

Domestic Violence against Married Women in Egypt

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Abstract: 212 words

Body text: 10,512

Total words: 10, 724

Acknowledgements: Mrs. Teresa Parker's assistance with the preparation of this manuscript is appreciated, and any remaining errors are the responsibility of the authors. This material is based upon work supported by the Law and Social Sciences Program of the National Science Foundation under Grant No. 0550387.

Abstract

The causes of high levels of domestic violence against women globally are ill-understood. Using a national sample of 5,485 ever-married Egyptian women, we test competing hypotheses about the associations of domestic violence against women in the prior year with their childhood exposures, absolute and relative household resources, and family organization in community context. A higher female-to-male ratio of ever schooling was associated directly with marginally lower odds of minor physical violence against women, and indirectly with lower odds of psychological abuse. Women's exposure to child maltreatment was associated with at least 1.6 times higher odds of experiencing any psychological, minor physical, and severe physical violence. A one-point increase in women's score for household standard of living was associated with 12–19% lower odds of experiencing any psychological, minor physical, and severe physical violence. A U-shaped association between spousal differences in grades of schooling and domestic violence against women suggests that women's extreme marital *dependency* and *status inconsistency* may elevate their risk of experiencing such violence. Women married to a paternal cousin had 30–40% lower odds of experiencing any psychological, minor physical, and severe physical violence. Simulations expose the dominant roles of women's childhood exposures, marital dependency, and family organization as determinants of domestic violence against women from all standards of living.

Introduction

Domestic violence refers to “assaultive and coercive behaviors that adults use against their intimate partners” (Holden 2003:155), and domestic violence against women is widespread (Kishor and Johnson 2004; Levinson 1989; Watts and Zimmerman 2002). According to the 1995-6 National Violence against Women Survey, an estimated 25% of women in the U.S. reported that they had ever been raped and/or physically assaulted by a current or former spouse, cohabiting partner, or date (Tjaden and Thoennes 1998). The lifetime prevalence of physical domestic violence has been 40–52% among ever-married women in parts of Latin America (Kishor and Johnson 2004; Ellsberg et al.1999; Coker and Richter 1998), and 17–48% among selected women in Africa (Kishor and Johnson 2004; Watts and Zimmerman 2002; Jewkes et al. 2001). Lifetime and recent acts of domestic violence against women have been at least as frequent in parts of Asia (Hoffman, Demo, and Edwards 1994; Kim and Cho 1994; Kim and Choe 1992; Koenig et al. 2003; Yount 2006). Studies of domestic violence in the Middle East are rare, but one third of ever-married Egyptian women has reported being beaten since marriage, and 30% of married Arab women in Israel has reported recent physical or sexual abuse (El-Zanaty et al. 1996; Haj-Yahia and Edleson 1994; Yount 2005b).

Despite these estimates, the causes of domestic violence against women in non-Western settings, and especially in the Middle East, are ill-understood. Cross-cultural research has not systematically tested competing hypotheses about the roles of household socioeconomic status, wives’ socioeconomic dependence or status inconsistency in marriage, family organization, and childhood experiences in community context. In this paper, we test the various determinants of domestic violence against women in a representative sample of ever-married women in Egypt.

Causes of domestic violence against women

Community context

Scholars have argued that the broader community can insulate people from violence or exacerbate its risk. Some have attributed geographic variation in the risk of *general* assaultive violence to *community economic deprivation* and its correlates (Sampson and Lauritsen 1994). First, geographic place locates people within networks that define their access to public services and their options for work, schooling, capital accumulation, and property appreciation (Massey 1996; Sampson and Groves 1989; Wilson 1987; Logan and Messner 1987). Second, community economic deprivation is associated with weak social organizations and limited social capital,¹ which otherwise are resources for individual and collective action (Sampson and Groves 1989). Third, community economic deprivation is associated with elevated levels of community violence, and people may adapt to living in endemic violence by becoming violent themselves (Massey 1996; Anderson 1994; Bourgois 1995). Research on community economic deprivation, its correlates, and domestic violence against women is more limited, however (Miles-Doan 1998). Community economic deprivation may increase men's risks of being unemployed and thus unable to fulfill their role as economic provider for the family. Men of low socioeconomic status who head poor households may be more likely to use violence to control their partners (Miles-Doan 1998). In Duval County, Florida, census-level measures of economic deprivation have been associated with higher rates of assaultive violence between spouses and intimates (Miles-Doan 1998), and neighborhood poverty and male unemployment have increased the odds of sexual violence against women in Haiti (Gage 2005).

Geographic variation in the risk of assaultive violence also may result from *community economic inequality*. Concerning domestic violence, scholars have considered the direct and

indirect effects of *community gender inequality* in access to social and economic resources (Bailey and Peterson 1995). Namely, women's poorer representation than men in local schools and labor markets may reflect and perpetuate a low value of women to families and society (Brinton 1988), which may have direct effects on a woman's risk of exposure to domestic violence. Having non-familial sources of social and economic capital also may reduce indirectly a woman's risk of exposure to domestic violence by altering the distribution of resources at home. In rural Bangladesh, a married woman's membership in a savings program has not been associated with her risk of physical abuse, but this risk has declined as the share of female members in the same *community* increased (Koenig et al. 2003). In the U.S., greater community-level gender inequality in schooling and work has been positively associated with a woman's risk of being killed by her spouse (Bailey and Peterson 1995).

Finally, dominant groups or patriarchal practices in a community may perpetuate norms about the value and treatment of women (Kishor 1993), which may directly affect a woman's risk of domestic violence (Portes 1998; Johnson 1995). The geographic concentration of religious groups and of practices like early (arranged) marriage or targeted violence against women are worthy considerations in this research. In the U.S. and Canada, attitudes about gender and the emphasis placed on family versus non-family roles for women have differed by religious affiliation and/or practice (Brinkerhoff and MacKie 1985; Mason and Lu 1991; Mason and Kuhlthau 1989; Thornton, Alwin, and Camburn 1983; Peek, Lowe, and Williams 1991). Among ever-married women aged 15–49 years in India, Sikhs, Jains, and “other” religious groups have agreed less often than have Hindus, Muslims, and Christians that wife beating is justified (range 27–44% versus 57–65%, respectively) (International Institute for Population Sciences 2000). In Minya, Egypt, religious groups often cluster geographically, and compared to Christian women,

Muslim women more often have favored the practice of female genital cutting and have agreed that wife beating is justified (Yount 2002, 2005b).

Gender and resources in intimate partnerships

Although understudied outside the West, the dimensions of community that are described above probably are linked to certain family-level determinants of domestic violence against women (Figure 1). Goode (1971) has argued that physical force or its threat are resources, like money or personal attributes, that individuals may use to induce desired behavior or to deter unwanted actions. Goode (1971) has predicted that people will rely on physical force when they lack other resources, or when other resources have failed to achieve desired ends. Scholars have tested Goode's hypothesis by estimating the effects of a husband's or a household's socioeconomic status on the physical abuse of the wife. In parts of India, the unadjusted odds of wife beating have been higher in households owning fewer consumer durables (Jejeebhoy and Cook 1997), and in rural Bangladesh, landholdings have been negatively associated with wife beating by a husband or his family (Koenig et al. 2003). Various indices of household socioeconomic status also have been negatively associated with physically abusing wives in Bangkok, Thailand, Cambodia, and Minya, Egypt (Hoffman, Demo, and Edwards 1994; Yount 2005b, 2006), and a measure combining individual income, education, and occupational prestige has been negatively associated with partners' assaults among adult heterosexual couples in the U.S. (Williams 1992). Research in North America generally has shown that the income of the family or husband is consistently negatively associated with physically abusing a wife, but the relationships of men's schooling and employment with wife abuse have been less consistent (Smith 1990). Evidence of an income-abuse association also is consistent with stress theory, insofar as low income may induce stress that leads to violence (Figure 1) (Dutton 1988; Gelles

1974; MacMillan and Gartner 1999; Smith 1990). This pathway has had some empirical support in urban Thailand (Hoffman, Demo, and Edwards 1994).

[Figure 1]

Critics of Goode have argued that a man's lack of economic resources is an insufficient explanation for wife abuse and that women's socioeconomic dependence on the partnership may better explain this abuse (Blumberg 1984; Dobash and Dobash 1979; Kalmuss and Straus 1982). Specifically, married women with children and little other financial support may have or perceive to have few alternatives to marriage, which leads them to be more tolerant of abusive husbands (Figure 1). Although having sons in parts of South Asia has been either unrelated to or negatively associated with domestic violence against women (Koenig et al. 2003; Rao 1997; Schuler et al. 1996), having sons or children generally has been positively associated with physical violence against women in Minya, Egypt and Cambodia (Yount 2005b, 2006). Likewise, although housewives have been less likely than working women to be in violent marriages in Kentucky (Hornung, McCullough, and Sugimoto 1981), in-depth data from 40 families in the U.S. have shown that unemployed, poorly educated women less often seek outside intervention after spousal beatings than do employed, better educated women (Gelles 1976). In Minya, Egypt and Cambodia, women with markedly fewer grades of schooling than their husbands have had significantly higher odds of experiencing either physical or psychological violence in the prior year (Yount 2005b, 2006). A study of cohabiting adults in the U.S. also has shown that women's psychological dependence, or their perception that wives would be hurt more than husbands by divorce, is positively associated with minor physical violence (Kalmuss and Straus 1982). The same study also showed that women's economic dependence, as measured by whether the wife worked, had young children, and earned less than

25% of total income, is positively associated with severe physical violence (Kalmuss and Straus 1982). In rural Bangladesh, women who have participated in group-based savings and credit programs have had a two thirds lower risk of domestic violence than have non-participants (Schuler et al. 1996), but cases of aggravated violence also were observed among participants (Schuler, Hashemi, and Badal 1998).

Other critics of Goode have argued that models of domestic violence against women should distinguish partnerships in which the distribution of resources disrupts prevailing expectations (MacMillan and Gartner 1999; Anderson 1997). Specifically, if the psychological and/or economic resources of a woman exceed those of her male partner or some culturally acceptable level, atypical disadvantages in the male partner's status will threaten his masculinity and provoke him to use violence to reinstate his dominance (Figure 1) (Connell 1995; Thoits 1992). Among currently or formerly married women in Kentucky, life-threatening violence has been more common among wives whose schooling and occupational attainments exceeded those of the husband (Hornung, McCullough, and Sugimoto 1981). In the U.S. generally, men more often have been physically violent toward female partners with higher incomes, but not with more schooling (Anderson 1997). In Canada, the adjusted probability that a man will use coercive tactics to control his partner has been greatest when the female partner was working and the man was not (MacMillan and Gartner 1999). Absolute differences between spousal years of schooling and scores for occupational prestige, however, have not been associated with a husband's physical abuse of his wife in Bangkok, Thailand after adjusting for household socioeconomic status and other factors (Hoffman, Demo, and Edwards 1994).

These noted discrepancies in previous findings may result from differences across studies in their samples, analytic methods, and measures (MacMillan and Gartner 1999; Weis 1989).

First, “domestic violence” is a multidimensional concept, and each dimension may be variously associated with absolute and relative resources in the community and household (MacMillan and Gartner 1999; Kalmuss and Straus 1982). Second, women’s willingness to report violence may be linked to group differences in the social acceptability of violence (Anderson 1997; Arias and Beach 1987). Third, dependency and status inconsistency in a partnership have been measured by computing the absolute difference in partners’ grades of schooling or scores for occupational prestige (Hoffman, Demo, and Edwards 1994; Diop-Sidibe 2001). Such measures ignore the potential for non-linear effects, and useful alternatives might distinguish women who have more, the same amount, or less of a resource than their partner (Anderson 1997).

Family organization

Discrepancies in the above findings also may result from uneven attention to other causes of domestic violence (Figure 1). Features of family organization, for example, may precipitate or impede such violence, especially where multigenerational co-residence and extended kinship are common (Hoffman, Demo, and Edwards 1994; Kabeer 1999; Warner, Lee, and Lee 1986). First, the custom of patrilocal residence, whereby a son remains in the father's house and a daughter moves out after marriage, may reduce a woman’s power because co-residing marital relatives share authority over her actions (Kabeer 1999). Women living with senior marital relatives have had weaker family power in rural Bangladesh and Minya, Egypt (Balk 1997; Yount 2005a), and such women in Minya (but not in Bangladesh) have had higher odds of experiencing domestic violence (Koenig et al. 2003; Yount 2005b). Second, women living near their natal or biological kin may be more able to negotiate marital conflicts (Diop-Sidibe 2001; Moors 1995; Morsy 1993). In India, women with closer ties to natal kin have had more control over finances, decision-making power, and mobility (Bloom, Wypij, and Das Gupta 2001), and the presence or

proximity of the wife's family has been negatively associated with domestic violence against women in South India, Cambodia, and Minya, Egypt (Rao 1997; Nelson and Zimmerman 1996; Yount 2005b). Third, in societies where endogamy (or marriage to a blood relative) is common, endogamously married women may be protected from domestic violence because the socioeconomic background of the spouse is known, spousal differences in age may be smaller, the resources of women's kin are more accessible, and parents may value daughters who are available to provide support (Bittles 1994; Dyson and Moore 1983; Hoodfar 1997). Fourth, women in arranged marriages and married at young ages may have less marital power and thus may be at higher risk of experiencing domestic violence.

Childhood exposures

Lastly, some scholars have argued that adverse experiences in childhood may increase the risk of involvement in domestic violence, net of the socioeconomic resources in communities and partnerships. First, direct maltreatment or witnessing parental violence may teach children to view violence and related behaviors as normal. Second, such experiences among women may lower their self esteem and reduce their ability to leave abusive relationships. In the U.S. and elsewhere, witnessing family violence in childhood, and especially a father's abuse of one's mother, has been associated with higher risks of committing and experiencing such violence (Jewkes, Levin, and Penn-Kekana 2002; Kalmuss 1984; Martin et al. 2002; Whitfield et al. 2003). Findings from Nicaragua have been contradictory (Ellsberg et al. 1999), but a meta-analysis of 52 case-control studies in the U.S. has confirmed that women who witnessed violence in their own families more often experience husband-to-wife abuse (Hotaling and Sugarman 1986). Other studies have shown direct and indirect associations of physical abuse in childhood with later involvement in domestic violence (Jewkes, Levin, and Penn-Kekana 2002; Whitfield

et al. 2003; Schafer, Caetano, and Cunradi 2004), but such associations may vary by gender and ethnicity (Schafer, Caetano, and Cunradi 2004; Herrenkohl et al. 2004). In some cases, exposures to and experiences of violence in childhood have eliminated the associations of other resources with domestic violence (Jewkes, Levin, and Penn-Kekana 2002).

Other determinants

Studies have revealed other determinants of domestic violence against women for which analyses should control. These determinants include chronic substance abuse by either partner (McKenry, Julian, and Gavazzi 1995), and a woman's religious affiliation, age, place of residence, and prior experience of a child's death. Compared to non-religious adults in the U.S., Catholics have had less tolerance for wife beating (Ulbrich and Huber 1981). National surveys of married women in some non-Western settings have shown that women's higher age and rural residence are associated with lower odds of spousal abuse, but that their duration of marriage is inconsistently associated with such abuse (Kishor and Johnson 2004). In León, Nicaragua a higher lifetime level of physical or sexual abuse has occurred among women with children who had died before age five years (Asling-Monemi et al. 2003).

Summary and hypotheses

In sum, the causes of domestic violence against women in non-Western, and especially Middle Eastern, settings are ill-understood. Cross-cultural research has not systematically tested competing hypotheses about the roles of absolute and relative household resources, family organization, and childhood exposures in community context. This review motivates two hypotheses about associations of community context with domestic violence against women: H_{C1}: Community context will be directly associated with a woman's risk of experiencing domestic violence. Specifically,

- a. Women living in less economically deprived communities will have lower odds of experiencing domestic violence, and
- b. Women living in less patriarchal communities, which are characterized by less gender inequality in economic opportunity, later ages at marriage for women, and a lower concentration of religious groups that sanction such practices, will have lower odds of experiencing domestic violence. Also,

H_{C2}: The effects of community context will operate partly through household/family variables.

This review also motivates three *competing* hypotheses about the associations of absolute and relative spousal resources with domestic violence against women. Specifically,

H_{E1}: Women in wealthier households will have lower odds of experiencing domestic violence,

H_{E2}: Net of household economic status, women with more children will have higher odds of experiencing domestic violence, and

H_{E3}: Net of household economic status, women who are extremely disadvantaged *or* extremely advantaged relative to their husband in terms of their age and grades of schooling will have higher odds of experiencing domestic violence.

Lastly, net of the associations of community and household or spousal resources, family organization and childhood exposures will be associated with domestic violence against women:

H_{F1}: Women who married early will have higher odds of experiencing domestic violence,

H_{F2}: Women who married endogamously will have lower odds of experiencing domestic violence, and

H_{F3}: Women who experienced violence as children will have higher odds of experiencing domestic violence.

Notably, the association of domestic violence with community, family, and childhood attributes

also may vary by the type of violence experienced. Thus, we will compare differences in these associations across major forms of domestic violence.

Setting

Egypt, a country of almost 70 million people in 2003 (United Nations Development Programme [UNDP] and Institute for National Planning [INP] 2005), is highly heterogeneous economically and socially. In 2003-4, for example, the real Gross Domestic Product per capita ranged from almost 9,100 purchasing-power-parity [PPP] dollars in the governorate (or province) of Port Said to only about 2,300 PPP dollars in the governorate of Assiut, with the poorest governorates concentrated in Southern, or Upper, Egypt (UNDP and INP 2005). Persistent beliefs in the complementarity of the sexes also reinforce women's poor public representation (Hoodfar 1997). For example, despite increasing access to schooling among girls, a higher percentage of girls than boys still never attend school (14% versus 8%) (El-Zanaty and Way 2001), and less than half of ever-married women of reproductive age agrees that schooling should prepare women for work (El-Zanaty et al. 1996). Correspondingly, males still represent over two thirds of the formal work force (World Bank Group, 2002) and hold most public offices (UNDP and INP 2003), and a higher percentage of Lower (78%) than Upper (61%) Egyptian women agrees that women should be allowed to work (El-Zanaty et al. 1996). Islamic laws concerning inheritance in Egypt also favor men, husbands, and sons over women, wives, and daughters (An-Na'im 2002). Finally, although most Egyptians are Muslim, a notable minority is Christian, and Christians tend to concentrate geographically in Upper Egypt. Coptic Christians,² for example, comprise about 20% of the Upper Egyptian population, which far exceeds the national average of about 5% (Yount 2004 and Table 2).

Concerns about women's dependency and status inconsistency in marriage also are

salient among Egyptian women and men. In poor parts of Cairo, male informants have agreed that marrying a woman of higher social standing would “test their dignity” (Hoodfar 1997:59), and a female informant has explained that “...it is better for a woman to marry someone...more educated...so it would not be illogical for her to obey him” (Hoodfar 1997:58). Other female informants have cautioned, however, that marrying “too far up” also can be problematic. An uneducated, female informant who married a wealthier, secondary-educated man explained that “..he makes me feel I am his...servant” (Hoodfar 1997:57). Women’s dependency on marriage, however, is notably more pronounced in Upper than in Lower Egypt (El-Zanaty et al. 1996; El-Zanaty and Way 2001). For example, proportionately more Upper- than Lower-Egyptian women are at least five years younger than their spouse (66% versus 60%), have no schooling (55% versus 44%), and have never worked for cash (84% versus 74%) (El-Zanaty et al. 1996).

Several features of family organization in Egypt also may affect the treatment of married women. First, familial solidarity is based on bonds between male members of the same paternal lineage, so older married men often are the heads of family, and brothers share authority in family decisions. Second, although having children is central to women’s social identity in Egypt (Rugh 1984), divorce laws in Egypt ultimately grant child custody to the husband. Thus, a woman’s legal dependence on marriage to retain custody of her children may increase her tolerance for abuse. Third, about one third of marriages in Egypt are endogamous (El-Zanaty et al 1996). Such marriages may protect women for the reasons described above; yet, endogamy may be associated with women’s earlier age at marriage (Bittles 1994) and may benefit men because related spouses “jointly owe their obligations” to the same male kin (Rugh 1984:145). Fourth, over half of ever-married Egyptian women aged 15–49 in 1995 lived with their husband’s family at the start of marriage (El-Zanaty et al. 1996). Still, married women often live

near and maintain ties with their natal kin (Rugh 1984; Yount 1999). Notably, certain of these features of family are more common in Upper than in Lower Egypt. For example, proportionately more Upper-Egyptian women are married to a blood relative (48%, versus 33% in Lower Egypt), and Upper-Egyptian women have a higher total fertility rate (4.2, versus 3.2 in Lower Egypt) (El-Zanaty and Way 2001). In sum, the public sphere, especially in Upper Egypt, is highly gender stratified, and most women depend on the resources of their spouse and family.

Sample and data

This study uses the 1988, 1992, 1995-6, 2000, and 2005 Egypt Demographic and Health Surveys [EDHS] (El-Zanaty et al. 1993; El-Zanaty et al. 1996; El-Zanaty and Way 2001; El-Zanaty and Way 2006; Sayed et al. 1989). Undertaken by ORC Macro and local institutions, the DHS are nationally representative household surveys that routinely collect data on fertility and contraception among women of reproductive age (15–49 years) as well as the care, morbidity, nutrition, and survival of children less than six years. The 2005 EDHS is the only national survey in the Arab Middle East that included multiple questions on domestic violence and relevant topics for this analysis (e.g., women’s socioeconomic status, family organization, childhood exposures). The conduct of multiple DHS in Egypt permits the linkage of respondents in 2005 to contextual measures derived from prior EDHS. All surveys followed standard guidelines for informed consent and confidentiality (Kishor and Johnson 2004).

The 1988 and 1992 EDHS master samples were based on the 1986 census frame. The 1995-6 EDHS master sample was based on the 1986 census frame after updating for subsequent changes in administrative units. The 2000 and 2005 EDHS master samples were based on the 1996 census frame.³ For all EDHS, a three-stage sample was selected separately in rural and urban areas. In the 1988 and 1992 EDHS, 21 of 26 governorates were included, but otherwise

sample designs and response rates were similar to those in the 2005 EDHS. So, the latter is described here. First, 682 primary sampling units [PSUs] (384 villages, 298 towns or shiakhass (urban areas)) were selected with probability proportional to the number of households in each PSU. Second, detailed maps of selected PSUs were obtained and divided into parts of roughly equal population size (~5,000). Two parts were selected in shiakhass/towns or villages with populations of 20,000 or more, and one part was selected in smaller shiakhass/towns or villages, for a total of 1,019 selected parts. A quick count was undertaken to estimate the number of households in each part and to divide each part into segments of about 200 households. 1,359 segments were chosen from the parts in each shiakhass/town and village. Third, a systematic random sample of households was selected from the household listings of retained segments, and 99% (22,211 of 21,972) of identified households were interviewed.

A domestic violence module [DVM] was administered to eligible women in the one-third sub-sample of households that were selected for anemia testing. To ensure confidentiality, one woman per household was selected to complete the DVM. Over 98% of eligible women (5,613 of 5,711 ever-married women aged 15–49 years) completed the DVM. The final analytic sample ($n=5,485$ from all 26 governorates) excludes 128 women who either did not complete the DVM or had missing information on relevant covariates.

Three relevant forms were administered in all five EDHS. A household listing permitted the recording of age, gender, and relation to the head for all members, marital status for all adult (≥ 15 years) members, and the schooling and recent work status for all members at least six years. A household characteristics form included questions about religion of the head; the dwelling; access to electricity, water, and sanitary facilities; and ownership of consumer goods and durables. A woman's form was administered to all ever-married women aged 15–49 years

and commonly included questions on age, age at marriage, marital status, education, work, religion, pregnancies and fertility, health knowledge and practices, and use of contraception.

The DVM in the 2005 EDHS included an adapted version of the Revised Conflict Tactics Scale [RCTS] (Straus 1990; Straus et al 1996; DeKeseredy and Schwartz 1998), which consisted of questions on less and more severe forms of psychological, physical, and sexual assault committed against the woman by her current or last husband ever and in the prior year, physical violence committed by the women against her current or last husband ever and in the prior year, and physical violence committed by a non-spouse against the woman since she was 15 years old.

Dependent variables

Three outcomes (Y_i) capture psychological and physical forms of violence, as well as the severity of physical violence, that respondents experienced in the year before interview. Cases of domestic violence are restricted to those that occurred in the year before interview (rather than ever) to establish a reasonable temporal ordering between outcomes and covariates. The first outcome, *reported any psychological violence in the prior year (yes, no)*, captures whether the respondent reported that her (last) husband 1) said or did something to humiliate her in front of others or 2) threatened her or someone close to her with harm. The second outcome, *reported any minor physical violence in the prior year*, captures whether the respondent reported that her (last) husband 1) pushed, shook, or threw something at her, or 2) slapped her or twisted her arm. The third outcome, *reported any severe physical violence in the prior year*, captures whether the respondent reported that her (last) husband 1) punched her with his fist or something that could hurt, 2) kicked or dragged her, 3) tried to strangle or burn her, 4) threatened her with a knife, gun, or other weapon, or 5) attacked her with a knife, gun, or other weapon. Measures of minor and severe physical violence include items that are used in standard scales to measure each of

these forms of violence (Straus et al 1996).

Community-level variables

Four contextual variables (G) were derived from household and woman data files of the 1988, 1992, 1995-6, 2000, and 2005 EDHS. Three common procedures were followed to construct these measures. First, responses from all eligible households or residents were aggregated to the level of the governorate for each survey year. Aggregation to this level was considered appropriate because governorates are reasonably homogenous geographic units, and aggregation to this level permitted the linkage of contextual measures from prior surveys to individual women in the 2005 EDHS. Second, linear interpolation was used to compute annual values for each governorate-level variable for the period 1988–2005. Third, each woman was assigned a value for each contextual variable corresponding to the year before the date of her first marriage.⁴ In this way, assigned values for contextual measures temporally precede the onset of each woman’s risk period for exposure to domestic violence. The four specific contextual measures that were constructed were as follows. An average score for household standard of living in each governorate captures local economic conditions (see details on constructing the household standard of living score, below). The rate ratio of adult (≥ 15 years) female-to-male ever attendance of school captures the degree of gender equality of opportunity in each governorate. The percentage of residents in the governorate who were Christian captures the geographic concentration of religious groups, as well as associated norms and practices regarding domestic violence and the general treatment of women. The average age that women 15–49 years old were first married also captures the local value and treatment of women. Finally, an indicator (μ_r) for each woman’s region of residence (Upper rural, Upper urban, Lower rural, Lower urban, Urban/Cairo, and Frontier) captures fixed, unmeasured regional attributes that may

alter a woman's risk of experiencing domestic violence.

Household- and individual-level variables

A score for *household standard of living* in 2005 was developed from responses to questions about the assets and amenities of each respondent's household. Questions about assets or consumer durables in 2005 ascertained whether someone (usually a man) in the respondent's household owned a black-and-white television; color television; video; electric fan; mobile telephone; non-mobile telephone; satellite dish; sewing machine; home computer; watch; animal-drawn cart; agricultural land; livestock, herds, or farm animals; cattle, milk cows, or bulls; horses, donkeys, or mules; goats; sheep; chickens; or a bank account. Questions about amenities of the respondent's household in 2005 elicited information about the type of dwelling, availability of electricity, type of flooring, number of rooms, source of drinking water, source of water for cooking, type of toilet, whether the toilet is shared with other households, type of cooking fuel, whether the house has a separate room for cooking, and whether there is air conditioning. Using established methods (Filmer and Pritchett 1999), each item was recoded and included in a principal components analysis. Estimated scoring coefficients for the first principal component were used to compute a score for household standard of living for each respondent. A similar procedure was used to construct scores for household standard of living in each prior survey year. These scores were aggregated and linear interpolation was used to construct an average household standard of living score for each governorate and year during 1988–2005.⁵

Measures of a woman's social dependence on marriage include the respondent's number of living sons at 12 months before interview (0, 1–2, ≥ 3) and number of living daughters at 12 months before interview (0, 1–2, ≥ 3). One measure for women's relative socioeconomic dependence or status inconsistency in marriage includes whether the respondent had 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. The categories denoting a woman’s greater schooling attainment than her spouse capture status inconsistency, or non-normative discrepancies between spouses in their socioeconomic standing associated with schooling. The categories denoting a woman’s lesser schooling attainment than her spouse capture a woman’s poorer prospects for work outside marriage, and thus greater economic dependence on marriage. A similar measure was constructed from spousal differences in age (husband younger, husband and wife the same age or husband 1–3 years older, husband 4–13 years older, or husband > 13 years older). The difference in spousal scores for occupational prestige also was considered; however, this measure was highly correlated with the score for household standard of living, and so the final model does not include a measure for the spousal difference in occupational prestige.

Two indicators for family organization include the age in years at which the respondent consummated her first marriage and the relational status of the respondent’s husband (first or second paternal cousin, first or second maternal cousin, other relative by blood or marriage, or non-relative). Indicators for whether the husband or the husband’s parents or brothers were living with the respondent at the time of her interview also are included; yet, because the respondent’s residential arrangements at interview could be functions of prior domestic violence, models are estimated with and without these variables. Because estimated coefficients and inferences based on models with and without these variables differed little (not shown, available upon request), the results of models that include the indicators for coresidence are presented.

For measures of childhood exposures in Egypt, female genital cutting occurs in 97% of ever-married women aged 15–49 years, and the median age at circumcision is 10 years (El-Zanaty et al. 1996; El-Zanaty and Way 2001; Yount 2002). Thus, this event is a normal part of

childhood for most Egyptian girls, but those who *never* experienced the practice may have different views about the treatment of women and different experiences with domestic violence. A binary measure for whether the respondent was ever genitally cut thus captures exposure to normalized violence in childhood. A binary measure for whether the respondent was ever physically abused by a parent after the age of 15 years serves as a proxy for her experience of direct physical maltreatment as a child. Measures for the respondent's childhood residence (rural, urban) capture the respondent's general early-life exposures.

Control variables include the respondent's age in years, number of sons (none, any) and daughters (none, any) that died at least 12 months before her interview, and the duration of her marriage in years up to the year before interview.

Methods

Univariate and bivariate analyses were conducted for Upper Egypt, Lower Egypt, and all of Egypt. We conducted univariate analyses of all covariates, outcomes, and variables from which analytic covariates were derived to assess their completeness and distributional properties. Bivariate associations of all community and family covariates were estimated to assess potential collinearities among these variables. Bivariate associations were estimated between all covariates and all of the original and derived measures of domestic violence. For all estimates, sampling weights and robust variance estimators were used to account for the stratified, multistage, cluster-sample design (Rao and Scott 1981, 1984).

For the multivariate analysis, let i denote the index woman, j governorate, and r region. Let $Y_{ij(r)}$ denote the outcome, $H_{ij(r)}$ household standard of living, $W_{k,ij(r)}$ a vector of K measures for a woman's socioeconomic dependence or status inconsistency in marriage, $F_{l,ij(r)}$ a vector of L measures for a woman's family organization and contact with natal kin, $G_{m,ij(r)}$ a vector of M

measures for each woman's early-life exposures, $Q_{n,ij(r)}$ a vector of N controls, and $C_{p,j(r)}$ a vector of P measures for the governorate context. We estimated multivariate models for each major region (Lower, Upper Egypt)⁶ and for all of Egypt. All-Egypt models included unobservable region-specific, household-invariant effects μ_r to avoid any bias emanating from unmeasured, and regional factors that may be correlated with the explanatory variables. Regional fixed effects also are of policy interest because they capture broad contexts of advantage or disadvantage, and so give an idea of the regional factors that lead to unusually high or low levels of domestic violence. Interactions between covariates and an indicator for Upper and Lower Egypt showed that most estimated coefficients were invariant across region (results available upon request).⁷

For all three outcomes, multivariate regression with a logit link function was used to model the conditional probability of a positive outcome $\pi_{ij(r)}(H, W, F, G, Q, C, (\mu)) = \Pr(Y_{ij(r)} = 1 \mid H, W, F, G, Q, C, (\mu))$ as a linear function of the independent variables. All-Egypt models took the following form:

$$\text{logit}(\pi_{ijr}) = \alpha + \beta H_{ijr} + \sum_{k=1}^K \beta_k W_{k,ijr} + \sum_{l=1}^L \beta_l F_{l,ijr} + \sum_{m=1}^M \beta_m G_{m,ijr} + \sum_{n=1}^N \beta_n Q_{n,ijr} + \sum_{p=1}^P \beta_p C_{p,jr} + \mu_r \quad (1)$$

For model coefficients in all analyses, sampling weights were used, and robust standard errors assuming an exchangeable correlation structure were estimated to account for any within-cluster correlation of responses arising from the stratified, multistage, cluster-sample design (Rogers 1993; Williams 2000).

Coefficients for μ_r and C_p in equation 1 provide tests for hypothesis H_{C1}, regarding direct community associations with domestic violence against women. Reductions in the coefficients for μ_r and C_p with the inclusion of family and household variables provide tests for hypothesis H_{C2}, regarding any indirect community associations with the outcomes. Coefficients for H

provide tests for hypothesis H_{E1} , concerning the associations of household standard of living with each outcome. Coefficients for W_k provide tests for hypotheses H_{E2} – H_{E3} , concerning the associations of women’s socioeconomic dependence or status inconsistency in marriage with each outcome. Coefficients for F_l provide tests for hypothesis H_{F1} , concerning the associations of family organization, and coefficients for G_m provide tests for hypothesis H_{F2} , concerning the associations of childhood exposures.

Certain analytical issues, and strategies to address them, merit discussion. First, a potential limitation of surveys on domestic violence is that procedures for data collection rely on retrospective accounts by participants. As a result, estimates of domestic violence based on self-report may not accurately or reliably capture the extent of such violence in a population. Despite these concerns, questions on domestic violence in the 2005 EDHS are based on an instrument (the RCTS) that has high reliability and construct validity across varied cultural contexts (Straus 1990; Straus et al. 1996). Also, the estimates of domestic violence from the 2005 EDHS are higher than those from the 1995–6 EDHS (e.g., 47% versus 34% ever experiencing physical domestic violence, respectively), in part because the greater number of more specific questions about domestic violence in the 2005 EDHS may have enhanced disclosure. Still, we will assume that estimates of domestic violence from the 2005 EDHS reflect a consistent minimum bound on the level of domestic violence. Also, interviewers recorded in the 2005 EDHS if respondents were ever interrupted by a husband, other adult male, or adult female, and such interruptions may affect women’s willingness to report domestic violence. Although crude rates of reported domestic violence were higher among women whose interview was interrupted than among those whose interview was not interrupted,⁸ women’s interruption status was not associated with reported domestic violence after adjusting for other variables. Models that included interactions

between women's interruption status and other covariates also revealed few differences in estimated coefficients by women's interruption status (results available upon request).

Second, with any complex survey, some covariates may have a non-ignorable percentage of missing responses. For each covariate with an item-non-response of at least 2% ($\cong 109$ non-responders, childhood residence, brother-in-law coresident, or parent-in-law coresident), we tested for significant differences in the attributes of responders and non-responders. For categorical variables, we coded these responses as “missing” and retained them in the analysis. For women with missing scores for household standard of living, we imputed the mean value of observed scores and added an indicator for whether the score was imputed. We compared the results of analyses based on the sub-sample of respondents with complete data and the sample that included imputed and unimputed cases. For the full model, the magnitudes of most coefficients changed little ($<20\%$), and only a few coefficients lost their significance.⁹

Third, although the woman's form in the 2005 EDHS includes general questions about the respondent's parents, data are not available on the respondent's or her partner's childhood exposure to domestic violence between their parents (El-Zanaty and Way 2006). Variables such as a *history* of substance abuse also are not available (El-Zanaty and Way 2006). The omission of relevant variables from estimated models, and especially variables that are causally associated with observed covariates and outcomes, may lead to biased and inefficient estimates of the regression coefficients. Given these potential concerns, we interpret estimated regression coefficients with due caution (e.g., as associations rather than as causal effects).

Fourth, all ever-married women are included in the presented analysis; yet, the risk of domestic violence and its determinants may differ among currently and formerly married women, and divorce may be a consequence of prior experiences of domestic violence. Despite

these concerns, less than 7% of women in the analytic sample were formerly married at the time of interview, and studies in Minya, Egypt have shown that the lifetime experience of physical abuse is similar among divorced and married women (Yount 2005b). In the 2005 EDHS sample, levels of domestic violence and certain other socioeconomic characteristics did differ between currently and formerly married women;¹⁰ however, statistical inferences changed little in models that were based only on currently married women, probably in part because relatively few women were formerly married at the time of interview (results available upon request).

Finally, almost all of the covariates capture conditions preceding the 12-month period for which domestic violence is measured.¹¹ Yet, the median age at marriage for women in Egypt is about 20 years, so a high percentage of respondents who were 38–49 years will have married before the earliest year (1988) for which contextual measures are available. To assess the robustness of findings that are based on women aged 15–49, the final multivariate models were re-estimated for women who married after 1988. Inferences in terms of the magnitude and significance of coefficients differed little between models that were based on these two samples (results available upon request).

Results

Prevalence of domestic violence in Egypt

Table 1 provides estimates, for major sub-regions in Egypt and for all of Egypt, of the levels of various forms of psychological, physical, and sexual violence committed by the (last) husband against his wife and of physical violence committed by the wife against her (last) husband. Overall, about 17% of women reported to have ever experienced any psychological violence, and 10% reported to have experienced such violence in the prior year. The most commonly reported form of psychological violence was public humiliation (17%), followed by

threats of harm (6%). Levels of psychological violence also varied significantly across sub-regions in Egypt, with women in rural Lower Egypt reporting the highest levels of psychological violence (20% ever; 12% in prior year) and women in the frontier governorates reporting the lowest levels of psychological violence (13% ever; 8% in prior year).

[Table 1]

Levels of physical violence against women varied markedly according to the type of violence about which women were asked. Overall, minor forms of physical violence were more frequently reported than were severe forms of physical violence. For example, 33% and 18% of women, respectively, reported that their husbands had perpetrated some form of minor physical violence against them ever and in the prior year. By comparison, 14% and 8% of women reported that their husband had perpetrated some form of severe physical violence against them in the same two periods. The most commonly reported form of minor physical violence was slapping the woman or twisting her arm (28% ever; 15% in the prior year), followed by pushing, shaking or throwing something at the woman (25% ever; 14% in the prior year). Levels of minor and severe physical violence also varied across sub-regions in Egypt. Again, women in rural Lower Egypt reported the highest levels of minor and severe physical violence (minor: 36% ever and 21% in the prior year; severe: 17% ever and 10% in the prior year), and women in the frontier governorates reported the lowest levels of minor and severe physical violence (minor: 29% ever and 14% in the prior year; severe: 8% ever and 3% in the prior year).

Interviewers asked women only one question about their past experiences of sexual violence in marriage. Overall, 7% and 4% of Egyptian women, respectively, reported having been physically forced to have sexual intercourse with their husband ever and in the prior year. The highest levels of sexual domestic violence were reported in rural Lower Egypt (10% ever;

6% in the prior year), and the lowest levels were reported in urban Upper Egypt (4% ever; 3% in the prior year). Because very few women reported having physically abused their husbands (overall, less than 1% ever and in the prior year), the remainder of this analysis focuses on domestic violence committed by husbands against their wives.

Characteristics of women in Egypt

Table 2 summarizes the childhood exposures, absolute and relative spousal resources, family organization, prior community exposures, and other socio-demographic attributes of women in the sample. A majority (63%) of the women lived in rural areas during their childhood. Over 20% reported that a parent had physically abused them after the age of 15 years, and the vast majority (96%) reported that they had been genitally cut as girls.

[Table 2]

Regarding women's relative spousal resources, relatively few reported having a younger (3%) or markedly older (> 13 years, 10%) spouse, whereas a majority (> 61%) reported being 4–13 years younger than their spouse. Spousal differences in grades of schooling also were large, with about 18% of women reporting that their spouse had completed less schooling but almost half (47%) reporting that their spouse had completed more schooling. Almost 16% of women reported that their spouse had completed at least six more grades of schooling. A majority of women reported having had living children at least 12 months before interview, with 52% and 55% of women, respectively, reporting to have had 1–2 living sons and daughters at that time.

Regarding women's family organization, women married before age 20, on average, and 36% of women married some type of relative. Paternal cousin marriage was preferred, with over 16% of women married to a first or second paternal cousin. Nationally, a notable minority (14%) of women was living with a parent-in-law at the time of interview, but relatively few women

(2%) were living with a brother-in-law at this time. Most women (94%) were living with their spouse at the time of interview. The remaining women probably had husbands who were working elsewhere in Egypt or abroad, or were divorced or widowed at the time of interview.

Regarding governorate-level exposures at the time of their first marriage, women were living in governorates in which the rate of female attendance of school was only 70% of that for men, on average. Women also were living in governorates in which 6% of the population was Christian, on average, and in which the average age at first marriage for women aged 15–49 years was 18 years. Three quarters of the women were living in either rural Upper Egypt (31%), rural Lower Egypt (22%), or highly urbanized governorates (20%).

Regarding other demographic attributes of the women, their average age was about 34 years, a substantial minority of women had experienced the death of at least one daughter (10%) and at least one son (11%) at least 12 months before interview, and about 5% of women were Christian. The average duration of marriage among women was about 156 months, or 13 years.

Multivariate results

Table 3 summarizes the estimated log odds of any psychological violence, minor physical violence, and severe physical violence against women in the prior year. For each outcome, Model 1 presents estimated coefficients for governorate-level characteristics only, and Model 2 presents the “fully adjusted” models that also include all other variables. Regarding the associations of governorate-level attributes, the percentage of the population that was Christian at the time of each woman’s first marriage was not associated with any type of violence. Women’s average age at first marriage was significantly, *positively* associated only with women’s odds of reporting minor physical violence in the prior year, and adjusting for other variables did not markedly alter the magnitude of this association. Surprisingly, the average

governorate-level score for household standard of living was significantly, *positively* associated with psychological and minor physical violence, even after adjusting for other covariates. A higher female-to-male ratio of ever schooling was associated with marginally *lower* adjusted odds that a woman reported minor physical violence in the prior year. This ratio, however, appears to be associated only indirectly, through other woman-level attributes, with the odds of being psychologically abused in the prior year, given that the adjusted odds were closer to 1.00 and no longer significant ($uOR = \exp(-2.11) = 0.12$; $aOR = \exp(-1.13) = 0.32$).

[Table 3]

Regarding childhood exposures, living in an urban area during childhood was associated with 24–40% lower odds of reporting any psychological, minor physical, or severe physical violence in the prior year. Women who reported any physical violence since age 15 by a parent had 1.6–1.8 times higher odds of reporting any psychological, minor physical, or several physical violence in the prior year. Women who had been genitally cut also had higher odds of reporting any psychological ($aOR=1.6$) and minor physical violence ($aOR=2.1$) in the prior year.

Regarding household and relative spousal resources, an increase of one point in the score for household standard of living was associated with 12–19% lower odds of reporting any psychological, minor physical, and severe physical violence in the prior year. Women's age relative to her spouse was not consistently associated with the odds of reporting these three forms of violence; yet, women whose spouse was 4–13 years older (the modal or normative category; see Table 2) tended to have *lower* odds of reporting psychological and minor physical violence in the prior year. Interestingly, the spousal difference in completed grades of schooling was related in a U-shaped fashion with reporting domestic violence. For example, women whose spouse had completed at least six *fewer* grades had at least marginally *higher* odds of reporting

any psychological violence ($aOR = 1.8, p < .01$), minor physical violence ($aOR = 1.5, p < .05$), and severe physical violence ($aOR = 1.7, p < .10$). Likewise, women whose spouse had completed at least six *more* grades had significantly *higher* adjusted odds of reporting any psychological violence ($aOR = 1.1, p < .01$) and any minor physical violence ($aOR = 1.5, p < .01$); the pattern of association with severe physical violence was consistent, but not significant. Having at least three living daughters at least 12 months before interview was associated with at least marginally higher adjusted odds of reporting all three forms of domestic violence.

Regarding measures of family organization, an increase of one year in women's age at first marriage was associated with 21% lower odds of reporting any psychological and any minor physical violence in the prior year. Women who were married to a relative by blood or marriage tended to have marginally lower odds of reporting psychological domestic violence; yet, women who married a first or second paternal cousin had significantly lower adjusted odds of reporting any psychological violence ($aOR = 0.6$), minor physical violence ($aOR = 0.7$), and severe physical violence ($aOR = 0.6$) in the prior year. Unexpectedly, living with a brother-in-law was associated with at least marginally *lower* odds of reporting all three forms of domestic violence in the prior year, and living with a parent-in-law was not significantly associated with any form of domestic violence. As expected, living with one's husband was associated with higher odds of reporting all three forms of domestic violence in the prior year.

Regarding other socio-demographic attributes of the woman, her duration of marriage was at least marginally, negatively associated with reporting any psychological and minor physical violence in the prior year. Otherwise, no other covariates were significantly associated with women's odds of reporting any of the three forms of domestic violence in the prior year.

Figure 2 shows the predicted probability of experiencing minor physical violence by

spousal differences in grades of schooling for the “average” ever-married Egyptian woman of reproductive age (e.g., all other covariates are set to their mean or modal values; see note to Figure 2). Figure 2 shows clearly the U-shaped association of spousal differences in schooling with a woman’s probability of experiencing minor physical violence. Compared to a woman with the same number of grades of schooling as her spouse (the modal or normative category), a woman whose spouse has extremely (≥ 6) fewer or more grades of schooling has a significantly higher probability of experiencing minor physical violence ($\hat{p} = 0.20$, versus $\hat{p} = 0.28$ and $\hat{p} = 0.27$, respectively). Concomitantly, Figure 3 shows the predicted probability of experiencing minor physical violence by the score for household standard of living for two types of women: 1) those whose relative spousal resources, family organization, and childhood exposures place them at “low risk” of experiencing minor physical violence (e.g., urban childhood residence, not exposed to physical abuse as children, occupying ‘modal’ status positions relative to their spouse, without dependent children, later age at first marriage, married to a paternal cousin, brother-in-law coresident, and spouse not coresident; see note to Figure 3), and 2) those whose relative spousal resources, family organization, and childhood exposures place them at “high risk” of experiencing minor physical violence (e.g., contrasting covariate values to those in the “low risk” group; see note to Figure 3). In short, a woman’s score for household standard of living is negatively associated with her probability of experiencing minor physical violence, even if her other attributes place her at “high risk” of experiencing minor physical violence ($\hat{p} = 0.91$ for the poorest “high risk” women versus $\hat{p} = 0.59$ for the wealthiest “high risk” women); however, the probability of experiencing minor physical violence is high among “high risk” women, regardless of their household standard of living. By contrast, this probability is extremely low (< 0.01) across all scores for household standard of living among women who

otherwise are at “low risk” of experiencing minor physical violence.

[Figures 2 and 3]

Conclusions

This paper evaluates a comprehensive model of the determinants of domestic violence against women in a non-Western, and specifically a Middle Eastern, setting. This national analysis advances cross-cultural theory on the determinants of domestic violence against women and informs social policies that consider the family and community context in which domestic violence occurs. The use of cross-cultural and culturally-specific measures to operationalize the conceptual framework lends special strength to this analysis. The availability of repeated, national cross-sectional surveys also affords a unique opportunity to link women to important characteristics of their local environment before their exposure to the risk of domestic violence. Finally, the availability of detailed, national data on psychological and physical forms of domestic violence against women allowed us to evaluate the extent to which specific family and community attributes are commonly associated with these various forms of domestic violence.

The results of this analysis underscore the multiple determinants of domestic violence against women. Regarding each woman’s governorate-level exposures in the year preceding her first marriage, results concerning the average rates of ever schooling for women relative to men are partially consistent with expectation (H_{C1b} , H_{C2}). Specifically, a higher level of gender equality in rates of ever schooling was marginally, directly associated with lower odds that women reported any minor physical violence in the prior year (H_{C1b}). Also, this ratio was indirectly associated, through other family and household attributes, with the odds that women reported any psychological violence in the prior year (H_{C2}). Such findings corroborate the idea that the level of gender equality of opportunity in the community may influence women’s risk of

domestic violence directly, by establishing norms about the value and treatment of women, and indirectly, by altering the familial environment in which women live. However, the positive associations of governorate-level averages for household standard of living and women's age at first marriage with one or more of the outcomes contradicted our expectations and prior research in Haiti, which showed that higher levels of poverty are associated with women's *higher* odds of experiencing sexual violence (Gage 2005). One explanation for the findings for Egypt may be that the governorate-level measures used reflect environments in the distant past, especially for women who were married years before the period for which domestic violence was measured. If large changes had occurred in the average household standard of living and/or women's average age at first marriage, then more recent measures of these variables may be more relevant determinants of domestic violence against women in the year before the survey. Substituting the values for these two measures in 2005, however, did not appreciably alter the results (results available upon request). Such conflicting findings for women in Haiti and Egypt suggest that cross-national comparative research is needed to examine the consistency of the associations of various community attributes with women's experiences of domestic violence.

Regarding the effects of absolute and relative spousal resources, several findings are notable. First, as expected (H_{E1}), women living in households that had a higher standard of living had significantly lower odds of reporting all three forms of violence in the prior year. These findings are consistent with prior research in Egypt and elsewhere (e.g., Hoffman, Demo, and Edwards 1994; Jejeebhoy and Cook 1997; Koenig et al. 2003; Williams 1992; Yount 2005b, 2006) and with Goode's (1971) hypothesis that male partners with more economic resources will less often use psychological or physical force to control their partner. At the same time, the relative resources of spouses were important, independent determinants of domestic violence

against women (H_{E3}). First, a majority (61%) of women was 4–13 years younger than their spouse, and so these spousal age differences reflect the norm in Egypt. Women in such marriages have lower odds of reporting any psychological or minor physical violence than do women who are the same age or only 1–3 years younger than their spouse (e.g., who represent only 25% of the sample). This finding suggests that a woman who conforms to status expectations in terms of her age relative to her spouse will have lower odds of experiencing various forms of domestic violence. Complementing these findings are those for a woman's relative schooling. Specifically, husbands and wives with the same amount of schooling are the most common kinds of couples in Egypt (34%), and relatively few couples are ones in which the husband has at least six fewer (5%) or at least six more (16%) grades of schooling than his wife. Consistently, the women whose spouse had extremely fewer and extremely more grades of schooling have significantly higher odds of reporting psychological and minor physical violence in the prior year, compared to women with the same amount of schooling as their spouse. Moreover, the pattern of association between spousal schooling differences and severe physical violence is consistent, although not significant. Thus, a woman who is extremely (or atypically) dependent on her spouse, or whose status is extremely (or atypically) high relative to her spouse, has a significantly higher probability of experiencing domestic violence than does a woman who conforms to the status quo in this respect. In addition, a woman who is extremely socially dependent on her spouse, because she has at least three living daughters, has at least marginally higher odds of experiencing all forms of domestic violence measured in this study. Given that the number of living sons is not significantly associated with the odds of domestic violence against women, women who bear a higher number of less valued girls may themselves be less valued and may therefore have a higher risk of experiencing domestic violence.

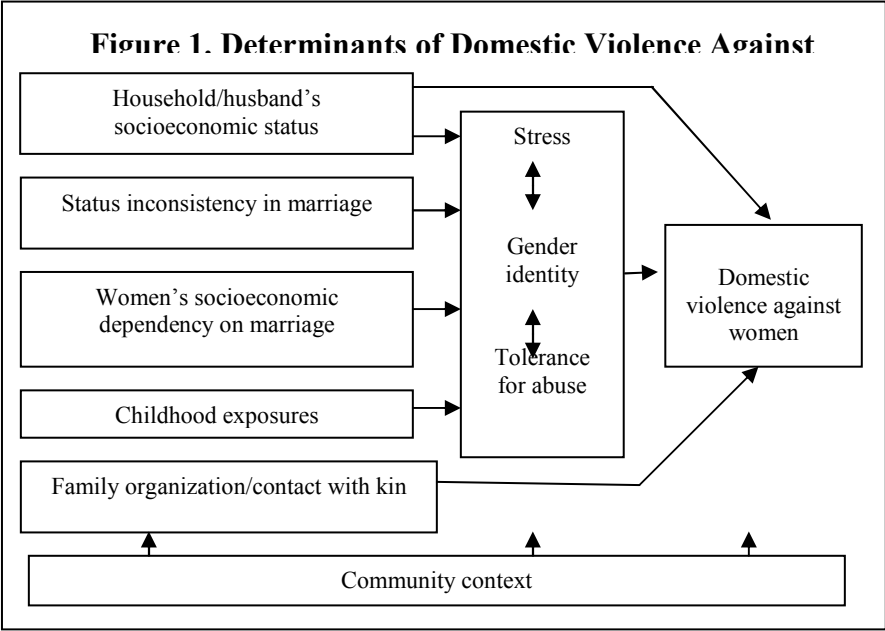
Several findings regarding family organization and childhood exposures also are notable (H_{F1} – H_{F3}). First, women who are married at a later age, and thereby maintain longer ties with their natal families and accrue more age-associated status before marriage, have at least marginally lower odds of reporting psychological and minor physical violence in the prior year. Second, women who marry a first or second paternal cousin, compared to those who marry a non-relative, have consistently lower odds of reporting any psychological, minor physical, and severe physical violence in the prior year. The latter findings corroborate the idea that a woman who marries endogamously, and along patrilineal lines, may be protected from domestic violence because the background of her spouse is known, the resources of her kin are more accessible, and her parents may value her more and be more willing to intervene on her behalf in marital disputes (Bittles 1994; Dyson and Moore 1983; Hoodfar 1997). Third, the findings that neither residence with a brother-in-law nor residence with a parent-in-law are positively associated with domestic violence against women contradict our expectations and previous findings from Minya, Egypt (Yount 2005b). One reason for this result may be that the variables for coresidence were derived from information on each household member's relationship to the head. The format of this question prevented the definitive classification of all women according to the relevant forms of coresidence in this study. Therefore, some degree of measurement error in these variables may have biased estimates of their associations with women's experience of domestic violence. To avoid this potential problem, future DHS in Egypt and elsewhere should consider more direct questions about women's living arrangements. Finally, regarding women's childhood exposures, the findings from this analysis clearly show that, adjusting for other variables, a woman's exposure to direct maltreatment in childhood is significantly, positively associated with her odds of experiencing psychological, minor physical, and severe physical domestic violence as an

adult. Such findings are consistent with prior research (e.g., Jewkes, Levin, and Penn-Kekana 2002; Whitfield et al 2003; Schafer, Caetano, and Cunradi 2004); however, future studies of domestic violence against women should include measures for the husband's experience of direct maltreatment in childhood, as well as the woman's and husband's exposure in childhood to domestic violence between their respective parents.

Taken together, the findings from this study suggest that measures of psychological, minor physical, and severe physical domestic violence against women are commonly associated with family-level attributes that operationalize 1) life course theory, 2) resource theory, 3) dependency theory, and 4) status inconsistency theory. In order, these attributes include 1) a woman's direct exposure to physical maltreatment in childhood, 2) the standard of living of the woman's household as an adult, 3) the economic resources of the woman relative to her spouse and the number of (female) dependents of the woman, and 4) marriage to a close paternal cousin. In addition, women's opportunities relative to those of men in the larger community appear to be directly and indirectly associated with women's odds of experiencing psychological and physical forms of domestic violence. Given these multiple determinants of domestic violence against women, however, estimated predicted probabilities of experiencing minor physical violence reveal the *dominant* roles of a woman's childhood exposures, dependency on marriage, and family organization, regardless of her household standard of living and community exposures.

Future research on this topic should address in greater depth some of the methodological issues of collecting data on domestic violence cross-culturally (e.g., the reliability of women's reports of domestic violence), and of controlling for other known determinants of domestic violence against women (e.g., history of substance abuse by the woman or her partner). Such research might include test-retest studies of reporting on domestic violence, or qualitative

interviews with women to explore the nature, meanings, and evaluations of the ways that husbands, other kin, and non-relatives treat women, in cultural context. Future research also should examine the extent to which the findings in this national case study apply to different cultural contexts. Such research, for example, might take the form of comparative, cross-national analyses using recent DHS surveys that include extensive, comparable questions on domestic violence, and that have been completed in settings where repeated DHS surveys have been conducted in the past. Such research would dramatically expand our understanding of the common, global causes of domestic violence against women, and thereby, would enhance our ability to recommend more general policies to mitigate its occurrence across diverse settings.



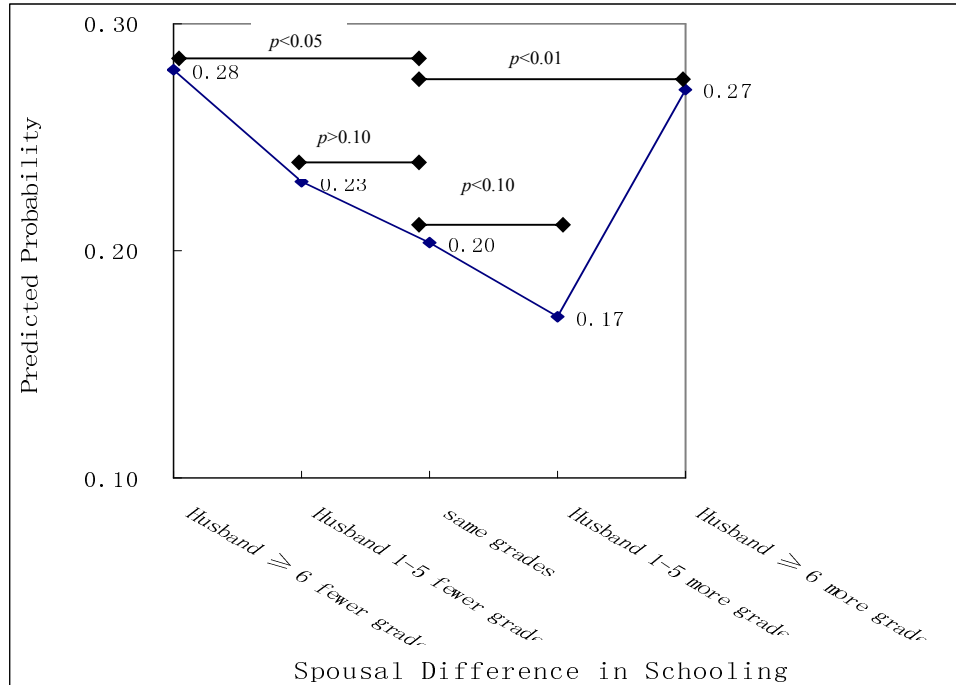


Figure 2. Predicted probabilities of experiencing MINOR physical violence by spousal differences of schooling for the “average” Egyptian woman of reproductive age

Note: Other covariates are set to their mean or modal values, as follows:

Childhood exposures

Childhood Residence	Rural
Ever physically abused by parents after age 15 years	No
Genitally cut	Yes

Household standard of living

Household standard of living score	-0.049526
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Dependency/Status Inconsistency of Respondent

Difference in age (husband-wife), in years	Husband 4-13 years older
Number of daughters alive ≥ 12 months before interview	1~2
Number of sons alive ≥ 12 months before interview	1~2

Family Organization

Age at first marriage	19.5
Relational status of husband	Nonrelative
Any brother-in-law coresident	No
Any parent-in-law coresident	No
Coresident with husband	Yes

Governorate characteristics

Adult (≥ 15 y) female-to-male ratio of ever attendance	0.7
Average household standard of living score for the governorate	-0.3
% of population in governorate Christian	5.5
Average age at first marriage, women 15-49 years	18.4
Region/governorates	Rural Upper

Other sociodemographic characteristics

Current place of residence	Rural
Age at interview, in years	33.5
Duration of marriage, in months	156.3
Any daughters dead \geq 12 months before interview	0.0
Any sons dead \geq 12 months before interview	0.0
Religion	Muslim

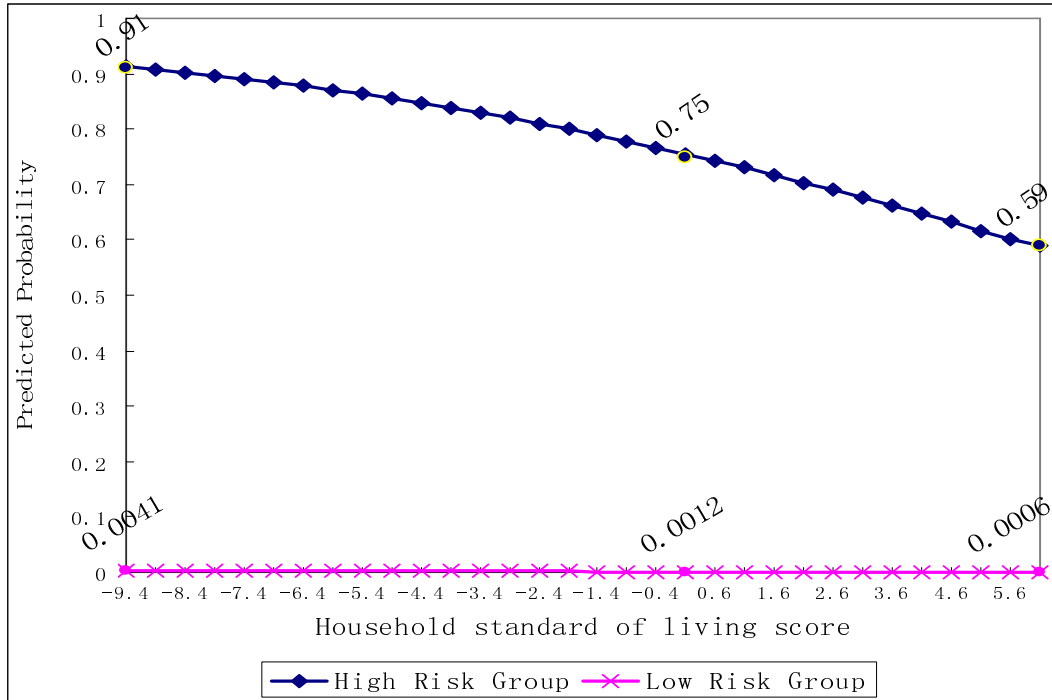


Figure 3. Predicted probabilities of experiencing MINOR physical violence by household standard of living score, “high risk” and “low risk” women

Note: Covariate values defining “high risk” and “low risk” women are as follows:

	High Risk	Low Risk
Childhood exposures		
Childhood residence	Rural	Urban
Ever physically abused by parents after age 15 years	Yes	No
Genitally cut	Yes	No
Dependency/status inconsistency of respondent		
Difference in age (husband-wife), in years	Husband 1-3 years older	Husband 4-13 years older
Difference in grades of schooling (husband-wife)	Husband ≥ 6 more	Husband 1-5 more
Number of daughters alive ≥ 12 months before interview	≥ 3	0
Number of sons alive ≥ 12 months before interview	1~2	0
Family organization		
Age at first marriage	15.0	25
Relational status of husband	Non-relative	First or second paternal cousin
Any brother-in-law co-resident	No	Yes
Co-resident with husband	Yes	No
Other covariates set at their mean or modal value		
Any parent-in-law coresident	No	No
Adult (≥ 15 y) female-to-male ratio of ever attendance	0.7	0.7
Average household standard of living score	-0.3	-0.3
% of population in governorate Christian	5.5	5.5
Average age at first marriage, women 15-49 years	18.4	18.4
Region/governorates	Rural Upper	Rural Upper
Age at interview, in years	33.5	33.5

Duration of marriage, in months	156.3	156.3
Any daughters dead \geq 12 months before interview	0	0
Any sons dead \geq 12 months before interview	0	0
Religion	Muslim	Muslim

Table 1. Prevalence of Psychological and Physical Domestic Violence, Ever and in the Prior Year, Ever Married Women 15-49 Years and their (Last) Husbands, Egypt 2005

(sample size, unweighted)	Region/governorates (%)												Total (%)			
	Urban ^a (n=1085)		Rural Lower ^b (n=1205)		Urban Lower ^c (n=488)		Rural Upper ^d (n=1708)		Urban Upper ^e (n=754)		Frontier ^f (n=245)		p ^g	p ^h	Total (n=5485)	
	Ever	Last yr	Ever	Last yr	Ever	Last yr	Ever	Last yr	Ever	Last yr	Ever	Last yr			Ever	Last yr
Violence against respondent by (last) husband:																
<i>Psychological</i>																
Say/do something to humiliate her in front of others	14.4	7.8	19.8	12.1	16.0	8.8	16.0	9.6	13.7	9.0	12.8	7.7 ***	***	16.61	9.91	
Threaten respondent/someone close to her with harm	3.7	1.8	6.3	3.7	6.4	3.0	6.5	3.7	7.1	4.1	3.0	2.2 ***	***	5.97	3.32	
Any psychological violence (humiliate or threaten harm)	14.6	7.8	19.9	12.2	16.9	9.1	16.6	10.3	13.9	9.3	12.8	7.7 ***	***	16.98	10.20	
<i>Minor Physical</i>																
Push, shake, throw something at her	23.6	11.4	29.5	17.2	26.9	12.3	23.1	13.5	21.4	11.9	19.9	10.4 ***	***	25.43	13.95	
Slap respondent/twist her arm	26.0	11.4	31.5	17.5	24.5	11.2	27.9	16.1	24.1	13.1	22.8	10.1 ***	***	27.77	14.73	
Any minor (push, slap)	32.4	15.1	36.4	20.7	31.3	14.7	30.9	18.5	27.6	15.1	28.6	14.2 ***	***	33.49	17.69	
<i>Severe Physical</i>																
Punch her with fist or something that could hurt	11.3	4.9	15.3	8.6	11.4	4.9	11.2	6.4	12.8	8.9	6.1	3.0 ***	***	12.70	6.95	
Kick/drag her	4.4	1.6	6.8	3.9	4.6	1.6	5.3	2.8	7.4	5.7	2.2	1.5 ***	***	5.74	3.14	
Try to strangle/burn her	0.9	0.3	0.3	0.1	1.0	0.5	1.2	0.6	2.1	1.5	0.4	0.0 ***	***	0.93	0.47	
Threaten her with knife, gun, other weapon	1.0	0.4	0.8	0.5	1.0	0.2	0.8	0.2	0.9	0.2	0.4	0.0	***	0.83	0.32	
Attack her with knife, gun, other weapon	0.8	0.3	0.2	0.0	0.2	0.0	0.2	0.1	0.5	0.2	1.6	0.0 ***	***	0.36	0.11	
Any severe (punch, kick, try to strangle, threaten w/weapon, attack)	11.7	5.1	16.5	9.5	12.3	5.1	12.7	7.3	14.0	9.6	8.0	3.0 ***	***	13.81	7.63	
<i>Sexual</i>																
Physically force her to have sexual intercourse	5.6	2.6	9.6	6.3	6.6	3.0	4.6	2.3	4.2	2.7	7.2	5.3 ***	***	6.56	3.81	
Violence against (last) husband by respondent:																
Hit, slap, kick, or do anything to physically hurt	1.2	0.9	0.5	0.2	1.3	0.5	0.4	0.2	1.0	0.9	1.2	0.0 ***	***	0.76	0.44	

^a Cairo, Alexandria, Port Said, Suez

^b Damietta, Dakahlia, Sharkia, Kalyubia, Kafr El-Sheikh, Gharbia, Menoufia, Behera, Ismailia

^c Damietta, Dakahlia, Sharkia, Kalyubia, Kafr El-Sheikh, Gharbia, Menoufia, Behera, Ismailia

^d Giza, Beni Suef, Fayoum, Menya, Assuit, Souhag, Qena, Aswan

^e Giza, Beni Suef, Fayoum, Menya, Assuit, Souhag, Qena, Aswan

^f Red Sea, New Valley, Matroh, North Sinai, South Sinai

^g † p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 for difference in ever violence, accounting for sample design.

^h † p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001 for difference in violence last year, accounting for sample design.

Table 2. Percentage Distribution of Women 15-49 Years by Characteristics, Egypt 2005 (n=5485)

	%	Mean	SD	Min	Max
Childhood exposures					
Residence					
Urban	34.5				
Rural	62.6				
Missing	3.0				
Ever physically abused by parents after age 15 years					
No	79.8				
Yes	20.2				
Genitally cut					
No	4.3				
Yes	95.7				
Household standard of living					
Household standard of living score		0.0	2.7	-9.4	6.0
Dependency/Status inconsistency of Respondent					
Difference in age (husband-wife), in years		7.0	7.0	-32.0	69.0
Husband younger	3.1				
Husband and wife same age, husband 1-3 years older	25.4				
Husband 4-13 years older	61.4				
Husband >13 years older	10.0				
Difference in completed grades of schooling (husband-wife)		1.5	4.5	-18.0	16.0
Husband ≥ 6 fewer grades	5.3				
Husband 1-5 fewer grades	13.2				
None	34.6				
Husband 1-5 more grades	31.0				
Husband ≥ 6 more grades	15.9				
Number of daughters alive ≥ 12 months before interview		1.4	1.3	0.0	8.0
0	30.8				
1-2	52.0				
3+	17.2				
Number of sons alive ≥ 12 months before interview		1.4	1.3	0.0	8.0
0	27.1				
1-2	55.0				
3+	17.9				
Family Organization					
Age at first marriage		19.5	4.3	8.0	42.0
Relational status of husband					
Nonrelative	63.9				
First or second paternal cousin	16.4				
First or second maternal cousin	9.6				
Third paternal/maternal cousin, or other relative by marriage	10.1				
Any brother-in-law coresident					
No	96.4				
Yes	1.9				
Missing	1.7				
Any parent-in-law coresident					
No	84.6				
Yes	13.7				
Missing	1.7				
<hr/>					
Coresident with husband					
No	6.5				
Yes	93.5				
Governorate characteristics^a					
Adult (≥ 15 y) female-to-male ratio of ever attendance		0.7	0.1	0.5	0.9
Average household standard of living score for the governorate		-0.3	1.5	-2.8	2.5
% of population in governorate Christian		5.5	5.4	0.0	22.9
Average age at first marriage, women 15-49 years		18.4	1.4	15.9	21.6
Region/governorates					
Urban	19.8				
Urban Lower	8.9				
Rural Lower	22.0				
Urban Upper	13.8				
Rural Upper	31.1				
Frontier	4.5				
Current place of residence					
Urban	45.3				
Rural	54.7				
Other sociodemographic variables					
Age at interview, in years		33.5	8.6	15.0	49.0
Duration of marriage, in months		156.3	108.7	0.0	456.0
Any daughters dead ≥ 12 months before interview		0.1	0.4	0.0	5.0
0	89.7				
≥ 1	10.3				
Any sons dead ≥ 12 months before interview		0.1	0.5	0.0	8.0
0	88.7				
≥ 1	11.3				
Religion					
Muslim	94.6				
Christian	5.4				

^a Governorate-level variables are annualized for the period 1988-2005. Each woman is assigned an estimate corresponding to the year before her first marriage.

Table 3. Log odds of Any Psychological or Physical Violence Against Women in Prior Year, Women 15-49 Years, Egypt 2005 (n=5485)

	Psychological ^a			Minor Physical ^b			Severe Physical ^c		
	est	(se)	p	est	(se)	p	est	(se)	p
Childhood exposures									
Residence (ref: rural)									
Urban	-0.36	(0.05)	***	-0.27	(0.17)	†	-0.51	(0.24)	*
Missing	-0.06	(0.08)		-0.32	(0.29)		-0.22	(0.37)	
Ever physically abused by parents after age 15 y (ref: no)	0.47	(0.03)	***	0.55	(0.12)	***	0.56	(0.16)	***
Genitally cut (ref: no)	0.49	(0.12)	***	0.74	(0.30)	*	0.35	(0.40)	
Household standard of living									
Household standard of living score	-0.21	(0.01)	***	-0.13	(0.03)	***	-0.18	(0.04)	***
Dependency/Status inconsistency of Respondent									
Difference in age (husb-wife) (ref: same, husband 1-3 yrs older)									
Husband younger	-0.06	(0.09)		0.05	(0.26)		0.15	(0.43)	
Husband 4-13 years older	-0.32	(0.03)	***	-0.23	(0.12)	*	-0.08	(0.19)	
Husband >13 years older	0.00	(0.05)		-0.09	(0.20)		0.27	(0.28)	
Difference in completed grades of schooling (husb-wife) (ref: 0)									
Husband ≥ 6 fewer grades	0.57	(0.06)	***	0.42	(0.21)	*	0.52	(0.29)	†
Husband 1-5 fewer grades	0.15	(0.05)	**	0.16	(0.14)		0.24	(0.20)	
Husband 1-5 more grades	-0.05	(0.04)		-0.22	(0.12)	†	-0.03	(0.19)	
Husband ≥ 6 more grades	0.12	(0.04)	**	0.38	(0.14)	**	0.30	(0.19)	
# daughters alive ≥ 12 months before interview (ref: 0)									
1-2	0.25	(0.17)		0.21	(0.12)	†	0.22	(0.21)	
≥ 3	0.68	(0.22)	**	0.51	(0.17)	**	0.44	(0.26)	†
# sons alive ≥ 12 months before interview (ref: 0)									
1-2	0.45	(0.17)	**	0.49	(0.13)	***	0.21	(0.19)	
≥ 3	0.38	(0.24)		0.29	(0.20)		0.20	(0.29)	
Family Organization									
Age at first marriage	-0.23	(0.13)	†	-0.23	(0.11)	*	-0.23	(0.17)	
Relational status of husband (ref: nonrelative)									
First or second paternal cousin	-0.59	(0.05)	***	-0.36	(0.15)	*	-0.45	(0.21)	*
First or second maternal cousin	-0.09	(0.05)	†	-0.12	(0.18)		-0.03	(0.25)	
Third paternal/maternal cousin, other relative by marriage	-0.09	(0.05)	†	0.29	(0.16)	†	0.08	(0.23)	
Coreresident with any brother-in-law (ref: no)									
Yes	-0.52	(0.10)	***	-0.66	(0.39)	†	-2.12	(0.85)	*
Missing	-0.15	(0.08)	†	0.38	(0.34)		0.22	(0.45)	
Coreresident with any parent-in-law (ref: no)									
Yes	0.08	(0.17)		-0.03	(0.14)		0.11	(0.21)	
Missing	0.00	(0.00)		0.00	(0.00)		0.00	(0.00)	
Coreresident with husband (ref: no)	0.84	(0.41)	*	1.15	(0.34)	***	1.16	(0.50)	*
Governorate characteristics^a									
Adult (≥ 15 y) female-to-male ratio of ever schooling	-2.11	(1.02)	*	-1.13	(1.30)		-1.97	(0.85)	*
Average household standard of living score	0.28	(0.11)	*	0.31	(0.15)	*	0.15	(0.10)	
% of population Christian	-0.02	(0.01)		-0.02	(0.01)		0.01	(0.01)	
Average age at first marriage, women 15-49 years	-0.07	(0.09)		-0.06	(0.12)		0.28	(0.08)	***
Region/governorates (ref: Rural Lower)									
Urban	-0.70	(0.28)	*	0.03	(0.32)		-1.04	(0.24)	***
Urban Lower	-0.35	(0.22)		0.43	(0.24)	†	-0.44	(0.18)	*
Urban Upper	-0.41	(0.21)	†	0.31	(0.28)		0.13	(0.26)	
Rural Upper	-0.14	(0.19)		-0.24	(0.21)		0.01	(0.17)	
Frontier	-0.76	(0.26)	**	-0.52	(0.32)		-0.75	(0.22)	***
Other sociodemographic variables									
Age at interview, in years	0.19	(0.13)		0.19	(0.11)	†	0.20	(0.17)	
Duration of marriage, in months	-0.02	(0.01)	†	-0.02	(0.01)	*	-0.02	(0.01)	
Any daughters dead ≥ 12 months before interview (ref: 0)	0.16	(0.19)		-0.17	(0.17)		-0.11	(0.23)	
Any sons dead ≥ 12 months before interview (ref: 0)	-0.19	(0.21)		-0.22	(0.17)		-0.25	(0.23)	
Religion Christian (ref: Muslim)	-0.04	(0.28)		-0.13	(0.21)		0.03	(0.29)	

† p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001, adjusting for sample design.

^a Any psychological violence includes humiliate or threaten harm

^b Minor physical violence includes push or slap

^c Severe physical violence includes punch, kick, try to strangle, threaten with weapon, attack with weapon

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Endnotes

¹ Networks of secondary associations, levels of interpersonal trust, and norms of reciprocity.

² Coptic Christianity evolved from the teachings of Saint Mark in the first century A.D.

³ The 1996 census frame was updated in 2004 using information obtained from the Central Agency of Public Mobilization and Statistics, [CAPMAS] and was further reviewed to identify any administrative changes that had occurred after August, 2004.

⁴ Women in the 21 non-frontier governorates who were married before 1988 received governorate-level values for the year 1988. Women who were married before 1995 and who were living in the five frontier governorates (which were surveyed starting with the 1995 EDHS) were assigned governorate-level values for the year 1995. Most women who completed the DMV (5,365 of 5,613) lived in the 21 non-frontier governorates that were included in the 1988 and 1992 EDHS.

⁵ Many of the assets and amenities about which questions were asked are similar across survey years; however, the lists are not identical because they reflect changes in the availability of goods and household amenities over time. The lists of assets and household amenities for other survey years can be made available upon request.

⁶ This analysis excluded the five Frontier governorates because of the difficulty of classifying these governorates as “Upper” or “Lower” Egyptian governorates.

⁷ Exceptions included the score for household standard living and several community variables.

⁸ The percentage of women who were interrupted by their husband (< 2), another adult male (< 1), or an adult female (< 2.5) was low, so an indicator for whether a woman was interrupted by anyone (4.9%) was created.

⁹ For those covariates with more than a 20% change in the estimated magnitude of the

coefficients (number of dead daughters, difference in schooling, relative marital status, coresidence with parents-in-law, respondent's religion, and the percentage of the governorate that was Christian), these covariates still retained their effect on violence. A few covariates, however, lost their significance (age at first marriage and duration of marriage for psychological violence; childhood residence, number of living daughters, respondent's age, and the governorate ratio of schooling for minor physical violence; difference in schooling (husband at least six grades more), respondent's age, and duration of marriage for severe physical violence).

¹⁰ These groups of women did not differ with respect to the percentage beaten by a parent after age 15, percentage genitally cut, religion, relational status of the spouse, number of living daughters and sons, household standard of living, and region of residence. However, the percentage reporting all three forms of domestic violence was higher among currently married than formerly married women. Also, the two groups differed with respect to their childhood residence, age difference with spouse, schooling difference with spouse, number of dead daughters and sons, coresidence with spouse/brother-in-law/parent-in-law, duration of marriage, and the average age of marriage in the woman's community.

¹¹ We assume that the household standard of living as measured at interview reflects the standard that existed 12 months prior.