

Although these four hypotheses are useful for understanding how power imbalances affect likelihood of IPV, other research in Africa has found mixed results when examining education and income differences between spouses and the likelihood of abuse. For example, research on IPV in Egypt and South Africa found that both men with more education than their wives and men with less education than their wives are likely to use violence against them (Abrahams et al., 2006; Young & Li, 2010). In addition, in Malawi, it has been found that although women having more education than their husbands is a protective factor against IPV, education and income differences between married couples are not associated with IPV in either direction (Bazargan-Hejazi et al., 2013; Conroy, 2014). Therefore, more research needs to done regarding education and income differences between spouses and the likelihood of IPV (Bazargan-Hejazi et al., 2013; World Health Organization [WHO] & London School of Hygiene and Tropical Medicine, 2010). This article focuses on understanding the effect of educational and income imbalances between husband and wife on the likelihood of physical and emotional abuse within a marriage.

METHODS

Overview of Demographic and Health Surveys

To explore the relationship between educational differences between husband and wife, and likelihood of IPV in the form of spousal, emotional, and physical violence, data from the 2010 Malawian Demographic and Health Survey (MDHS) are used in this analysis.

The 2010 MDHS is the fourth demographic and health survey (DHS) to be conducted in Malawi, and it is a nationally representative, cross-sectional household survey of men and women of reproductive age. The survey was conducted by the National Statistical Office (NSO) and the Ministry of Health Community Services Unit (NSO & ICF Macro, 2011). The dataset is composed of 23,020 female respondents from ages 15 to 49 years and 7,175 male respondents from ages 15 to 54 years from 24,825 households in Malawi (NSO & ICF Macro, 2011). According to the NSO and ICF (2011) report, the survey questions focus on the following main topics:

- Background characteristics (education, residential history, media exposure, etc.)
- Birth history and childhood mortality
- Knowledge and use of family planning methods
- Fertility preferences
- Antenatal, delivery, and postnatal care
- Breastfeeding and infant feeding practices
- Women's and children's nutritional status
- Vaccinations and childhood illnesses
- Marriage and sexual activity
- Women's work and husband's background characteristics
- Malaria prevention and treatment

- Awareness and behavior regarding AIDS and other sexually transmitted infections (STIs)
- Adult mortality including maternal mortality
- Domestic violence

The Domestic Violence Module

The DHS developed the Domestic Violence Module in 1998–1999. Women are selected randomly from those who complete the household survey to participate in the Domestic Violence Module. Only one woman per household is selected to receive the Domestic Violence Module to ensure confidentiality and privacy of the participant. If more than one eligible woman is in the household that is selected, the Kish grid is used to randomly select one woman among those in the household (Demographic and Health Surveys, n.d.). Although the Domestic Violence Module deals with sensitive issues, the sampling methodology and the implementation of the questionnaire adhere to the ethical standards and regulations set forth by WHO for data collection on domestic violence (Kishor & Johnson, 2004;WHO, 2001). All DHS staff are trained to understand the purpose of the Domestic Violence Module, how to administer the module, and how to deal with crises that arise when administering the module (Kishor & Johnson, 2004). For example, the interviewer only administers the module if complete privacy is guaranteed, the respondent is informed that the next set of questions are personal and sensitive, and that confidentiality is assured (Kishor & Johnson, 2004).

The Domestic Violence Module includes questions regarding specific acts of emotional, physical, or sexual violence a married woman has experienced from her husband. For example, women are asked if their spouse has ever pushed, shook, or thrown something at her, slapped her, punched her with a fist or something harmful, kicked or dragged her, or threatened her with a knife, gun, or other weapon. The domestic violence questions ask about specific acts of violence rather than violence in general. This specificity has two benefits: first, it allows for more detailed cross-national comparisons because asking if a woman has ever been slapped by her spouse is less ambiguous than asking if a woman has ever been mistreated by her spouse (Kishor & Johnson, 2004). Second, it creates less room for a broad cultural interpretation of violence that may vary across countries. Although asking about specific forms of violence is helpful, it still is unable to capture violence and abuse severity in some ways. For example, there is a difference between being pushed lightly, being pushed into a wall, and being pushed out of a car. The questions asked in this survey do not account for differences in severity of abusive acts.

The dataset used in this article is from the 2010 MDHS and the IPV items used to create the dependent variable come from the 2010 MDHS Domestic Violence Module. Although the module asks a range of questions about domestic violence against women (including questions about intimate partners, abuse from parents, siblings, and other members of the household), this article focuses on the IPV experienced within heterosexual marriages because the dataset also includes questions about the respondent's husband's level of education, income, employment status, and age and it does not include these items for other individuals in the respondent's life.

Notably, the MDHS datasets do not contain information regarding same sex partnerships, and therefore this article does not examine IPV within same sex relationships. In addition, although the surveys do ask questions regarding violence experienced by current boyfriend, the questions asking about specific forms of violence experienced only pertain to violence experienced by the respondent's current spouse. Therefore, this study will examine the relationship between educational differences between husbands and wives as

well as the likelihood of IPV experienced by wives at the hands of their current husbands. Thus, this article is limited to the 3,893 women who completed the Domestic Violence Module, reported being married at the time of the survey and did not have any missing data on any of the variables in the analysis.

Dependent Variable

As stated earlier, this article focuses on understanding the effect of educational and income imbalances between a husband and a wife on the likelihood of physical and emotional violence within a marriage. A variable that represents whether women have ever experienced any physical violence (coded 0 for no, and 1 for yes to any of the following items: spouse ever pushed, shook or threw something, spouse ever slapped, spouse ever punched with fist or something harmful, spouse ever kicked or dragged, spouse ever tried to strangle or burn, spouse ever threatened with knife/gun, or other weapon) is used as a dependent variable. The other dependent variable in the study is whether a married woman has ever experienced any form of emotional violence from her current husband (coded 0 for no, and 1 for yes to any of the following items: spouse ever said or did something to humiliate her in front of others, spouse ever threatened her with harm, spouse ever insulted or made her feel bad about herself). The physical and emotional violence items that comprise the dependent variables are represented in Table 1.

Independent Variables

The independent variables relate to power differentials in marriage. This article is mainly concerned with educational and income differences between husband and wife as a predictor of IPV, but it will examine and control for other power differentials such as the age difference between a husband and wife. Income difference was measured using a variable available in the DHS dataset that asks if the money that the respondent earns is more than what her husband earns, less than what he earns, or about the same as what he earns. This variable was dummy coded for wife making more money than her husband (1) and wife making the same or less money than her husband (0).

TABLE 1.   Type of Violence

Physical

1. Spouse ever pushed, shook, or threw something

2. Spouse ever slapped or twisted arm

3. Spouse ever punched with first or something harmful

4. Spouse ever kicked or dragged

5. Spouse ever tried to strangle or burn

6. Spouse ever threatened with knife/gun or other weapon

Emotional

1. Spouse ever said or did something to humiliate her in front of others

2. Spouse ever threatened her with harm

3. Spouse ever insulted or made her feel bad about herself

The difference in age variable was created by subtracting the age of the respondent (wife) in single years from the age of the husband in single years. In addition, the models control for variables related to marriage available in the dataset such as number of children and marital duration.

The educational difference variable for this analysis results from initial regression analysis. Based on initial results, it was clear that education differences between husband and wives were important for examining likelihood of physical abuse but that it mattered who had more education (the woman or the man). Therefore, education differences between intimate partners were coded in two ways: one using five different categories of education differences, and one examining an interaction between a wife's education and her spouse's education. Previous studies (Conroy, 2014; Djamba & Kimuna, 2008) had recoded educational differences into three categories (wife less education than husband, wife same education as husband, and wife more education than husband). After initial results demonstrated that the interaction between wife's education in single years and husband's education in single years was significant, I decided to recode educational differences between husband and wife into five groups.

Keeping in mind that Garciá-Moreno (2002) states that women with a high enough education to challenge social norms are at a higher risk of IPV but that women with more education are less likely to be abuse (Conroy, 2014), I decided that there is a potential power difference between an individual having 1–2 years more education and 3 or more years education than her or his partner. This is especially true in the Malawian context where it takes 3 years to obtain a bachelor's degree, meaning that 3 years could represent the difference between a high school and a college education. The five categories were women who had 3+ more years of education than their husbands (10), women who had 1–2 more years of education than their husbands (9), women who had equal years of education as their husbands (0), women who had l–2 years less education than their husbands (1), and women who had 3+ years of education less than their husbands (3). In this way, education differences between husband and wives are coded and measured in Models 1 and 3.

In addition, variables for education differences were coded to examine a potential interaction between a husband's education and a wife's education. To examine the interaction, the wife's education was measured in single years and the husband's education was coded as a binary variable representing the husband having low education (0–9 years) coded 0, and the husband having high education (10–18 years) coded 1. This is how education differences are measured in Models 2 and 4.

For this article, logistic regression analyses were employed to test the effect of educational differences and income differences between a wife and a husband on the likelihood of the wife being mistreated by her current husband. Each model controlled for the age of the respondent (the wife) and age differences between husband and wife. The second and fourth models explored an interaction between a wife's education in single years and her husband's education as either having a high level or a low level of education. All educational difference variables used in these analyses are compared to the reference group 0 (husband and wife having equal years of education). This model also includes the variable that represents a wife making more money than her husband.

Each model was run controlling for several other variables suggested by the literature to predict the likelihood of abuse. For example, the literature suggests that duration of marriage is positively associated with experiencing abuse (the longer a couple was married, the more likely the wife was to be physically abused; Klomegah, 2008; Djamba

& Kimuna, 2008). The number of children between a couple has also been suggested as a predictor of IPV. Past studies have found both that women with more children are less likely to experience abuse (Abrahams et al., 2006; Moore, 2008) and that women with more children are more likely to experience abuse (Djamba & Kimuna, 2008; McCloskey, Williams, & Larsen, 2005).

RESULTS

Descriptive Statistics

Among the 3,893 women in the sample, most of the respondents were between 20–24 years old (22.14%) and 25–29 years old (25.84%). The mean age of women in single years is 29.85 years. Respondents were also asked about the age of their husbands. The mean age of husbands in single years is 35.65 years. The mean age difference in single years between respondents and their husbands is 6.03 years, with husbands tending to be older than their wives.

Regarding the educational attainment of married women respondents, 17.31% of the respondents have no education, 59.31% have incomplete primary education, 9.12% have complete primary education, 9.56% have incomplete secondary education, 3.83% have complete secondary education, and .87% have higher education. The mean education of respondents in single years is 8.23 years.

Respondents also reported the educational attainment of their partners: 9.53% of partners had no education, 55.61% of partners had incomplete primary education, 7.60% of partners had complete primary education, 25.10% of partners had incomplete secondary education, 0.0% had completed secondary education, and 2.16% of partners had higher education.

For summary statistics of education and age of respondents and their spouses, see Table 2. The mean education for married women in the sample is 8.23 years. The mean education of respondents' husbands in single years is 6.5 years. The mean educational difference in single years between the respondents and their husbands is 2.97 years. The differences in education ranged from a husband having 16 more years of education than his wife ($N = 1$), to a wife having 13 more years of education than her husband ($N = 1$). The regressions were run with these outliers and without these outliers and the results did not change. The results presented in this article include these outliers.

TABLE 2.   Summary Statistics for Education and Age ($N = 3,893$)

	N	Mean	Min.	Max.
Wife education	3,893	8.228690	0	16
Husband education	3,893	6.507064	0	18
Education difference	3,893	2.968405	0	15
Wife age	3,893	29.85000	15	49
Husband age	3,893	35.64500	15	78
Age difference	3,893	6.025687	0	64

Among married women in the sample, 19.02% ($n = 733$) have been physically abused by their current husbands and 23.68% ($n = 912$) have been emotionally abused by their current husbands.

Multivariate Results

Physical Violence. Logistic regression results for likelihood of physical violence (Models 1 and 2) can be found in Table 3. Model 1 is a logistic regression that uses a variable that measures educational differences between husband and wife in five groups (wife 3+ years more education than her husband, wife with 1–2 years more education than her husband, husband with 3+ years more education than his wife, husband with 1–2 years more education than his wife; all compared to husband and wife with equal years of education) looking at the outcome likelihood of experiencing physical abuse. This model also examined income differences in the marriage as a predictor for IPV and included the variable representing the wife making more money than her husband. Other independent variables included in the model are wife education in single years, wife age in single years, and age difference between wife and husband.

The results (see Table 3) show that when a woman has 3 or more years of education more than her husband, her likelihood of experiencing physical violence from her husband increases ($p = .033$) when compared to women with equal levels of education to their husbands. The results from this model show that a husband having more education than

TABLE 3. Odds Ratios of Logistic Regressions of Physical Violence by Current Husband ($N = 3,848$)

Variable	Model 1	Model 2
Wife education	1.018	1.092**
Husband education		1.719
Wife age	1.012	1.016†
Age difference	0.977	0.978
Husband 3+ years more education	1.063	
Husband 1–2 years more education	0.964	
Wife 1–2 years more education	1.409	
Wife 3+ years more education	1.713*	
Wife education interacted with Husband education (high/low)		0.882**
Husband high/low education (0/1)		
Wife makes more money	1.771**	1.797**
_cons	0.149	0.118

Note. An odds ratio value of more than 1 indicates higher likelihood of physical violence by current husband and a value below 1 represents lower likelihood of physical violence by current husband.
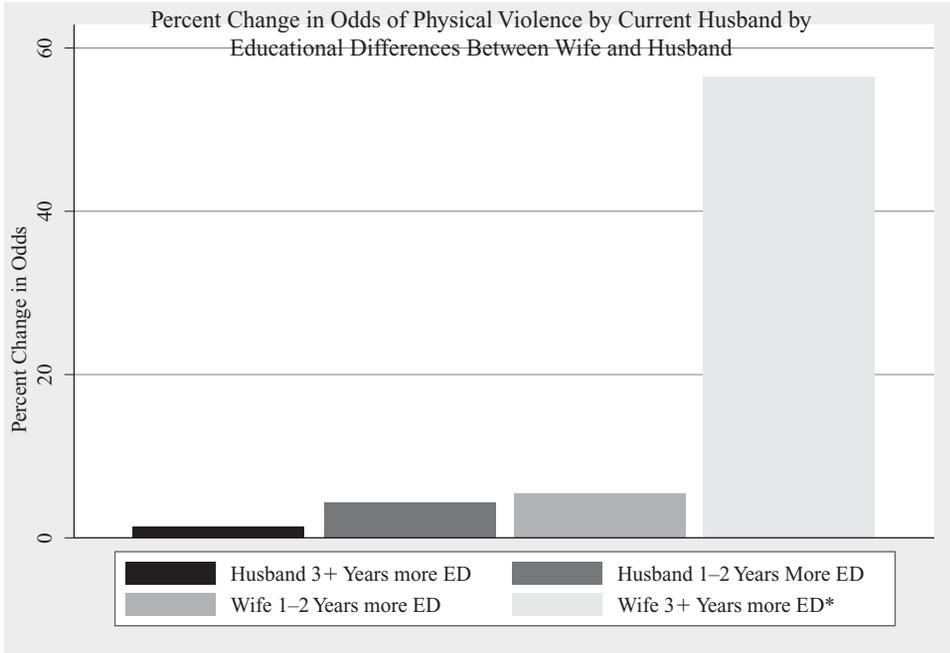$^\dagger p < .10.$ *$p < .05.$ **$p < .01.$

Figure 1. This bar graph shows that wives with three or more years education than their husbands have increased odds of being victims of IPV from those husbands when compared to husbands and wives with the same level of education. This graph also shows that the risk of husbands with 1-2 or 3 years more education than their wives physically abusing them is comparable to husbands with the same level of education as their wives. Similarly, the risk of wives with 1-2 years more education than their husbands being physically abused by them is comparable to wives with the same level of education as their husbands. ED = education.

his wife does not explain any of the variation in likelihood of being physically abused. See Figure 1 for the percent change in odds of physical violence by current husband based on educational differences between the respondents and their husbands. These results also show that when a wife makes more money than her husband, she is more likely to be physically abused by him than women who make equal to or less than their husbands ($p = .002$).

These regressions were run controlling for several other variables suggested by the literature to predict the likelihood of abuse such as the duration of marriage and the number of children. Controlling for the duration of the marriage between the couples in this dataset did not change the regression results; both a wife having 3 or more years of education than her husband as well as a wife making more money than her husband remained significant. In addition, the results from the regression were still significant when controlling for the number of children a woman had.

Model 2 was a logistic regression using the interaction variable between respondents' levels of education in single years and the binary variable measuring their husbands' levels of education (husband with low education and husband with high education). The results (see Table 3) from this model demonstrate the strength of the interaction between a wife's years of education and her husband's level of education on the likelihood of experiencing physical violence. The interaction between a respondent's education in
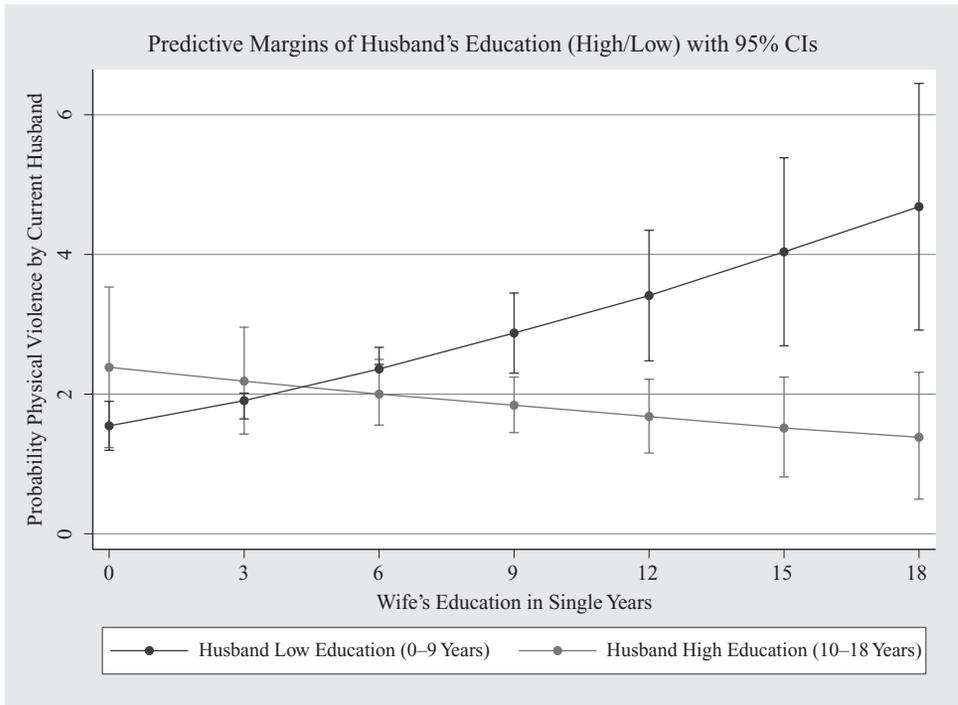
Predictive Margins of Husband's Education (High/Low) with 95% CIs

y-axis: Probability Physical Violence by Current Husband

x-axis: Wife's Education in Single Years

Legend: Husband Low Education (0–9 Years) — Husband High Education (10–18 Years)

Figure 2. Figure 2 shows that for wives with husbands with low levels of education (0–9 Years), their probability of physical violence by current husband increases with each additional year of education. For wives with husbands have high levels of education (10–18 Years), their probability of experiencing intimate partner physical violence decreases with each additional year of education.

single years and her husband's level of education (high or low) was significant ($p = .006$). As a woman's education in single years increases and her husband has a low level of education (0–9 years), her risk for experiencing physical abuse by her current husband increases. As a woman's education in single years increases and her husband has a high level of education (10–18 years), her risk of experiencing physical abuse by her current husband decreases. See Figure 2 for visual representation of this relationship. This model also shows that a wife earning more money than her husband is more likely to experience physical abuse from him ($p = .002$). When controlling for marital duration and number of children, the interaction remained significant for predicting her likelihood of experiencing physical violence and a wife making more money than her husband remained significant for predicting likelihood of experiencing physical violence.

Emotional Violence. Logistic regression results for likelihood of emotional violence (Models 3 and 4) can be found in Table 4. Model 3 is a logistic regression that uses a variable that measures educational differences between husband and wife in five groups (wife 3+ years more education than her husband, wife with 1–2 years more education than her husband, husband with 3+ years more education than his wife, husband with 1–2 years more education than his wife; all compared to husband and wife with equal years of education) looking at the outcome likelihood of experiencing emotional violence. This model also examines the likelihood of emotional violence when a wife makes more money than

TABLE 4. Odds Ratios of Logistic Regressions of Emotional Violence by Current Husband ($N = 3,848$)

Variable	Model 1	Model 2
Wife education	0.977	1.018
Husband education		1.852†
Wife age	1.016*	1.019*
Age difference	0.995	0.995*
Husband 3+ years more education	1.011	
Husband 1–2 years more education	1.046	
Wife 1–2 years more education	1.053	
Wife 3+ years more education	1.559+	
Wife education interacted with husband education (high/low)		0.909*
Husband high/low education (0/1)		
Wife makes more money	1.648**	1.654**
_cons	0.211	0.175

Note. An odds ratio value of more than 1 indicates higher likelihood of emotional violence by current husband and a value below 1 represents lower likelihood of emotional violence by current husband.
†$p < .10$. *$p < .05$. **$p < .01$.

her husband. Other independent variables included in the model are wife education in single years, wife age in single years, and age difference between wife and husband.

The results (see Table 4) show that a husband having more education than his wife does not explain any of the variation in likelihood of being emotionally abused. In addition, the results, although not significant ($p = .062$), are in a similar direction as the physical violence results. Finally, these results show that when a wife makes more money than her husband, she is more likely to be emotionally abused by him when compared to women who make equal to or less money than their husbands ($p = .006$).

Model 4 was a logistic regression using the interaction variable between respondents' levels of education in single years and the binary variable measuring their husbands' levels of education (husband with low education and husband with high education). The results (see Table 4) from this model demonstrate the strength of the interaction between a wife's years of education and her husband's level of education on likelihood of experiencing emotional violence. The interaction between a respondent's education in single years and her husband's level of education (high or low) was significant ($p = .024$). As a woman's education in single years increases and her husband has a low level of education (0–9 years), her risk for experiencing emotional abuse by her current husband increases. As a woman's education in single years increases, whereas her husband has a high level of education (10–18 years), her risk of experiencing emotional abuse by her current husband decreases. See Figure 3 for visual representation of this relationship. Model 4 also shows that a wife making more money than her husband makes her more likely to experience emotional abuse from him ($p = .005$). When controlling for marital duration and number
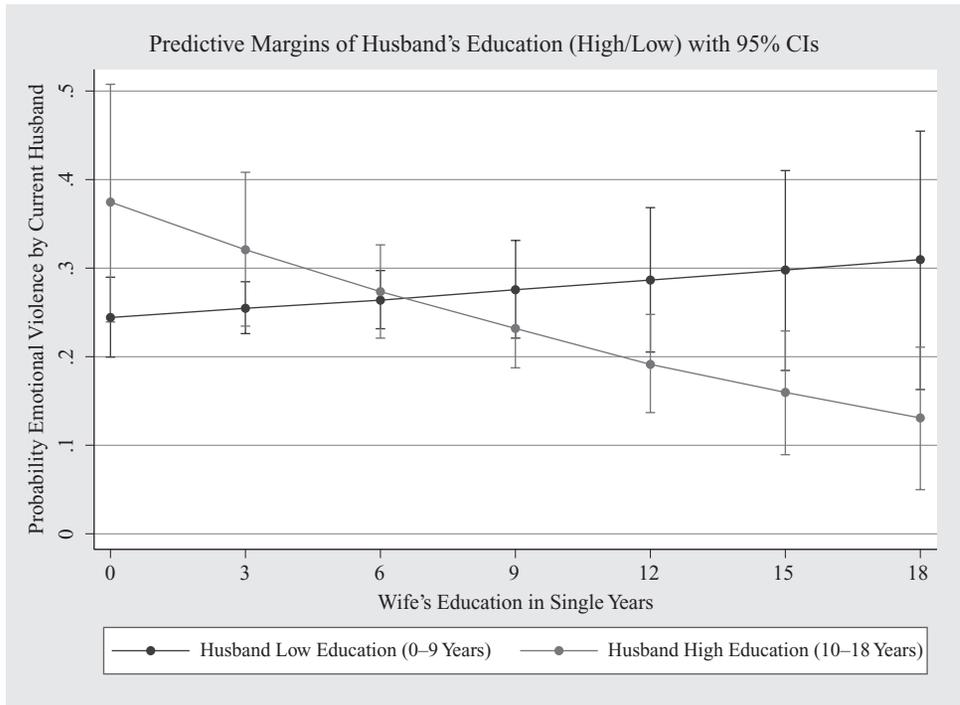
Figure 3. Figure 3 shows that for wives with husbands with low levels of education (0–9 Years), their probability of experiencing emotional violence by current husband increases with each additional year of education. For wives with husbands have high levels of education (10–18 Years), their probability of experiencing intimate partner emotional violence decreases with each additional year of education.

of children the interaction and a wife making more money than her husband remained significant for predicting her likelihood of experiencing emotional violence.

DISCUSSION

Although the literature in Southern Africa and in Malawi specifically suggests that women with higher levels of education are less likely to be abused by their partners, this study finds that the effect of women's education on the likelihood of emotional and physical abuse is contingent on her husband's level of education (Bazargan-Hejazi et al., 2013; Ntaganira et al., 2008; Okenwa & Lawoko, 2010). This finding highlights the importance of creating measures of power differentials in marriage. For example, it may not be just the level of education a woman has nor the difference in years of education between a husband and wife but the interaction between a wife's education and her husband's education that can be important for understanding likelihood of IPV in the marriage. In addition, prior studies often measure education differences between intimate partners in three categories (husband has more education than his wife, wife has more education than her husband, husband and wife have the same amount of education; Conroy, 2014; Djamba, & Kimuna, 2008). This study shows that breaking education differences into five categories rather than three can be important for understanding how education differences between intimate

partners might predict likelihood of abuse. Results from prior studies range from increased education for women acting as a protective element against IPV to increased education for women acting as a risk factor for IPV (Conroy, 2014). This study offers support for the notion that some education for women might act as a protector against IPV; however, having 3 or more years of education more than her husband might be a risk factor for IPV. Further research should measure education differences in more than three categories and examine an interaction between a wife's education and her husband's education to see if these measures hold weight in other studies.

This study shows that women with 3 or more years of education more than her husband were more likely to experience physical and emotional abuse from their current husbands, whereas women with 1–2 more years of education did not predict any variation in emotional or physical abuse. These results lend support to the compensation and/or the transgression hypothesis (Choi & Ting, 2008). Indeed, women with more education may be more assertive in their relationships, upsetting the power and control that husbands typically have over their wives in many communities in sub-Saharan Africa (Moore, 2008). In many Southern African countries, it is expected that men will have the authority in a marriage (Avotori & Walters, 2001). In addition, traditional gender expectations are often reinforced in these communities through cultural rituals surrounding marriage and funerals and often permeate women's daily lives (Waldman, 2006). As noted earlier, a study on attitudes relating to gender violence in sub-Saharan Africa suggests that transgressing gender norms is seen as a legitimate reason to use violence against women (Uthman et al., 2009).

An additional reason why a wife having much more education (3 or more years) than her husband might lead to IPV is because her increased education could also increase her decision making in the family and increased assertiveness, both of which have been associated with an increased likelihood of being abused (Hindin & Adair, 2002; Moore, 2008). A wife's increased decision-making power and increased assertiveness could not only question the man's authority in the relationship, but it might also reduce her economic and social dependence on her husband, upsetting the traditional gender expectations in the marriage. This might be especially true for men with low levels of education who may have little power in their lives. This study cannot illuminate the motivation behind increased likelihood of IPV in relationships where the wife has 3 or more years of education than her husband. However, if a woman's increasing education when her husband has low levels of education puts her at risk of violence because her husband feels threatened by her increased education, her increased assertiveness, and/or her increased decision-making power in the home, then the results for this study could lend support to the transgression hypothesis. However, if a husband is angry at his wife for having more education than him because he is unable to obtain more education himself and therefore he abuses her, then the results from this study lend support to the compensation hypothesis (Choi & Ting, 2008).

The literature suggests that a husband having much more education than his wife might indicate that he dominates decision making, which has been associated with increased mistreatment of wives (Babcock et al., 1993; Choi & Ting, 2008; Hindin & Adair, 2002; Kalmuss & Straus, 1982; Yount, 2005). However, the results from this study do not support the dependence hypothesis. This study found that a husband having more education than his wife does not predict any variation in the likelihood of IPV. Although prior research has found support for the dependence theory of IPV, it could be that in the Malawian context, a husband having more education and greater decision-making power than his wife fits within traditional notions of marriage relations and gender norms, perhaps making this less of a predictor for the likelihood of IPV in this context (Avotori & Walters, 2001; Uthman et al., 2009; Yount, 2005).

Other explanations for why education imbalances between spouses might be a risk for IPV include the notion that when spouses have different educational levels, they might have different expectations within the marriage that could cause tension (Anderson, 1997). These different ideas about the marriage could relate to different expectations about domestic work, child-care, finances, and decision making (Anderson, 1997; Obare, Agwanda, & Magadi, 2005). One may assume that these different ideas between husband and wife are likely to increase as the educational differences between a husband and wife increase, making them more likely to cause tension. Therefore, a wife's increasing education when a husband has low levels of education can be seen as a threat to his power in the household on its own. In addition, if her increasing education comes along with more gender-equal views of the household division of labor or about equal decision making in the household (Obare et al., 2005), this might create tension, especially in a household where the husband has a low level of education and may not be exposed to such views.

Similarly, this could explain why increasing years of education among women with husbands who have high levels of education are less likely to result in physical and emotional abuse (as found in Model 2 and 4 of this study). In other words, as the disparity in educational attainment decreases for women with educated husbands, they are less likely to experience physical and emotional violence. Perhaps it is the case that the women with husbands who have high levels of education become more assertive as a result of their increasing education (Moore, 2008). Perhaps this increased assertiveness is respected or tolerated and not seen as threatening by these educated husbands—making her increasing education a protective factor against abuse. It may also be the case that because the husband already has high levels of education, a wife's increasing education does not upset the traditional power expectations in the marriage. In other words, his power and influence in the family is not necessarily threatened by her increasing years of education. In addition, as her education increases, she might obtain more resources and become more independent (McCloskey et al., 2005); and because her husband has high levels of education, he might be more supportive of her having independence. This might be the case because increased education is also associated with more egalitarian views on gender (Obare et al., 2005). Therefore, the husbands who have higher levels of education could be more supportive of their wives receiving more education, even if her education exceeds his own; whereas husbands with low levels of education may not be supportive of her increasing education, making them more likely to be physically and emotionally abusive toward their wives. In addition, as a wife's education increases and her husband has a high level of education, their ideas about marriage expectations and their values may become more similar, allowing her to access the benefits that an increased education might provide her (such as obtaining a higher paying job).

In addition, this study found that a woman making more money than her husband was a significant predictor for likelihood of physical abuse, providing support for the compensation hypothesis and/or the transgression hypothesis (Choi & Ting, 2008). The results can support either hypothesis because the motivation for physical IPV when a wife makes more money than her husband is not available in this dataset. The results might support the compensation hypothesis if the husband cannot obtain a job or a higher paying job than his wife and compensates for his lack of a provider role by physically abusing his partner (Choi & Ting, 2008). However, if a husband's motivation for physical abuse is because he is angry or frustrated with his wife for making more money than him because he sees this as her transgressing gender norms, then the results would support the transgression hypothesis. A wife making more money than her husband can be seen as a gender transgression in

Malawi because it can potentially upset the traditional gender balance in the household either by allowing the wife's financial independence from her husband, or in some cases, making the husband financially dependent on his wife (Ackerson & Subranmanian, 2008; Anderson, 1997; Lawoko et al., 2007). In addition, when a wife makes more money than her husband in Malawi, she might have increased decision-making power in the home, which further upsets the traditional gender expectations in the household (Hindin & Adair, 2002). If the husband subscribes to traditional gender expectations, which is more likely in countries where traditional gender expectations are the norm, then the husband might resort to violence against his wife to regain the power he feels he has lost (Atkinson et al., 2005; Bisika et al., 2009; Choi & Ting, 2008; Garciá-Moreno, 2002).

LIMITATIONS

As outlined earlier, the results can support either the transgression or the compensation hypotheses. A limitation of this study is that the results cannot provide an understanding of the motivation behind physical and emotional violence in intimate relationships where the wife makes more money than her husband. Further research should be conducted to examine motivations for why a wife making more money than her husband might lead to him abusing her to demonstrate support for one hypothesis over the other.

One limitation of domestic violence data collection is the possibility that respondents underreported their experience with domestic violence. Although the itemized survey questions used in the DHS Domestic Violence Module attempt to give women more time to think about their experiences with violence and gives them more opportunities to disclose, underreporting could still be an issue. In addition, individual, household, community, and societal factors contribute to individual underreporting of IPV, and this article does not control for these factors (Counts, Brown, & Campbell, 1992; Heise, 1998; Jewkes, Penn-Kekana, Levin, Ratsaka, & Sehrieber, 2001). Therefore, this article might underestimate the frequency of physical and emotional IPV experienced by married women in Malawi. Indeed, further research should examine the factors that influence underreporting of IPV in Malawi so that future studies can control for these items. In addition, this article uses data that was collected for DHS purposes and therefore analysis is limited and constrained by variables available in the dataset. The data used for the analyses are cross-sectional, meaning that it is not possible to determine if the power differentials in the relationship emerged before or after the IPV in the relationship.

CONCLUSION

This article demonstrates the effect that differences in education and income between Malawian women and their husbands have on physical and emotional IPV. Contrary to literature supporting the dependence hypothesis, results from this study suggest that a husband having more education than his wife does not matter for predicting the likelihood of her being physically or emotionally abused. The results of this study support the transgression and/or compensation hypothesis, demonstrating that IPV is more likely to occur when power differentials in marriage disrupt traditional gendered power relations such as when a woman has more education or makes more money than her husband.

Furthermore, this study highlights the importance of education imbalance measures by showing that the effect of increasing education for women on the likelihood of physical and emotional abuse is contingent on her husband's education.

The results of this study can be important for development policies in Malawi and Southern Africa more generally. Development policies in Southern Africa are often aimed at alleviating IPV. The Malawian government has listed the eradication of violence against women as a strategy toward poverty reduction in the country (International Monetary Fund, 2005). Many suggest that educating women can help alleviate IPV by increasing women's autonomy and assertiveness in the household as well as by making them aware of services available to help victims of IPV (Bazargan-Hejazi et al., 2013; Conroy, 2014). In addition, educating women is cited as a way to make them more qualified and competitive for job opportunities which has the potential to increase their earning power and independence in the home. Although policies aimed at educating women are certainly helpful, this study has demonstrated the need to educate men alongside of women to help alleviate emotional and physical abuse within intimate partner relationships. Educating men has been associated with more gender-equal attitudes and beliefs. Therefore, increasing education in general may bring about a change in the norms that violence is an acceptable response to gender expectation transgressions (Counts et al., 1992; Garciá-Moreno, 2002). In addition, educating men alongside of women has the potential to change the way individuals think about stereotypical gender expectations and norms that support IPV (Counts et al., 1992). Therefore, this study demonstrates the need to educate men and women to decrease the risk of IPV for women in Malawi.

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