Domestic Violence Against Married Women in Egypt

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Abstract We estimated the associations of social learning in childhood, marital resources and constraints, and community gender stratification and norms with women's risk of physical domestic violence in a national sample of 5,272 married Egyptian women. Women who experienced corporal punishment or maltreatment as children had higher odds of such violence. An increase in women's household-standard-of-living was associated with lower odds of such violence. Wives with unusually less and unusually more schooling than their spouse had higher odds of such violence, and the wives of paternal cousins had lower odds of such violence. Measures of community gender stratification and norms were inconsistently and weakly associated with such violence. Women's marital resources and constraints accounted for most of their risk of experiencing physical domestic violence.

Keywords Cross-cultural · Domestic violence · Egypt · Family · Gender · Intimate partner violence

Introduction

Domestic violence refers to "assaultive and coercive behaviors that adults use against their intimate partners" (Holden 2003, p. 155). According to studies often of purposive samples in North America and Europe, men and women commit physical and psychological domestic violence equally often (Langhinrichsen-Rohling 2010; Straus 2004; Swan et al. 2008); yet, men's physical violence is more injurious, and men more often stalk, sexually assault, and use coercive tactics of control (Langhinrichsen-Rohling 2010; Swan et al. 2008). Women's violence also is spurred more often by fear or self-defense, and women experience worse psychological outcomes in situations of violence (Johnson 2010; Langhinrichsen-Rohling 2010; Swan et al. 2008). Women in poorer, more gender-stratified settings also experience physical domestic violence more often than men (Langhinrichsen-Rohling 2010). According to surveys in Africa, Asia, Latin America, and the Middle East, 12%–71% of women have reported a prior experience of physical domestic violence (Douki et al. 2003; Garcia-Moreno et al. 2006; Hindin et al. 2008; ICF Macro 2010; Watts and Zimmerman 2002), and according to reports by women and men, women have initiated such violence less often (Kishor and Johnson 2004; ICF Macro 2010). Thus, reported domestic violence is asymmetrical in ways that disproportionately and adversely affects women in most settings.

Despite the global burden of domestic violence against women, the determinants of such violence in poorer settings are understudied. Here, we explore the influences of women's social learning in childhood, resources and constraints in marriage, and contextual gender stratification and norms about women's family roles on their risks of experiencing physical domestic violence. We also assess which theory best accounts for these risks. We address these questions in a national sample of 5,272 married women who took part in the 2005 Egypt Demographic and Health Survey [EDHS] (El-Zanaty and Way 2006). First, we provide a detailed description of the sample. We then

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present evidence of the reported prevalence of lifetime and prior-year physical domestic violence against women. Finally, we present findings from a multivariate logistic regression of the determinants of physical domestic violence. Egypt is a useful site for this study, being a poorer and highly gender-stratified setting where domestic violence against women is common (El-Zanaty and Way 2006; Yount 2005a, b). This work, thus, tests the wider applicability of three explanations for domestic violence in the West. As such, this work adds to cross-cultural research on domestic violence, which has not fully integrated evidence from poorer, more gender-stratified settings (e.g., Krahé et al. 2005). The results suggest ways to improve the treatment of wives in Egypt and similar settings.

Theories of Domestic Violence Against Women

Social Learning in Childhood

Social learning theorists have argued that behavior is learned by modeling that of others (Akers 1977; Bandura 1977). Corporally punished or maltreated children, for example, observe and learn these behaviors from their parents and may come to use such behaviors in adulthood (Feshbach 1980; Schwartz et al. 2006). A woman's tendency to be in a violent partnership, thus, may be learned by observing or experiencing corporal punishment, neglect, or violence in childhood (Schwartz et al. 2006; Swan et al. 2008; Walker 1977/1978; Whitfield et al. 2003; Yount and Carrera 2006). *Invisible power* is a useful concept to explain this process. The term refers to psychological or social processes in a relationship of power that lead a subordinate to view inequalities in power as "normal" or "right" (Komter 1989, p. 213). Thus, exposure to corporal punishment or violence in childhood may teach women to view experiences of domestic violence as normal (Anderson and Kras 2007; Schwartz et al. 2006; Straus and Yodanis 1996). Such experiences may also lower women's self-esteem and reduce their ability to leave violent partners (Walker 1977/1978). The practices of female genital cutting in Egypt and family violence in the U.S., Egypt, and other poor settings are illustrative.

In 2005, 96% of women 15–49 years had experienced genital cutting, often by age 9 (El-Zanaty and Way 2006). Mothers, who decide on the practice for their daughters, have viewed it as "normal" and essential for gender identification and marriage (El-Zanaty and Way 2006; Yount 2002, p. 350). More severe cutting has been associated with a range of adverse health outcomes (Yount and Balk 2004), and Egyptian women with any cutting have tended to agree that "wife beating" is "justified" (Refaat et al. 2001, p. 597). The latter study, however, did not adjust for experiences of corporal punishment in

childhood. In 2005, over 69% of Egyptian mothers had "hit" or "slapped" one of their children in the prior month with a "hand or a hard object" to "teach" them the "right behavior," and 40% had "hit or slapped" a child's "head or face" for this reason (El-Zanaty and Way 2006, p. 347). In the U.S., adults who had such experiences in childhood have tended to "approve*"* of domestic violence or to view it as "appropriate" or a "sign of love" (Simons et al. 2008, p. 72; Straus and Yodanis 1996, p. 831), and such attitudes have predicted higher odds of perpetration (e.g., Straus and Yodanis 1996). In poor settings, the experience or observation of family violence in childhood has been associated with higher risks of "justifying" "wife beating" (Speizer 2009), and such views have predicted women's experiences of physical or sexual domestic violence (Hindin et al. 2008). These results imply a model of social learning in which parents, or other superordinates by age, use potentially harmful customary practices and/or physical force to teach women their subordinate place in marriage; yet, few cross-cultural studies of domestic violence have explored jointly the influences of such practices and experiences.

This review prompts one hypothesis about the net associations of two measures for social learning in childhood on women's risk of domestic violence: (H_{C1}) *wives who experienced genital cutting or physical violence/ punishment in their birth family will have higher odds of experiencing physical domestic violence.*

Resources and Constraints in Marriage and Intimate Partnerships

At the level of intimate partnerships, Goode (1971) has argued that physical force and its threat are resources that someone may use to control a partner's actions. People may use force when they lack other resources or have not achieved their desired ends by other means. Accordingly, scholars have estimated the effects of a husband's or household's socio-economic status on the risk of physical and psychological violence against wives. These measures have predicted such violence in South Asia (Jeejeebhoy and Cook 1997; Koenig et al. 2003), Southeast Asia (Hoffman et al. 1994; Yount and Carrera 2006), the Middle East (Yount 2005b), and North America (Smith 1990; Williams 1992). This evidence also corroborates stress theory insofar as low income may induce stress that leads to physical or psychological violence (e.g., Dutton 1988; Gelles 1974; Hoffman et al. 1994; MacMillan and Gartner 1999; Smith 1990).

Critics have argued that a woman's socioeconomic dependence, rather than her household's overall economic resources, may better explain her risk of experiencing domestic violence (e.g., Anderson 2005; Dobash and Dobash 1979; Kalmuss and Straus 1982). Married women with children and little other financial support may have or

perceive to have few alternatives to marriage, leading them to be more tolerant of a violent husband. Among cohabiting adults in the U.S., non-working wives with young children and earning less than 25% of the total income more often have experienced severe physical violence (Kalmuss and Straus 1982). Although having sons in parts of South Asia has been unrelated to or negatively associated with physical violence against women (Koenig et al. 2003; Schuler et al. 1996), having children in Minya, Egypt and Cambodia has been positively associated with physical domestic violence (Yount 2005b; Yount and Carrera 2006). Moreover, women with much less schooling than their spouse in the latter two settings have had higher odds of experiencing physical or psychological domestic violence (Yount 2005b; Yount and Carrera 2006). In rural Bangladesh, women participants in savings and credit programs have had two-thirds lower odds of physical domestic violence than have non-participants (Schuler et al. 1996), but such violence also has occurred among participants (Schuler et al. 1998).

Other aspects of the family context in Egypt, and in settings where extended kinship is common, may reinforce or mitigate a woman's dependence on marriage (e.g., Hoffman et al. 1994; Warner et al. 1986). First, patrilocal residence, whereby a married son remains in his father's house, may reduce a wife's power and increase her risk of physical and other forms of domestic violence because co-residing marital relatives share authority over her actions (Balk 1997; Yount 2005a, b). Second, women with closer ties to their *natal* or biological kin may have more control over finances, their own mobility, and marital conflicts (Bloom et al. 2001), and thereby become less likely to experience physical domestic violence (Yount 2005b). Third, *endogamy*, or marriage by blood, may protect a wife because her natal kin are more accessible and more vested in the union (Dyson and Moore 1983; Hoodfar 1997). Lastly, women in arranged marriages or married at younger ages may have less marital power and thus higher risks of various forms of domestic violence.

Finally, domestic violence against women may be higher in couples in which a woman's relative resources *exceed* those of her partner (Anderson 1997; MacMillan and Gartner 1999). In partnerships characterized by *status inconsistency*, atypical disadvantages of the male partner may provoke him to use violence to reassert his dominance or masculinity (Anderson 2005; Connell 1995; Thoits 1992). In Kentucky, life-threatening violence has been more common among wives whose schooling and occupational attainments exceeded those of the husband (Hornung et al. 1981). In the U.S., men more often have been physically violent toward female partners with higher incomes (Anderson 1997). In Canada, non-working men with working partners have been more likely to use coercive tactics of control (MacMillan and Gartner 1999).

Yet, absolute differences in spousal grades of schooling and scores for occupational prestige have not been associated with physical violence against wives in Bangkok, Thailand (Hoffman et al. 1994).

This review motivates three hypotheses about the net associations of women's resources and constraints in marriage with their risk of domestic violence: (H_{R1}) *wives in **poorer households** will have higher odds of experiencing physical domestic violence;* (H_{R2}) *wives who are socially and economically **dependent**, because they married at a younger age, married a non-relative, have children, or are less schooled than their spouse, will have higher odds of experiencing physical domestic violence; and* (H_{R3}) ***atypically advantaged** wives who are more schooled than their spouse will have higher odds of experiencing physical domestic violence.*

Gender Stratification and Norms About Women's Family Roles and Violence

Finally, feminist scholars have argued that domestic violence against women is rooted in broader systems of gender stratification (Bailey and Peterson 1995; Bograd 1988; Dobash and Dobash 1979; Kalmuss and Straus 1982; Yodanis 2004). One link between women's structural subordination and such violence is ideological. Namely, men's dominance in legal, economic, social, and political institutions legitimizes and sustains policies and practices that naturalize their dominance in the family. Such norms may directly affect women's risks of domestic violence.

A discussion of Egyptian national laws is illustrative. Here, family violence falls under the provisions of general law that cover all cases of abuse. The law, thus, does not prohibit spousal abuse; yet, recent legal changes address the problem indirectly (Ammar 2006). Some criminal law articles, for example, punish anyone who injures another or contributes to a woman's spontaneous abortion by a beating or other violence. In 2000, women also received the right to divorce on grounds of *incompatibility*, provided that they relinquish their financial and custodial claims as wives. These changes resulted partly from a focus on women's issues by nongovernmental organizations (NGOs) (Ammar 2006), but few NGOs offer direct services to women who experience domestic violence. Also, the few existing shelters often have rigid rules for admittance, and like law-enforcement authorities, prioritize spousal reconciliation over women's protection (Ammar 2006). Thus, laws and institutions pertaining to domestic violence and divorce support the ideas of men's dominance in marriage and of violence against wives as legitimate discipline (Ammar 2006).

Within this national context, variation in the concentration of patriarchal practices and groups may influence local

norms about the treatment of women. Notable in Egypt is the practice of early marriage, which reflects and perpetuates a low status of women (Heaton 1996). Among Egyptian women, the median age at first marriage varies from 18 years in rural Southern Egypt to 23 years in the urban governorates of Cairo, Alexandria, Port Said, and Suez (El-Zanaty and Way 2006). Attitudes about gender and domestic violence against women also may vary by religious practice (e.g., Peek et al. 1991). Although most Egyptians are Muslims, a notable minority is Christian (5%), and Christians tend to concentrate geographically in Southern Egypt. Views about women's family roles also have differed across these groups. First, some Islamic prescripts underlie the norm of *gender complementarity*, which upholds separate family roles for men and women, in which the husband-father is the head of household and economic provider and the wife-mother is the obedient housekeeper and childrearer (Nelson and Olesen 1977). Second, Islamists since the 1970s have fueled public debates over women's family roles, while Christian groups have endorsed a more uniform vision of women's empowerment. This vision has included women's education and participation in community development, as well as the eradication of so-called *harmful practices*, such as early marriage and female genital cutting (Yount 2004). Such efforts may have altered views about the treatment of women, especially among Christians and in areas where Christians are concentrated. Compared to Christian women in the Southern governorate of Minya, Egypt, Muslim women more often have agreed that "wife beating" is "justified" (Yount 2005a, p. 584).

This review suggests one hypothesis about the association of community gender stratification and norms about women's family roles with their risk of domestic violence: (H_{G1}) *women will have higher odds of experiencing physical domestic violence if they live in more patriarchal communities where there is, on average, more gender inequality in opportunities like schooling, younger ages at marriage for women, or a higher concentration of religious groups that sanction such practices.*

Other Determinants and Summary

This analysis also controls for other predictors of physical domestic violence against women. Specifically, a woman's age captures unmeasured period and life-course effects on her risk of experiencing such violence, and a woman's region of residence captures fixed, unmeasured contextual factors that may independently affect this risk (Yount 2005b, 2009; Yount and Carrera 2006).

In sum, a woman's social learning in childhood, resources and constraints in marriage, and community gender stratification and norms about women's family roles

may influence her risks of experiencing physical domestic violence. Yet, these theoretical perspectives have been applied largely in the West. This analysis of married Egyptian women tests the applicability and contributions of these three perspectives in a poorer and more gender-stratified non-Western national setting. The results suggest ways to reduce women's risks of physical domestic violence in Egypt and similar settings.

Method

Sample and Data

The sample comes from the 2005 Egypt Demographic and Health Survey [EDHS] (El-Zanaty and Way 2006). The Demographic and Health Surveys [DHS] are nationally representative, cross-sectional household surveys that have collected data on women of reproductive age (15–49 years) and their children in more than 80 low-to-middle-income countries since 1985. The DHS provide national estimates of domestic violence against women in more than 25 of these countries. The 2005 EDHS is the first national survey in the Arab Middle East that included multiple questions on domestic violence, as well as relevant individual-, partner-, and community-level data.

The 2005 EDHS sample was drawn from an updated version of the 1996 census frame using a three-stage cluster design in rural and urban areas. At the third stage, 99% (22,211 of 21,972) of identified households were interviewed. A domestic violence module was administered to eligible women in a one-third sub-sample of interviewed households. To ensure confidentiality, one ever-married woman 15–49 years per household was selected randomly to complete the domestic violence module, and 98% of selected women participated (5,613 of 5,711). Our sample ($n=5,272$ from all 26 governorates) excluded 246 unmarried women at the time of interview, another 24 who did not complete the domestic violence module, and another 71 who had missing data on genital cutting, corporal punishment or maltreatment after age 15 years by a parent, the spousal gap in grades of schooling, religion, or relation to spouse.

The survey followed established guidelines for the protection of human subjects (Kishor and Johnson 2004). A household form gathered demographic data for all members and data on household amenities and ownership of consumer goods and durables. A woman's form was administered to all ever-married women 15–49 years and gathered data on demographics, reproductive history, health knowledge and practices, and female genital cutting (in 1995–1996 and 2005). The domestic violence module was adapted from the Revised Conflict Tactics Scale (CTS2)

(Straus 1990; Straus et al. 1996). The module included questions on a woman's lifetime experience of specific forms of psychological, physical, and sexual assault by her (last) husband. Women who reported specific types of violence were asked about their frequency (*often*, *sometimes*, *not at all*) in the prior year. Women also were asked two questions about violence perpetration: if they had ever hit, slapped, kicked, or otherwise physically hurt their (last) husband, and if yes, the frequency (*often, sometimes, not at all*) of any such acts in the prior year. Women also were asked whether a non-spouse had ever hit, slapped, kicked, or otherwise physically hurt them since they were 15 years old. Lastly, women reported any injuries they had incurred from any prior domestic violence and any attempts at help seeking for domestic violence in the prior year.

Outcome

The outcome for this analysis focused on women's experiences of *physical domestic violence*. The rationale for selecting this particular outcome was the ability to make comparisons with past research, which has focused on physical domestic violence (see review, above). Our outcome captured whether or not the woman's husband reportedly had, in the prior year, (a) pushed, shaken, or thrown something at her, (b) slapped her or twisted her arm, (c) punched her with his fist or something that could hurt, (d) kicked or dragged her, (e) tried to strangle or burn her, (f) threatened her with a knife, gun, or other weapon, or (g) attacked her with a knife, gun, or other weapon. Separate measures for minor physical violence (items a and b) and severe physical violence (items c–g) were considered, but the latter form of violence was reported too infrequently to be analyzed separately (Table 2). Still, the overall domain of physical domestic violence is standard and reflects items in the CTS2 (Straus et al. 1996; Arabic and English versions of these questions available in the Appendix). The prior year was used to capture women's experiences of physical domestic violence to establish a suitable temporal ordering between the outcome and its determinants. We also considered capturing the frequency of physical domestic violence in the prior year, but the distribution of this variable was substantially right skewed (Table 2). So the final measure of past-year physical domestic violence was dichotomized to capture none or any such experiences. Lastly, less than 1% of women reportedly initiated physical violence toward their husbands, so this outcome was not analyzed.

Predictors

One measure of *social learning in childhood* captured whether the respondent was ever genitally cut, and thus was exposed to a practice that is meant to shape a woman's

sexual and gender identity. A second measure captured whether the respondent was ever hit, slapped, kicked, or otherwise hurt physically after age 15 years by a parent, and thus was exposed to corporal punishment or violence by a parent. Having data on such treatment before age 16 was preferred but not collected. Still, the available measure provides a reasonable *lower bound* for such treatment because less than 9% of women 15–49 years were married by age 15 (El-Zanaty and Way 2006), and never-married women continue to live with their parents and so are at risk of corporal punishment or violence by a parent.

A score for household standard of living in 2005 captured one measure for women's *resources and constraints in marriage*. The score was derived from data on 14 assets and 10 amenities that were in or owned by the respondent's household (list available upon request). Using a standard method for the creation of this score from DHS data (Filmer and Pritchett 1999), items were recoded and included in a principal components analysis. A score for each woman was derived from the estimated scoring coefficients for the first component, which accounted for 19% of the variance in the original 24 items. A second measure for *women's resources and constraints in marriage* was the spousal gap in schooling (woman completed at least 6 more, 1–5 more, the same amount, 1–5 fewer, or at least 6 fewer grades of schooling than her spouse). A wife's greater schooling captured status inconsistency, and her lesser schooling captured socioeconomic dependence. Other measures for a *woman's resources and constraints in marriage* included her number of living children (0, 1–2, ≥3) at 12 months before interview, age at first marriage in years, husband's relational status (first or second paternal cousin, first or second maternal cousin, other relative by blood or marriage, non-relative), and measures for whether the husband, his parents, or brothers were living with the respondent at interview. The measures of living arrangements could be functions of prior domestic violence but were retained because their inclusion or exclusion did not alter other model estimates or inferences (results available upon request).

Measures of community *gender stratification and norms about women's family roles* were derived from comparable data on households and women from the 1988, 1992, 1995–1996, 2000, and 2005 EDHS (El-Zanaty et al. 1993; El-Zanaty et al. 1996; El-Zanaty and Way 2001; Sayed et al. 1989). Data from all households or residents were aggregated to the governorate, a reasonably homogenous unit that permitted the linkage of prior contextual measures to respondents in the 2005 EDHS. Linear interpolation was used to compute annual values for each contextual variable for the period 1988–2005. Women were assigned values corresponding to the year before their first marriage or its closest equivalent to capture the context preceding the risk

period for domestic violence (in 21 governorates where the DHS began in 1988, 1,952 out of 5,272 women who married before 1988 were assigned contextual values for 1988, and in 5 governorates where the DHS began in 1995, 148 out of 5,272 women who married before 1995 were assigned contextual values for 1995). The final contextual measures were: (a) the female-to-male rate ratio of adult (≥15 years) ever attendance of school to capture the degree of gender equality of opportunity; (b) the average age at which women 15–49 years were first married to capture the local value and treatment of women; (c) the percentage of residents who were Christian to capture the concentration of religious groups and associated gender norms; and (d) the respondent's religion (Muslim versus Christian) to capture personal exposure to gender norms that such institutions may have promoted.

Finally, *sociodemographic control variables* included the woman's age in years, which captured period and life-course variations in her risk of domestic violence, and region of residence (Southern rural, Southern urban, Northern rural, Northern urban, Urban/Cairo, and Frontier governorates most peripheral to the Nile River), which captured all fixed, unmeasured regional attributes that may be related to the covariates and outcomes.

Analysis

Univariate analyses assessed the completeness and distributional properties of all variables. For covariates with an item-non-response of at least 1.7% ($n=86$; brother- and parent-in-law coresident), the attributes of responders and non-responders were compared and found to be similar (results available upon request). Missing responses for categorical variables were coded as such, and missing scores for household standard of living ($n=274$ or 5.2%) were imputed using the mean value of observed scores and flagged. Bivariate analyses assessed potential collinearities among the final set of covariates and unadjusted associations of covariates and outcomes. Sampling weights and robust variance estimators accounted for the sample design (Rao and Scott 1981, 1984).

For the multivariate analysis, we let i denote the woman, j governorate, and r region. Y_{ijr} denoted the outcome, C_{ijr} a vector of measures for women's *social learning in childhood*, W_{ijr} a vector of measures for *women's resources and constraints in marriage*, G_{jr} a vector of measures for governorate-level *gender stratification and norms about women's family roles*, and Q_{ijr} controls for age and region of residence. Fixed-effects logistic regression was used to model the conditional probability of a positive outcome as a linear function of the right-side variables:

$$logit(\pi_{ijr}) = a + \beta C_{ijr} + \beta W_{ijr} + \beta G_{jr} + \beta Q_{ijr} \qquad (1)$$

The extended Hosmer-Lemeshow χ^2 goodness-of-fit test statistic, which is suitable for complex survey designs, was computed to assess the fit of each model (Barnhart and Williamson 1998). Robust standard errors assuming an exchangeable correlation structure were estimated to account for any within-cluster correlation of the responses arising from the sample design (Liang and Zeger 1986). Chi-squared statistics were used to test the joint significance of variables in C, W, and G, respectively. The direction and significance of coefficients in C tested hypothesis H_{C1}, regarding women's *social learning in childhood*. The direction and significance of coefficients in W tested hypothesis H_{R1}, regarding women's household standard of living; hypothesis H_{R2}, regarding women's dependence on marriage; and hypothesis H_{R3}, regarding women's status inconsistency in marriage. The direction and significance of coefficients in G tested the hypothesis about community gender stratification and norms about women's family roles (H_{G1}). Notably, model estimates differed little across the samples that included and excluded imputed cases (results available on request). Also, the model reflected in equation 1 differed little across Northern and Southern Egypt and so is arguably generalizable to married Egyptian women (results available on request).

Finally, based on the estimated models depicted in equation 1, predicted probabilities of experiencing physical domestic violence in a year's time were estimated for eight sets of women, whose: (a) childhood exposures only, (b) marital resource exposures only, (c) community exposures only, and (d) all three exposures placed them at *high* versus *low* risk of experiencing such violence. In these estimations, all non-varying attributes were set to their mean or mode.

Results

Characteristics of the Sample

About 23% of women reported physical punishment or violence by a parent after age 15 (Table 1), and most (96%) reportedly had been genitally cut.

Most often (34% of cases), women had the same amount of schooling as their spouse, but about 5% had completed at least 6 more grades, and 15% had completed at least 6 fewer grades (Table 1). A majority of women reported having 3 or more living children (51%) at least 12 months before interview. On average, women had married before age 20 and most often had married a relative (32%) and a paternal cousin in particular (14%). At interview, most women (98%) were living with their spouse, and the rest most likely had a spouse who was working elsewhere. A notable minority (13%) was living with a parent-in-law, but relatively few (2%) were living with a brother-in-law.

Table 1 Attributes of the sample, married women 15–49 years, Egypt 2005 (*n*=5,272 unweighted).

	%	Mean	(SD)	Med	Min	Max
Social learning in childhood						
Physically punished or abused after age 15 years by a parent (ref: no)	23.2					
Genitally cut (ref: no)	95.7					
Women's resources and constraints in marriage (dependency/status inconsistency)						
Household standard of living score		.1	(2.7)	.1	−9.4	6.0
Difference in grades of schooling, husband-wife		1.4	(4.5)	.0	−18.0	16.0
Husband ≥6 fewer	5.4					
Husband 1–5 fewer	13.0					
None	34.4					
Husband 1–5 more	32.0					
Husband ≥6 more	15.2					
Number of children alive ≥12 months before interview		2.7	(1.9)	3.0	.0	12.0
0	14.3					
1–2	34.5					
≥3	51.2					
Age at first marriage		19.5	(4.2)	19.0	8.0	42.0
Relational status of husband (ref: non-relative)	67.6					
First or second paternal cousin	14.3					
First or second maternal cousin	9.4					
Third paternal/maternal cousin, other by marriage	8.8					
Coresident with husband (ref: no)	97.9					
Any brother-in-law coresident (ref: no)	96.6					
Yes	1.8					
Missing	1.7					
Any parent-in-law coresident (ref: no)	85.0					
Yes	13.3					
Missing	1.7					
Governorate gender stratification and norms about women's family roles[a]						
Adult (≥15 y) female-to-male ratio of ever attendance		.70	(.1)	.69	.45	.95
Average age at first marriage, women 15–49 years		18.4	(1.4)	18.3	15.9	21.6
% of population Christian		5.6	(5.5)	4.0	.0	22.9
Religion Christian (ref: Muslim)	5.4					
Other sociodemographic controls						
Age at interview, in years		33.2	(8.5)	33.0	15.0	49.0
Region/governorates						
Urban	18.4					
Urban Northern	12.1					
Rural Northern	31.1					
Urban Southern	13.4					
Rural Southern	24.0					
Frontier	1.1					

Reference groups are shown in parentheses, and the percentages only for non-reference categories are shown for binary variables

[a] Governorate-level variables are annualized for the period 1988–2005. Each woman is assigned an estimate corresponding as close as possible to the year before her first marriage

Women were living in governorates in which women's average rate of ever attending school was 70% of that for men, but this rate-ratio ranged from 45% to 95% across governorates (Table 1). The mean age at first marriage for women in each woman's governorate was 18 years, but this average ranged from 16 to 22 years across governorates. On average, 6% of residents in each woman's governorate were Christian, but this figure ranged from 0%–23%. Also, about

5% of sample women themselves were Christian. Regarding women's other attributes, they were about 33 years old, on average, and about three quarters were living in rural Northern Egypt (31%), rural Southern Egypt (24%), or highly urbanized governorates (18%).

Prevalence and Frequency of Physical Domestic Violence Against Women

Overall, high percentages of women reported any physical domestic violence ever (33%) and in the prior year (18%) (Table 2). Experiences of minor physical violence were reported more often than were those of severe physical violence (Table 2). Thirty-two percent of women, for example, reported *any* experience of minor physical violence; whereas, fewer (14%) reported *any* experience of severe physical violence. Gaps in the reported occurrence of these forms of violence in the prior year were similarly large (18% minor physical; 8% severe physical). The most commonly reported form of minor physical violence was slapping the woman or twisting her arm (28% ever; 15% prior year), followed by pushing, shaking, or throwing something at her (25% ever; 14% prior year). The most commonly reported form of severe physical violence was punching the woman with a fist or something that could hurt (13% ever; 7% prior year), followed by kicking or dragging her (6% ever; 3% prior year). One percent or fewer women reported any experience of the most severe forms of physical violence, including attempted strangulation or burning, threats with a weapon, and attacks with a weapon. Because a minority of women reported *frequent* past-year physical violence (Table 2), further analyses focused on the binary measure for whether or not each woman experienced any physical domestic violence in the prior year.

Prevalence of Physical Domestic Violence Across Sub-Groups of Women

As expected, the prevalence of past-year physical domestic violence varied across sub-groups of women (Table 3). Compared to their counterparts, women who experienced genital cutting and physical punishment/violence by a parent had higher prevalences of physical domestic violence. This prevalence also was higher among women who, compared to their counterparts: lived in households with a below-average standard of living, had any children, had a below-average age at first marriage, were married to someone other than a paternal cousin, were living with their husband, and were living with a parent-in-law. Also, women with at least six fewer or at least six more grades of schooling than their spouse had higher prevalences of physical domestic violence than did women with the same amount of schooling as their spouse. The prevalence of physical domestic violence did not vary according to the female-to-male ratio of ever schooling in the governorate. The prevalence of such violence, however, was higher among women living in governorates in which women's average age at first marriage was greater than 18 years. Also, physical domestic violence

Table 2 Prevalence (%) and frequency of ever and past-year physical domestic violence by husbands of married women 15–49 years, Egypt 2005 ($n=5,272$ unweighted).

Type of violence against woman by (last) husband	Ever	Last year	Last year frequency				
	%	%	Mean	(SD)	Median	Min	Max
Minor physical							
Push, shake, or throw something at her[a]	25.0	13.9	.18	(.48)	0	0	2
Slap respondent/twist her arm[a]	27.6	14.8	.19	(.50)	0	0	2
Any minor (push or slap)[b]	32.3	17.8	.37	(.90)	0	0	4
Severe physical							
Punch her with fist or something that could hurt[a]	12.7	6.9	.09	(.37)	0	0	2
Kick/drag her[a]	5.7	3.2	.05	(.28)	0	0	2
Try to strangle/burn her[a]	1.0	.5	.01	(.11)	0	0	2
Threaten her with knife, gun, or other weapon[a]	.9	.4	.01	(.10)	0	0	2
Attack her with knife, gun, or other weapon[a]	.5	.1	.00	(.06)	0	0	2
Any severe (punch, kick, try to strangle, threaten w/weapon, or attack)[c]	13.8	7.7	.16	(.67)	0	0	10
Any physical (any of the 7 forms of minor or severe physical violence)[d]	32.6	18.2	.52	(1.44)	0	0	14

[a] The scale for frequency of prior-year violence is 0 (*not at all*), 1 (*sometimes*), and 2 (*often*)

[b] The scale for frequency of prior-year violence is the sum of scores for both component items and ranges from 0 (*not at all* for both items) to 4 (*often* for both items)

[c] The scale for frequency of prior-year violence is the sum of scores for all 5 component items and ranges from 0 (*not at all* for all items) to 10 (*often* for all items)

[d] The scale for frequency of prior-year violence is the sum of scores for all 7 component items and ranges from 0 (*not at all* for all items) to 14 (*often* for all items)

Table 3 Prevalence of physical domestic violence against women in the prior year, by sub-group, married women 15–49 years, Egypt 2005 (n=5,272 unweighted).

	% p
Social learning in childhood	
Ever physically punished or abused after age 15 years by a parent	26.2****
No	15.7
Genitally cut	18.7****
No	6.8
Women's resources and constraints in marriage	
Household standard of living score >.1	14.0****
< = .1	22.7
Spousal difference in completed grades of schooling none	17.9****
Husband ≥6 fewer grades	22.3
Husband 1–5 fewer grades	18.9
Husband 1–5 more grades	14.7
Husband ≥6 more grades	23.9
# children alive ≥12 months before interview 0	13.1****
1–2	19.4
≥3	18.7
Age at first marriage >19	14.9****
< = 19	21.2
Relational status of husband non-relative	17.9***
First or second paternal cousin	15.7
First or second maternal cousin	18.4
Third paternal/maternal cousin, other relative by marriage	23.7
Co-resident with husband	18.4***
No	7.7
Co-resident with any brother-in-law	15.6
No	18.1
Co-resident with any parent-in-law	20.4*
No	17.7
Governorate gender stratification and norms about women's family roles	
Adult (≥15 y) female-to-male ratio of ever schooling >.7	18.2
< = .7	18.1
Average age at first marriage, women 15–49 years >18.4	19.3**
< = 18.4	16.7
% of population Christian >4	16.9**
< = 4	19.1
Religion Muslim	18.4*
Christian	14.0
Other sociodemographic control variables	
Age at interview, in years >33	15.5****
< = 33	20.6
Region, Urban Governorates	15.9****
Urban Lower Egypt	15.1
Rural Lower Egypt	21.3
Urban Upper Egypt	15.6

Table 3 (continued).

	% p
Rural Upper Egypt	19.0
Frontier governorates	14.3

Models control for missing household standard of living score, and coresidence of a brother- or parent-in-law. None of the coefficients for these categories are significant at $p \leq .05$

*$p \leq .10$; **$p \leq .05$; ***$p \leq .01$; ****$p \leq .001$, adjusting for sample design

was at least marginally less prevalent among Christian women and among women who were living in governorates that housed a higher average percentage of Christians. Finally, younger women (≤33 years) had a higher prevalence of physical domestic violence than did older women (>33 years), and women living in rural areas of Egypt had higher prevalences of physical domestic violence than did their urban counterparts.

Multivariate Results

Table 4 shows the adjusted log odds that women reported any physical domestic violence in the prior year. Overall, the sets of measures for *social learning in childhood*, *women's resources and constraints in marriage*, and *gender stratification and norms about women's family roles* each were jointly associated with the outcome (Chi-squared test statistics, Table 4).

Both measures for *social learning in childhood* were associated in the expected ways with women's odds of experiencing physical domestic violence (H_{C1}). Women who reported any physical punishment or violence since age 15 by a parent had 1.8 times higher odds of reporting this outcome, and women who had been genitally cut had 1.9 times higher odds of reporting this outcome.

Most, but not all, of the measures for *women's resources and constraints in marriage* were associated in the expected ways with their odds of physical domestic violence ($H_{R1} - H_{R3}$). A unit increase in the score for household standard-of-living was associated with 13% lower odds of reporting physical domestic violence (H_{R1}). The spousal gap in grades of schooling was related in the expected U-shaped fashion with reporting physical domestic violence (H_{R2} and H_{R3}). That is, women whose spouse had at least six fewer grades had 1.4 times higher odds of reporting physical domestic violence, and women whose spouse had at least six more grades had 1.3 times higher odds of reporting such violence. Having any children at least 12 months before interview was associated with 2.0–2.4 times higher odds of reporting such violence.

Moreover, a one-year increase in women's age at first marriage was marginally associated with 3% lower odds of reporting physical domestic violence, and women married to a first or second paternal cousin had 25% lower odds of reporting

Table 4 Log odds of physical domestic violence against women in the prior year, married women 15–49 years, Egypt 2005 ($n=5{,}272$ unweighted).

	est	(se) p
Social learning in childhood - C		
Ever physically punished or abused after age 15 years by a parent (ref: no)	.58	(.11)****
Genitally cut (ref: no)	.67	(.29)**
Women's resources and constraints in marriage - W		
Household standard of living score	−.14	(.02)****
Difference in completed grades of schooling (husb-wife) (ref: 0)		
Husband ≥6 fewer grades	.36	(.20)*
Husband 1–5 fewer grades	.10	(.14)
Husband 1–5 more grades	−.26	(.11)**
Husband ≥6 more grades	.29	(.13)**
# children alive ≥12 months before interview (ref: 0)		
1–2	.71	(.16)****
≥3	.86	(.19)****
Age at first marriage	−.03	(.01)*
Relational status of husband (ref: nonrelative)		
First or second paternal cousin	−.28	(.13)**
First or second maternal cousin	−.06	(.15)
Third paternal/maternal cousin, other relative by marriage	.31	(.15)**
Co-resident with any brother-in-law (ref: no)	−.51	(.35)
Co-resident with any parent-in-law (ref: no)	−.10	(.14)
Co-resident with husband (ref: no)	.96	(.46)**
Governorate gender stratification and norms about women's family roles - G		
Adult (≥15 y) female-to-male ratio of ever schooling	−.87	(.73)
Average age at first marriage, women 15–49 years	.39	(.08) ****
% of population Christian	.00	(.01)
Religion Christian (ref: Muslim)	−.06	(.21)
Other sociodemographic control variables - Q		
Age at interview, in years	−.03	(.01) ***
Region (ref: Urban governorates)		
Urban Lower	.39	(.22)*
Rural Lower	.39	(.20)*
Urban Upper	.53	(.28)*
Rural Upper	.39	(.30)
Frontier	−.06	(.26)
X^2 test for joint significance of variables in C		****
X^2 test for joint significance of variables in W		****
X^2 test for joint significance of variables in G		****

Models control for missing household standard of living score, and co-residence of a brother- or parentin-law. None of the coefficients for these variables are significant ($p\leq.05$)

*$p\leq.10$; **$p\leq.05$; ***$p\leq.01$; ****$p\leq.001$, adjusting for sample design

such violence. Living with one's husband was associated with 2.6 times higher odds of reporting such violence, but living with an in-law was not associated with reporting such violence.

The associations of governorate-level measures for *gender stratification and norms about women's family roles* with physical domestic violence against women were weak or inconsistent. Women's average age at first marriage in the governorate was unexpectedly positively associated

with women's odds of experiencing physical domestic violence, and none of the three remaining measures (female-to-male rate ratio of ever attendance of school, percentage of the population in the woman's governorate that was Christian, and religion of the respondent) were associated with such violence. Finally, regarding the *control variables*, a one-year increase in the woman's age was associated with 3% lower odds of experiencing physical

domestic violence, and living outside of the urban governorates was, in most cases, associated with marginally higher odds of experiencing such violence.

Based on these estimates, Table 5 shows the predicted probabilities of experiencing physical domestic violence in a year's time for eight types of women, whose: (a) childhood exposures only, (b) marital resource exposures only, (c) governorate exposures only, and (d) all three exposures placed them at *high* versus *low risk* of such violence. The note to Table 5 specifies the attributes of each group. In all estimations, the fixed attributes were set to their mean or mode.

As expected, a woman with high-risk exposures had a higher probability of experiencing physical domestic violence in a year's time than did her low-risk exposure counterpart; however, the extent of this contrast differed by type of exposure. A woman with high-risk childhood exposures, for example, had a higher probability of experiencing such violence (.29) than did a woman with low-risk childhood exposures (.10). Likewise, a woman in a high-risk governorate had a higher probability of experiencing such violence (.24) than did a woman in a low-risk governorate (.10). The gap in this predicted probability,

Table 5 Predicted probabilities of physical domestic violence in a 12-month period, married women 15–49 years, Egypt 2005 (*n*=5,272 unweighted).

I. Woman's social learning in childhood	
(1) High risk[a,b]	.288
(2) Low risk	.104
II. Woman's resources and constraints in marriage	
(3) High risk[b,c]	.389
(4) Low risk	.008
III. Gender stratification and norms about women's family roles	
(5) High risk[b,d]	.237
(6) Low risk	.102
I, II, and III	
(7) High risk[a,c,d]	.609
(8) Low risk	.002

[a] Genitally cut, physically punished, or abused by parents. Other variables set to the mean or mode

[b] Mean or modal values for all (other) variables are: genitally cut, not physically punished, or abused after age 15 years by a parent, husband and wife same number of grades, 19.5 years old at first marriage, .1 household-standard-of-living score, ≥3 living children, husband not a blood relative, no parent-in-law, coresident, spouse coresident, Muslim, 5.6% of governorate population Christian, .7 female-to-male ratio of ever schooling, women's average age at first marriage 18.5 years in governorate, 33 years old at interview, and lives in Rural Southern Egypt

[c] −1.87 household-standard-of-living score, Husband ≥6 fewer grades, third paternal/maternal cousin, other relative by marriage, and coresident; ≥3 children alive; first married at 16 years; and parentsor brothers-in-law not coresident. Other variables are set to their mean or mode

[d] 1.90% of the population Christian, governorate household religion Muslim, and women's average age at first marriage in the 19 years. .61 female-to-male ratio of ever schooling. Other variables are set to their mean or mode

however, was largest between women with high- and low-risk marital-resource exposures. A woman who was dependent on marriage (high-risk exposure), for example, had a .39 probability of experiencing physical domestic violence; whereas, her low-risk counterpart had virtually no probability (.01) of experiencing such violence. Together, a woman with all high-risk exposures had a .61 probability of experiencing physical domestic violence in a year's time, and this probability was .00 for a woman with all low-risk exposures. Thus, a woman's resources and constraints in marriage accounted for more than half of her probability of experiencing physical domestic violence, regardless of her other exposures.

Discussion

This paper has evaluated three explanations for the occurrence of physical domestic violence against women in Egypt. The analysis has advanced cross-cultural research by exploring individual-, interpersonal-, and community-influences on physical domestic violence against women in a national context. The analysis also has included cross-cultural and culturally-specific measures for women's social learning in childhood, resources and constraints in marriage, and community gender stratification and norms about women's family roles. The results offer insights about policies and interventions that may mitigate domestic violence against women in Egypt and similar settings.

Conclusions

Overall, the analyses supported our expectations about the influence of social learning in childhood on women's risk of experiencing physical domestic violence (H_{C1}). Women who experienced corporal punishment or maltreatment by a parent and female genital cutting had higher odds of experiencing physical domestic violence. Such findings corroborate prior research (e.g., Jewkes et al. 2002; Schafer et al. 2004; Whitfield et al. 2003; Yount 2002), and confirm the importance of early social learning for women's risks of experiencing physical domestic violence. In general, however, the DHS do not fully measure the various forms of family violence to which women and husbands may be exposed in childhood. Future DHS, therefore, should collect such measures to disentangle their potential effects on women's risks of experiencing domestic violence.

Regarding the effects of women's resources and constraints in marriage, two findings are especially notable. First, women in poorer households had higher odds of reporting physical domestic violence (H_{R1}). In general, this finding supports prior research (e.g., Hoffman et al. 1994; Jejeebhoy and Cook 1997; Koenig et al. 2003; Williams 1992; Yount 2005b; Yount and Carrera 2006) and the expectation that poor husbands are more likely to use force (Goode 1971). Notably,

the measure for standard of living in this analysis was constructed to compare households within the context of Egypt. One potential avenue for future research might be to explore cross-national variation in the association of domestic violence against women with a cross-nationally standardized measure for household income or wealth. Such research might help to answer whether absolute or relative levels of household poverty matter most as a determinant of women's risk of experiencing domestic violence across contexts. Second, the relative resources of spouses were uniquely relevant (H_{R2} - H_{R3}). In this setting, parity in schooling was the most common marriage match (34%), and more rarely did husbands have at least 6 fewer (5%) or at least 6 more (15%) grades of schooling. Compared to the wives whose schooling equaled their husbands', those who were atypically advantaged or disadvantaged had higher odds of experiencing physical domestic violence. Such findings corroborate two important ideas. First, even in a highly gender-stratified setting, the extent of dependence on husbands varies at the couple level, and wives who are atypically dependent relative to other wives face higher risks of experiencing physical domestic violence. Second, in this highly gender-stratified setting, women who transgress local gender norms by being atypically advantaged vis-à-vis their spouse face "backlash" in the form of elevated risks of physical domestic violence. An important question for future research would be whether and to what extent these elevated risks diminish over time.

Other findings regarding women's dependence on marriage (H_{R2}) are notable. First, the wives who had any living children had higher odds of experiencing physical domestic violence. This result corroborates findings from the U.S. (Kalmuss and Straus 1982); yet, Egyptian mothers may be especially unwilling to leave a violent partner because they ultimately would lose custodial rights and its associated old-age support. Second, women who married later, accruing status and maintaining kin ties, had lower odds of experiencing physical domestic violence. Third, women who married a paternal cousin had lower odds of experiencing physical domestic violence. Thus, while such marriages reflect and uphold patriarchal kinship, they appear to confer protection to some women, perhaps because the husband's background is better known and the woman's kin are more vested to intervene in disputes (Bittles 1994; Dyson and Moore 1983; Hoodfar 1997). Finally, contrary to expectations and prior research (Yount 2005b), living with in-laws did not alter women's risks of domestic violence. Yet, these variables were derived from data on each household member's relationship to the head, which prevented the classification of some respondents' living arrangements. This circumstance may have biased our estimates of association, and so future DHS should include more direct questions about women's living arrangements.

Finally, contrary to expectation (H_{G1}), measures for community gender stratification and norms about women's

family roles were weakly and inconsistently associated with women's risks of physical domestic violence. Unexpectedly, women's average age at first marriage was positively associated with such violence, and none of the other measures (female-to-male rate ratio of ever attendance of school, percentage of the population that was Christian, and religion of the respondent) were associated with this outcome. One explanation for these findings may be methodological, if the governorate-level measures reflected exposures from the too-distant past. Specifically, if variable changes had occurred across the governorates since each woman's marriage, then measures of her more recent environment may be more relevant. Models that substituted governorate-level attributes for 2005, however, did not appreciably differ from those presented here (results available upon request). Another possible reason for these results may be the broadly unfavorable legal and institutional environment in which Egyptian women experience domestic violence (Ammar 2006). In other words, women's general lack of formal recourse may dampen any effects of other governorate-level attributes. To assess this explanation, future research might compare the associations of community attributes with domestic violence against women across diverse legal and institutional contexts.

Overall, these findings highlight the many predictors of women's risks of physical domestic violence. Simulations, however, suggest that this risk may be highest for socially and economically dependent wives (Kalmuss and Straus 1982). Thus, one way to reduce women's risk of such violence may be to invest in their social and economic capital, thereby reducing their dependence on marriage. Yet, a woman's dependence on marriage is rooted in broader systems of gender stratification (Kalmuss and Straus 1982). In Egypt, national laws, institutions, and associated social norms reinforce the social and economic dependence of wives (Ammar 2006). Women who seek to marry, work, travel, or open a business, for example, must obtain permission from a male guardian to do so (Moghadam 2004). Also, women who seek a divorce must forego their financial and custodial rights, relinquishing their primary supports in old age. Divorce, moreover is especially stigmatizing for women, and divorced women often do not remarry. Finally, shelters for women who would leave violent husbands are scarce, difficult to enter, and, like law-enforcement authorities, tend to prioritize reconciliation (Ammar 2006). As a result, few women of reproductive age are divorced (2%) and few women recently exposed to domestic violence have sought formal recourse (<1%) (El-Zanaty and Way 2006).

Given this context, several legal reforms may enhance the protective effects of investments in women's social and economic capital. Labor laws in Egypt could be revised to enable women to work without obtaining permission from a male guardian. Divorce laws in Egypt also could be revised to

enable divorced women to retain some financial and custodial rights. The penal code could be revised to criminalize domestic and other forms of family violence. Together, such reforms may weaken norms of gender complementarity, reduce the stigma of divorce in Egypt, and send a message that wives who experience domestic violence have real alternatives.

Although such reforms would create new spaces to question domestic violence, slow declines in female genital cutting in Egypt after its ban suggest that people may ignore laws that they view as bad or unenforceable (Dillon 2000). To foster the enforcement of the above legal reforms, NGOs could offer women who experience domestic violence culturally suitable services that prioritize their safety and skill-building. Such services would provide immediate recourse and long-term financial options, reinforcing the message that wives who experience violence have real options. To foster the use of these kinds of services, NGOs might engage lay people and local leaders in discussions of domestic violence as one of many co-occurring forms of family violence. Such discussions might address the gender and generational norms that teach women their subordinate place within marriage and that legitimize domestic violence against women (Yount 2009).

Some potential drawbacks of the EDHS sample are notable. First, it excluded never-married women. Yet, questions on sexuality are culturally unsuitable for such women, and domestic violence in Egypt occurs largely in formal unions (Ammar 2006) because cohabitation is illegal, women's median age at marriage is 21, and marriage is nearly universal by age 45 (El-Zanaty and Way 2006). Second, the subsample of women for the domestic violence module may not represent ever-married women 15–49. Yet, the observed attributes of sampled and nonsampled women were similar (results available upon request). Third, only married women were included in the analysis, but the risk of domestic violence and its determinants may differ by marital status. Still, less than 7% of women in the domestic violence sub-sample were formerly married, and the lifetime experience of physical domestic violence is similar for divorced and married Egyptian women (Yount 2005b). Inferences, moreover, differed little in models that were based on currently versus ever-married women (results available upon request). Thus, making inferences to married women 15–49 years in Egypt is reasonable.

Some potential limitations of the 2005 EDHS data also are notable. One limitation is that women may have misreported experiences of violence and genital cutting (e.g., Langhinrichsen-Rohling 2010). Yet, the module on domestic violence was based on a valid instrument (Straus et al. 1996) and yielded higher estimates of lifetime physical violence by anyone (47%) than have single questions in prior EDHS (35%) (El-Zanaty et al. 1996; El-Zanaty and Way 2006). Also, reported rates of female genital cutting (96%) corroborated those from clinical studies (93%) (El-Zanaty et al.

1996; El-Zanaty and Way 2006), and the interruption of some EDHS interviews (4%) was not related to women's reports of domestic violence (results available upon request). Still, estimates of domestic violence from the 2005 EDHS likely reflected a consistent minimum bound on such violence. Future DHS should undertake efforts to assess the immediate antecedents and broader context of fear and motivation surrounding reported instances of domestic violence (Langhinrichsen-Rohling 2010). A second limitation of the 2005 EDHS is that data were lacking on some potentially relevant variables, such as substance abuse by either partner (McKenry et al. 1995), each partner's exposure to various forms of family violence, and women's perpetration of non-physical forms of domestic violence. Such variables may be associated with the observed covariates and outcomes, so our findings should be interpreted as associational rather than causal. Having complete data on a range of violence-related exposures for separate samples of ever-partnered women and men would improve our knowledge of how these behaviors are gendered and the prospects for normative and behavioral change.

Researchers, thus, should explore the methodological issues of collecting data on domestic violence across diverse cultures, and of including other determinants of domestic violence against women. Such research might include test-retest studies of reported domestic violence, or qualitative interviews about perceptions of women's treatment in local context. Researchers also should assess the generalizability of these findings across diverse socio-legal contexts and other forms of domestic violence. Such research would enhance an understanding of the common determinants of domestic violence against women, and national and international policies to prevent its occurrence.

Until such data are collected in Arab settings, this study offers a unique and theoretically grounded analysis of women's risk of experiencing physical domestic violence using national data from an Arab Middle Eastern country (Boy and Kulczycki 2008). The findings suggest that such violence is common among married Egyptian women, especially when they lack viable alternatives to marriage. Investments in women's social and economic capital may, therefore, help to mitigate these risks. Yet, such investments may not fully enable women to protect themselves if national laws and institutions constrain their ability to leave a violent spouse. Thus, effective reductions in women's risk of domestic violence may require concurrent changes to national laws, institutions, and associated norms that naturalize women's subordination in potentially violent marriages.

Appendix

NO.	QUESTIONS AND FILTERS			CODING CATEGORIES				SKIP
Appendix. *Questions on Physical Domestic Violence, 2005 Egypt Demographic and Health Survey, English and Arabic*								
905	905A (Does/did) your (last) husband ever:			905B How often did this happen during the last 12 months: often, only sometimes, or not at all?				
				OFTEN	SOME TIMES	NOT AT ALL	NA	
	1) push you, shake you, or throw something at you?	YES 1 → NO 2 ↓		1	2	3	5	
	2) slap you or twist your arm?	YES 1 → NO 2 ↓		1	2	3	5	
	3) punch you with his fist or with something that could hurt you?	YES 1 → NO 2 ↓		1	2	3	5	
	4) kick you or drag you?	YES 1 → NO 2 ↓		1	2	3	5	
	5) try to strangle you or burn you?	YES 1 → NO 2 ↓		1	2	3	5	
	6) threaten you with a knife, gun, or other type of weapon?	YES 1 → NO 2 ↓		1	2	3	5	
	7) attack you with a knife, gun, or other type of weapon?	YES 1 → NO 2 ↓		1	2	3	5	
	8) physically force you to have sexual intercourse with him when you did not want to?	YES 1 → NO 2 ↓		1	2	3	5	
Notes. Questions 901 - 904 and 906 - 921 are omitted for reasons of space. All items above are variants of those included in the Revised Conflict Tactics Scale (CTS2) (Straus et al., 1996).								

٩٠٥ب ده كان عادة بيحصل خلال الـ ١٢ شهر اللى فاتوا فى أغلب الاحيان ولا أحياناً ولا ماحصلش خالص؟				١٩٠٥أ يا ترى سبق لجوزك (الأخير) أنه:	٩٠٥
لا ينطبق	ما حصلش خالص	أحياناً	فى أغلب الاحيان		
٥	٣	٢	١	١. زئك، عزك جامد أو رسى عليكى حاجة؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٢. ضربك بالقلم أو لوى ذراعك؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٣. ضربك بالبوكس أو بحاجة ممكن توجعك؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٤. ضربك شلوت أو جرجرك؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٥. حاول يخنقك أو يحرقك؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٦. هددك بسكينة، مسدس، أو نوع تانى من السلاح؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٧. هجم عليكى بسكينة، مسدس، أو نوع تانى من السلاح؟　نعم ١ ← / لا ٢ ↓	
٥	٣	٢	١	٨. أجبرك بالقوة انك تعاشريه (تـامى سعاد)؟　نعم ١ ← / لا ٢ ↓	

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