WOMEN'S 'ACCEPTANCE' OF WIFE BEATING IN EGYPT

Running head: Women's Acceptance of Wife Beating in Egypt

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ABSTRACT

This paper explores the influences of social learning, marital dependency, and social context on women's reports that wife beating is justified among 5,450 female participants in the 2005 Egypt Demographic and Health Survey. One half of women justify wife beating for some reason. Women exposed to violence as children and wives have higher odds of justifying wife beating. Women who are dependent on their husband because they have fewer grades of schooling also have higher odds of justifying wife beating. In settings where women marry at older ages and proportionately more Christians reside, women have at least marginally lower odds of justifying wife beating. Marital dependency accounts for the largest share of the variability in women's attitudes about wife beating.

Domestic violence refers to "assaultive and coercive behaviors that adults use against their intimate partners" (Holden, 2003, p. 155), and global research on domestic violence against women has increased during the last decade. In the U.S. (e.g., Ahn, Mohan, & Burnett, 2003; Bryant & Spencer, 2003; Carlson & Worden, 2005; Tjaden & Thoennes, 1998; Yick, 2000) as well as in parts of Africa (e.g., Kishor & Johnson, 2004; Jewkes et al., 2001; McClosky, Williams, & Larsen, 2005; Watts & Zimmerman, 2002), Asia (e.g., Hoffman, Demo, & Edwards, 1994; Kim & Cho, 1992; Koenig et al., 2003; Parish et al., 2004; Yount & Carrera, 2006), and Latin America (Coker & Richter, 1998; Ellsberg et al. 1999; Kishor & Johnson, 2004), approximately one fifth to over one half of women interviewed have experienced physical violence in their lifetime. Studies in the Middle East suggest that approximately one third of Arab women in Egypt, Lebanon, and Israel has reported some form of physical abuse in marriage (e.g., Diop, Campbell, & Becker, 2006; Douki et al., 2003; El-Zanaty et al., 1996; El-Zanaty & Way, 2006; Haj-Yahia & Edleson, 1994; Usta, Farver, & Pashayan, 2007; Yount, 2005a; Yount & Li, 2007).

Despite high rates of domestic violence against women globally, beliefs about such violence are poorly understood. Much of the attitudinal research in the U.S. has explored the beliefs of professionals who encounter cases of domestic violence (e.g., Logan, Shannon, & Walker, 2006; Reid & Glasser, 1997; Tilden et al., 1994). Community and school-based studies of various groups in the U.S. suggest that domestic violence against women is not condoned, on average (e.g., Ahn et al., 2003; Bryant & Spencer, 2003), but that men tend to blame the victim more often than do women (Bryant & Spencer, 2003; Locke & Richman, 1999; Nabors, Dietz, & Jasinski, 2006; Worden & Carlson, 2005). In poor countries outside the U.S., sometimes high percentages of ever- and never-abused women (11% - 94% and 9% - 86%, respectively) report

that wife beating is justified (Kishor & Johnston, 2004). Few cross-cultural studies, however, have tried to explain this response (e.g., Lawoko, 2006; Yount, 2005a). This gap is surprising, given that men's and women's attitudes about gender roles and domestic violence have been associated, albeit imperfectly (Bernard & Bernard, 1983; Dibble & Straus, 1980; Yick, 2000), with the occurrence of domestic violence (e.g., Ahn et al., 2003; Archer & Haigh, 1997; Bryant & Spencer, 2003; Dibble & Straus, 1980; Gage, 2005; Parish et al., 2004).

In this paper, we explore the influence of social learning, marital dependency, and social context on women's reports that wife beating is justified in Egypt. The analysis is based on a national sample of 5,450 ever-married women aged 15 – 49 years who took part in the most recent Demographic and Health Survey [DHS] in Egypt (El-Zanaty & Way, 2006). Egypt is an excellent setting in which to undertake this research because of the high reported rates of domestic violence (Diop et al., 2006; El-Zanaty et al., 1996; El-Zanaty & Way, 2006; Yount, 2005a; Yount & Li, 2007) and the high degree of gender stratification in Egyptian society (Yount, 2005b). Such cross-cultural research also broadens our understanding of women's reported attitudes about domestic violence against women.

FRAMEWORKS FOR UNDERSTANDING WOMEN'S 'ACCEPTANCE' OF WIFE BEATING

Social Learning

According to social learning theory, the behaviors of individuals are learned by modeling those of others (Akers, 1977; Bandura, 1977, 1979). When applied to the intergenerational transmission of violence, the theory postulates that maltreated children observe and learn violent behaviors from their parents and then use these learned behaviors in adulthood (Feshbach, 1980). An adaptation of this theory to the intergenerational transmission of domestic violence against

women suggests that women's susceptibility to domestic violence is a socially learned behavior that may begin with exposure to violence in childhood, and that may continue with women's experiences of domestic violence in adulthood (Walker, 1977/1978, 1983).

Research on the intergenerational transmission of domestic violence is conflicting (e.g., Ellsberg et al., 1999; Hotaling & Sugarman, 1986; Johnson & Ferraro, 2000; Stith et al., 2000). Early research in the U.S. suggests that observing or experiencing abuse in one's own family is associated with involvement in domestic violence in adulthood (Bernard & Bernard, 1983; Kalmuss, 1984), and according to a meta-analysis of case-control studies in the U.S., female witnesses of violence in their families more often experience husband-to-wife abuse (Hotaling & Sugarman, 1986). Although a later meta-analysis (Stith et al., 2000) and review of the literature (Johnson & Ferraro, 2000) suggest a low risk of transmitting domestic violence across generations, more recent research in the U.S. (Renner & Slack, 2006; Schafer, Caetano, & Cunradi, 2004; Whitfield et al., 2003) and elsewhere (Jewkes, Levin, & Penn-Kekana, 2002; Martin et al., 2002; Yount, 2005a; Yount & Carrera, 2006; Yount & Li, 2007) suggests that early exposure to family violence can directly or indirectly lead to domestic violence.

In the context of understanding women's attitudes about domestic violence, social learning theorists would posit that experiencing violence in childhood and intimate partnerships should lead women to accept, or at least to tolerate, domestic violence. Studies in the U.S. and elsewhere support these hypotheses. The widespread practice of female genital cutting [FGC] in Egypt, for example (El-Zanaty et al., 1996; El-Zanaty & Way, 2006; Yount, 2002, 2004; Yount & Carrera, 2006), has been associated with women's exposure to (Yount & Li, 2007) and acceptance of domestic violence (Refaat, Dandash, el Defrawi, & Eyada, 2001). Domestically abused women in poor settings around the world also tend more often to justify domestic

violence against women (Faramarzi, Esmailzadeh, & Mosavi, 2005; Lawoko, 2006; ORC Macro, 2007). Domestically abused women in the U.S., however, tend to blame such violence on broader social norms (e.g., Bryant & Spencer, 2003; Nabi & Horner, 2001).

Dependency on Marriage

In addition to social learning, structural factors may contribute to women's tolerance of domestic violence. Specifically, systems of gender stratification can foster women's dependence on marriage, which largely determines their social position and access to valued resources (Kalmuss & Straus, 1982). Within this system, individual differences in women's marital dependency exist and may affect their views about domestic violence. Scholars expecting a positive relationship between marital dependence and wife abuse, for example, suggest that the association is mediated through women's tolerance for such abuse (Gelles, 1976; Roy, 1977). In other words, married women with children and little other financial support may have or perceive to have few alternatives to marriage and cannot easily negotiate changes in their partner's behavior. This experience and/or perception of being socially and economically dependent may force women to be more tolerant of an abusive husband.

Both qualitative and quantitative research supports this relationship. Among 60 low-income clinic attendees in urban Lebanon, for example, some women have passively resigned themselves to expect domestic violence (Keenan, el-Hadad, & Balian, 1998). Twenty out of 60 victims of domestic violence in and around Beijing also reportedly tolerate such treatment because of their children or financial hardship (Xingjuan, 1999). In Minya, Egypt, women with two or more sons and much less schooling than their spouse have marginally higher odds of reporting that wife beating is justified (Yount, 2005a). Others researchers stress, however, that reporting a *tolerance* for wife abuse is not the same as *condoning* it (Schuler & Islam, 2007). In

six villages in rural Bangladesh, for example, 84% of surveyed women reported that domestic violence is *alright* for at least one provided reason (Schuler & Islam, 2007). In qualitative interviews in a subset of these villages, some women also blamed the (female) victim for instances of domestic violence, and most women "resigned themselves to accepting a certain level of violence" (p. 2). Most women, however, did not truly condone domestic violence, and many expressed extreme anger about their own experiences of abuse. Such research confirms the idea that marital dependency "forces" women to tolerate spousal abuse (Kalmuss & Straus, 1982) but cautions that *tolerance* is not equivalent to *acceptance*.

Social Norms about Women's Roles

Finally, the geographic concentration of patriarchal groups and practices may perpetuate norms about the low value of women (Kishor, 1993), and women who are exposed to these systems and norms may more often accept, or at least tolerate, domestic violence. First, women's poorer representation than men's in local schools and labor markets may reflect and perpetuate a low value of women (Brinton, 1988). Second, attitudes about gender and domestic violence against women have differed by religion and/or religiosity around the world (Brinkerhoff & MacKie, 1985; International Institute for Population Sciences, 2000; Mason & Lu, 1991; Mason & Kuhlthau, 1989; Peek, Lowe, & Williams, 1991; Thornton, Alwin, & Camburn, 1983). Although generalizing about gender norms across religious groups is difficult, comparisons across religious groups in Egypt are informative. Compared to Christian women in Minya, Egypt, for example, Muslim women more often have favored FGC and have agreed that wife beating is justified (Yount, 2002, 2005a).

The above discussion motivates three hypotheses about the effects of social learning, marital dependency, and the broader social context on women's views about domestic violence

against women.

H$_1$: Women who are exposed to violent experiences in their natal –or birth–family or to domestic

    violence in adulthood will have higher odds of reporting that wife beating is justified.

H$_2$: Women who are more socially and economically dependent on marriage will have higher

    odds of reporting that wife beating is justified.

H$_3$: Women in settings that are more gender stratified, or that are populated by groups tending to

    condone domestic violence, will have higher odds of reporting that wife beating is justified.

SETTING

Egypt, a country of almost 70 million people (United Nations Development Programme [UNDP] and Institute for National Planning [INP], 2005), is highly heterogeneous economically and socially. In 2003-4, the real Gross Domestic Product per capita across governorates ranged from 2,300 purchasing-power-parity [PPP] dollars in Assiut to 9,100 PPP dollars in Port Said, with the poorest governorates concentrated in Upper, or Southern, Egypt (UNDP and INP, 2005). Persistent beliefs in the complementarity of the sexes also reinforce women's poor representation in public life (Hoodfar, 1997). A higher percentage of girls than boys, for example, still never attend school (14% versus 8%) (El-Zanaty & 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, men still represent over two thirds of the formal work force (World Bank Group, 2002) and hold most public offices (UNDP & 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 governing 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 live in the governorates of Upper Egypt. About 20% of Upper Egyptians are Coptic Christian, for example, compared to about 5% of the national population (Yount, 2004 & Table 1).

Childhood in Egypt is characterized by some customary practices that may affect women's views about domestic violence against women. First, FGC occurs in 97% of women, with the median age of this practice being about 10 years (El-Zanaty et al., 1996; El-Zanaty & Way, 2001; Yount, 2002). Thus, FGC is a normal part of childhood for most Egyptian girls, and those girls who experience FGC also may view domestic violence as normal. Second, over 69% of mothers in the 2005 EDHS had hit or slapped a child to discipline them in the prior month (El-Zanaty & Way, 2006). Thus, the corporal punishment of children is a normal form of discipline in Egypt, and children who are disciplined this way may see domestic violence as normal.

Women's social and economic dependence on marriage also is a salient topic among Egyptians. Men in poor parts of Cairo, for example, have agreed that it would "test their dignity" to marry a woman of higher social standing (Hoodfar, 1997:59). Likewise, women have preferred to marry a more educated man so that "it would not be illogical…to obey him" (Hoodfar, 1997:58). Other women have cautioned, however, that marrying "too far up" can be problematic. An uneducated woman who married a wealthier, secondary-educated man explained that "..he makes me feel I am his…servant" (Hoodfar, 1997:57). Finally, women's dependency on marriage is notably more pronounced in Upper than in Lower Egypt (El-Zanaty et al., 1996; El-Zanaty & Way, 2001). Proportionately more Upper- than Lower-Egyptian women, for example, are five or more 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 reflect women's social

dependence on marriage, and affect their views about the treatment of married women. First, familial solidarity stems from bonds between male members of the same paternal lineage. So, older married men often head the family, and brothers share authority in family decisions. Second, having children is central to women's social identity in Egypt (Rugh, 1984), but divorce laws ultimately grant custody of children to the husband. Thus, a woman's legal dependence on marriage to retain custody of her children may increase her tolerance for spousal abuse. Third, about one third of marriages in Egypt are endogamous, or among blood relatives (El-Zanaty et al., 1996). Such marriages may protect women because they have more access to natal kin; yet, endogamy is associated with women's earlier age at marriage (Bittles, 1994) and may benefit men because related spouses share obligations to the same male kin (Rugh, 1984). Fourth, over one half of ever-married Egyptian women aged 15 – 49 years in 1995 lived with their husband's family at the start of marriage (El-Zanaty et al., 1996). Such women tend to have less authority in their marital home, but they often sustain ties with their natal kin (Rugh, 1984; Yount, 1999).

Notably, some of these features of family are more common in Upper than in Lower Egypt. Proportionately more Upper Egyptian woman, for example, 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 & Way, 2001). In sum, public and family life, especially in Upper Egypt, is highly gender stratified, and most women depend on the social and economic resources of their spouse and family.

SAMPLE, DATA, AND MEASURES

Sample and Data

This study uses data from the 2005 Egypt Demographic and Health Survey [EDHS] (El-Zanaty & Way, 2006). The DHS are national household surveys that routinely collect data on

fertility and contraceptive use among women of reproductive age (15–49 years), and on the care, health, 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 as well as relevant topics for this analysis (e.g., women's socioeconomic status, family organization, and childhood exposures). The survey also followed standard guidelines for the protection of human subjects (Kishor & Johnson, 2004).

The master sample for the 2005 EDHS was based on the 1996 national census frame, which had been updated for administrative changes in 2004. A three-stage sample was selected separately in rural and urban areas. Namely, 682 primary sampling units [PSUs] (384 villages, 298 towns or *shiakhas* (urban areas)) were selected with probability proportional to the number of households in each PSU. PSUs were divided into parts of roughly equal population size (~5,000). Two parts were selected in *shiakhas*/towns or villages with populations of 20,000 or more, and one part was selected in smaller *shiakhas*/towns or villages, for a total of 1,019 selected parts. Each part was divided into segments of about 200 households, and 1,359 segments were chosen from the parts in each *shiakha*/town and village. A systematic random sample of households was selected from the retained segments, and 99% (22,211 of 21,972) of identified households were interviewed.

A domestic violence module [DVM] was administered in a one-third sub-sample of interviewed households. To ensure confidentiality, one woman per household was selected to complete the DVM, and the response rate for this module was over 98% (5,613 of 5,711 ever-married women aged 15 – 49 years). The final analytic sample (*n*=5,450 from all 26 governorates) excludes 18 women who did not respond to the attitudinal questions about domestic violence and 145 women who had missing data for covariates of interest.

A *household listing* permitted the recording of age, gender, and relation to the head for all members, marital status for all adult members (≥ 15 years), and the schooling and recent work status for all members at least six years of age. A *household attributes form* included questions about the head's religion; the dwelling; access to electricity, water, and sanitary facilities; and the ownership of consumer goods and durables. A *woman's form* was administered to all ever-married women aged 15 – 49 years and included questions on age, marriage, education, work, religion, reproduction and family planning, and health knowledge and practices. In 2005, this form also included questions about FGC of the respondents and their daughters, the forms of discipline that respondents use with their children, and whether, in the respondents' opinions, a husband is *justified in hitting or beating his wife* if she 1) goes out without telling him, 2) neglects the children, 3) argues with him, 4) refuses to have sex with him, or 5) burns the food.

The DVM in the 2005 EDHS was an adapted version of the Revised Conflict Tactics Scale [RCTS] (Straus, 1990; Straus et al., 1996; DeKeseredy & Schwartz, 1998). Included questions covered 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. Other questions covered the injuries that ever-abused women had incurred, and their help-seeking behavior in response to domestic violence.

Dependent Variables

Six binary variables capture the respondent's opinion about whether a husband is justified in hitting or beating his wife for each of the five situations mentioned above, and for any of these five situations combined. Because fewer than two percent of the respondents answered *don't*

know to any of these questions, women who responded accordingly were grouped with those who responded *no*. This grouping distinguishes the women who reported definitively that wife beating *is* justified for each given situation, and for any of the situations combined.

Measures of Social Learning

Measures of social learning include the respondent's exposure to violence in her family of origin as well as her prior experience of domestic violence. Regarding the former, a binary measure for whether the respondent was ever genitally cut captures her exposure to normalized violence against girls. A binary measure for whether the respondent was ever hit, slapped, kicked, or otherwise hurt physically by a parent after the age of 15 years proxies the respondent's exposure to normalized corporal punishment or physical maltreatment as a child. A measure for the respondent's childhood residence (rural, urban) captures her general early-life exposures.

To capture the respondents' prior experiences of domestic violence, several measures were considered that disaggregated these experiences by the type of violence (e.g., psychological, minor physical, and several physical violence) and its time period (e.g., ever versus in the prior year). Ultimately, a variable for whether each respondent *ever* experienced *any form* of domestic violence was constructed to distinguish women who had no prior experience of domestic violence from those who had any prior experience.

Measures of Marital Dependency

The four main measures that capture each respondent's social and economic dependence on marriage include her number of living sons at interview (0, 1 − 2, ≥ 3); number of living daughters at interview (0, 1 − 2, ≥ 3); grades of schooling relative to her current or last spouse (at least 6 more, 1 − 5 more, the same number, 1 −5 fewer, or at least 6 fewer grades); and age relative to her current or last spouse (husband younger, husband and wife the same age or

husband 1 – 3 years older, husband 4 – 13 years older, husband > 13 years older). The categories denoting a woman's greater schooling or older age than her spouse capture status inconsistency, or non-normative discrepancies between spouses in their social and economic standing. The categories denoting a woman's lesser schooling than her spouse capture a woman's poorer prospects for work, and thus greater economic dependence on marriage. The categories denoting a woman's younger age than her spouse capture a woman's lower age-related social standing, and thus greater social dependence on her spouse. The difference in spousal scores for occupational prestige was considered; however, this measure was excluded because relatively few Egyptian women work in the formal sector, and the measure was highly correlated with the household's standard of living.

Five indicators for family organization capture other, contextually appropriate aspects of women's social dependence on marriage. They include the age in years at which the respondent consummated her first marriage; the relational status of the respondent's husband (blood relative or not); and whether the respondent was living with her husband, husband's parents, or any brothers of her husband at the time of her interview. Notably, the respondent's living arrangements at interview could be functions of her (prior) views about domestic violence against women. However, the final models include these indicators because the estimated coefficients and inferences for other variables differed little in models that included and excluded these indicators (not shown, available upon request).

Measures of Social Context

Contextual variables were derived from the household and woman data files of the 2005 EDHS. First, the responses from all eligible households or residents were aggregated to the level of the governorate. Aggregation to this level was considered appropriate because governorates

represent distinctive geographic and administrative units. Second, each woman was assigned the value for each contextual variable that corresponded to her governorate of residence at the time of her interview. Initially, four contextual measures were considered. An average score for household standard of living captures the economic conditions in each governorate (see details on constructing a standard of living score for each household, below). The rate ratio of adult ($\geq$ 15 years) female-to-male ever attendance of school captures the degree of gender equality of opportunity. The percentage of residents in the governorate who were Christian captures the geographic concentration of religious groups, as well as associated norms regarding domestic violence and the treatment of women. The average age at which women aged 15 – 49 years old were first married captures the local value and treatment of women. Descriptive analyses revealed that these four measures were highly correlated (e.g., Pearson's $r > .8$), and so two measures that had robust, adjusted associations with the outcomes were retained in the final models (women's average age at first marriage and the percentage of residents who were Christian). 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 views about domestic violence against women.

Other Control Variables

Four other variables were included to control for other documented sources of variation in women's attitudes about domestic violence (e.g., Yount, 2005a). These variables were the respondent's age in years, whether or not any sons or daughters had died by the time of interview, the duration of the respondent's marriage in months, and a score for the respondent's household's standard of living in 2005. The latter score was developed from responses to questions about the assets (e.g., television; video; electric fan; telephone; satellite dish; sewing

machine; computer; watch; animal-drawn cart; land; livestock or other farm animals; bank account) and amenities (e.g., type of dwelling, electricity, flooring, number of rooms, source of water for drinking and cooking, type of toilet and whether shared, type of cooking fuel, separate room for cooking, air conditioning) of each respondent's household. Using established methods (Filmer & 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.

METHODS

Univariate analyses were conducted of all covariates, outcomes, and variables from which analytic covariates were derived to assess their completeness and distributional properties. Bivariate associations of all covariates were estimated to assess potential collinearities among the variables. Bivariate associations were estimated between all covariates and all of the original and derived measures for women's attitudes about domestic violence. For the multivariate analysis, let i denote the index woman, j governorate, and r region. Let $Y_{k,ijr}$ denote the vector of K outcomes, and $S_{l,ijr}$ a vector of L measures for social learning – or each woman's exposure to violence in childhood or to domestic violence in adulthood. Let $D_{m,ijr}$ denote a vector of M measures for a woman's social and economic dependence on marriage, $C_{n,jr}$ a vector of N measures for the governorate context, $Q_{o,ijr}$ a vector of O controls, and the regional fixed-effect μ_r to avoid any bias emanating from unmeasured, regional factors that may be correlated with the explanatory variables. Interactions between all other covariates and this indicator for region showed that most estimated coefficients did not vary significantly across region (not shown; available upon request).

For all six outcomes, multivariate regression using generalized estimating equations with

a logit link function was used to model the conditional probability of a positive response

$\pi_{ijr}(S,D,C,Q,\mu)= \Pr(Y_{ijr} = 1 \mid S,D,C,Q,\mu)$ as a linear function of the covariates:

$$\log it(\pi_{k,ijr}) = \alpha + \sum_{l=1}^{L}\beta_l S_{l,ijr} + \sum_{m=1}^{M}\beta_m D_{m.ijr} + \sum_{n=1}^{N}\beta_n C_{n,ijr} + \sum_{o=1}^{O}\beta_o Q_{o,ijr} + \mu_r \qquad (1)$$

For all models, sampling weights were used, and robust standard errors were estimated to account for any within-cluster correlation of the responses arising from the stratified, multistage, cluster-sample design (Liang & Zeger, 1986). The significance of coefficients for S_l in equation 1 provide tests for hypothesis H_1, regarding the associations of measures for social learning with women's agreement that wife beating is justified. The significance of coefficients for D_m provide tests for hypothesis H_2, concerning the associations of women's social and economic dependence on marriage with their agreement that wife beating is justified. Finally, the significance of coefficients for C_n provide tests for hypotheses H_3, concerning the associations of women's local environment with their agreement that wife beating is justified.

A potential limitation of surveys that solicit attitudes and reports about sensitive behaviors is that respondents may misreport their personal views and experiences. As a result, estimates of domestic violence or maltreatment in childhood may inadequately capture the true extent of such violence. Several features of the 2005 EDHS, however, help to mitigate this concern. First, questions on domestic violence are based on the RCTS, which has high reliability and construct validity in many cultures (Straus, 1990; Straus et al., 1996). As expected, estimated rates of ever physical violence by *anyone* are higher from the 2005 EDHS (47%) than they are from the 1995–6 EDHS (35%), which relied only on a single question about women's lifetime physical abuse (El-Zanaty et al., 1996; El-Zanaty & Way, 2006). Still, we assume that estimates of domestic violence from the 2005 EDHS reflect a consistent minimum bound on the level of such violence. Second, estimates of FGC that are derived from the 2005 EDHS (96%) are

consistent with those from the 1995–6 EDHS (97%) and with clinical studies that have been conducted in Egypt (93%) (El-Zanaty et al., 1996; El-Zanaty & Way, 2006). Finally, interviewers in the 2005 EDHS recorded if a husband, other adult male, or adult female ever interrupted each respondent's interview, as such interruptions may affect women's reports of sensitive behaviors. Four percent of sample women were interrupted by some adult, and these women more often agreed that wife beating is justified. These associations generally disappear, however, after adjusting for other factors, and most estimated coefficients do not vary by women's interruption status (not shown; available upon request).

Another limitation of any complex survey is that some covariates may have a non-ignorable percentage of missing responses. For each covariate with an item-non-response of at least 4% ($\cong$240 non-responders, childhood residence, brother-in-law coresident, or parent-in-law coresident), the significance of differences in the attributes of responders and non-responders were tested, and these groups are similar on most observed characteristics (not shown; available upon request). Also, the missing responses for categorical variables were coded as "missing" and were retained in the analysis. Women with missing scores for household standard of living (283, or 5%) were assigned the mean value of observed scores, and an indicator for whether this score was imputed was added to the multivariate analyses. Comparing analyses based on the sub-sample with complete data and the sample that included imputed and unimputed values reveals that most coefficients differ little in magnitude (< 20%) and significance (not shown; available upon request).

A third limitation of the 2005 EDHS is that respondents were not asked about some potentially relevant variables, such as their and their husband's exposure to parental domestic violence. If any omitted variables are causally associated with the observed covariates and

outcomes, then estimates of the regression coefficients will be biased and inefficient. Therefore, the estimated regression coefficients are interpreted as associations and not causal effects.

A final consideration is that all ever-married women are included in the presented analyses; yet, attitudes about domestic violence may differ for currently and formerly married women, as may the associations of other covariates with the outcomes. Despite these concerns, less than 7% of women in the analytic sample were formerly married at the time of interview. The relative frequencies of justifying domestic violence and some socioeconomic attributes do differ across these groups; however, inferences differ little for the models that are based on all ever-married women and only married women (not shown; available upon request).

RESULTS

Characteristics of the Sample

Table 1 presents the characteristics of this sample. Almost two thirds (63%) of women grew up in rural areas. High percentages of women also experienced some form of violence in childhood, or some form of domestic violence since their first marriage. Almost 96% of women, for example, reported to have been genitally cut, and more than 20% reported to have been physically abused since the age of 15 years by a parent. Almost one third (32%) of the women reported to have experienced some form of domestic violence since their first marriage.

(Table 1)

Compared to the women in this sample, their husbands, on average, have 1.5 more grades of schooling. This difference varies, however, from husbands having 16 more grades of schooling to wives having 18 more grades. A considerable minority (16%) of women has at least six fewer grades of schooling than their husband, whereas only about five percent of women has at least six more grades than their husband. Most often, women have the same amount of

schooling as their husband (35% of cases), or husbands have from one to five more grades of schooling (31% of cases). A similar distribution is apparent in the age difference between spouses: husbands, on average, are seven years older than their wife, but this range varies widely (Table 1). In a majority of cases (61%), husbands are 4–13 years older than their wife, but a notably minority of women (10%) is more than 13 years younger than their husband. In relatively few cases (3%), women are older than their husband. A majority of women (55% and 58%, respectively) reported having 1–2 living sons and 1–2 living daughters, and the mean age at first marriage for women is just under 20 years. About one third (36%) of women are married to a blood relative, and most (94%) were living with their husband at the time of interview. Although relatively few (~2%) women were living with a brother-in-law at the time of interview, about 14% were living with at least one parent-in-law.

Regarding each woman's larger community, women, on average, live in governorates in which 20% fewer women than men have ever attended school, and in which 5% of residents are Christian. The average age at first marriage of women in the governorate is 19 years, and this average ranges from 17 – 21 years. A plurality (31%) of women lives in rural, Upper Egypt, followed by rural, Lower Egypt (22%), and the urban governorates of Cairo, Alexandria, Port Said, and Suez (20%).

Otherwise, women in this sample, on average, are about 34 years of age and have been married for 168 months, or 14 years. Between 11% and 12% of women, respectively, have experienced the death of at least one daughter or son, and just over five percent of women is Christian. In around four percent of cases, the woman's interview was interrupted.

Women's Attitudes about Wife Beating

Table 2 summarizes women's responses to the series of questions about the situations in

which a husband is justified in beating his wife. The highest percentages of women reported that

wife beating is justified for reasons related to women's expected gender roles in Egyptian

society. Specifically, 41% of women reported that wife beating is justified if the wife goes out

without telling her husband and if the wife neglects the children. About one third of women

reported that wife beating is justified if the wife argues with her husband (36%) or if she refuses

to have sexual intercourse with him (34%). Relatively few women (18%) reported that wife

beating is justified if the wife burns the food. Overall, one half of women reported that wife

beating is justified for at least one of these reasons, and large subsets of women reported that

wife beating is justified for four (10%) or all five (16%) of these reasons.

(Table 2)

Multivariate Results

Table 3 provides the results of the multivariate analyses for the determinants of women's

reports that wife beating is justified, for each of the five reasons about which this question was

asked and for any of these reasons combined. Regarding the measures for social learning in

childhood and adulthood, the most consistent, direct associations relate to the latter measure. In

general, women who reportedly ever experienced domestic violence have significantly higher

odds of reporting that wife beating is justified. Ever-abused women have between 49% and 70%

higher odds of reporting that wife abuse is justified for each of the five situations, and have 76%

higher odds of reporting that wife beating is justified for at least one of these reasons. Women

who grew up in rural areas have a least marginally higher odds of reporting that wife beating is

justified for all of the five reasons, and women who were genitally cut have 1.7 times higher

odds of reporting that wife beating is justified if the wife neglects her children or argues with her

husband. Otherwise, the proxy for physical abuse in childhood was not consistently associated

with women's reports that wife beating is justified.

(Table 3)

Regarding measures for women's dependency on marriage, women whose husbands have at least 6 grades more schooling have at least marginally higher odds of reporting that wife beating is justified, for all reasons except if the wife refuses sex or burns the food. Having at least three living sons and daughters both are only marginally associated with justifying wife beating for selected reasons. Women who are married to a blood relative, and who thereby follow customary (and patriarchal) patterns of marriage in this context, also tend to have higher odds of justifying wife beating. Specifically, these women have about 1.2 times higher odds of reporting that wife beating is justified for all of the given reasons, except for burning food. Living with one's husband is associated with between 1.4 and 1.9 times higher odds of justifying all types of wife beating except for burning food, and living with a parent-in-law is at least marginally associated with justifying wife beating for two of the three situations that capture a wife's defiance of her husband (goes out without telling him and argues with him). Surprisingly, living with a brother-in-law is at least marginally, negatively associated with justifying wife beating in all situations, except if the wife refuses to have sex with her husband.

Governorate-level measures of women's social environment are associated in the expected directions with their attitudes about wife beating. Specifically, a one-year increase in the average age at first marriage for women in the same governorate is associated with between 18% and 37% lower odds that women justify wife beating for any reason. In addition, a one-point increase in the percentage of the population that is Christian is associated with at least marginally lower odds that women justify wife beating for any reason combined, and for three of the five specific reasons about which questions were asked.

Finally, regarding the other socio-demographic variables, only the woman's household standard of living is consistently associated with her odds of reporting that wife beating is justified. Specifically, a one-point increase in the woman's score for household standard of living is associated with between 17% and 20% lower odds of reporting that wife beating is justified for specific reasons. Otherwise, living in a Christian household tends to be associated with at least marginally lower odds of reporting that wife beating is justified, but the other socio-demographic variables are not consistently associated with justifying wife beating.

Table 4 presents the predicted probabilities of reporting that wife beating is justified, for each specific reason and for at least one of these reasons combined. These predicted probabilities are presented for eight sets of women who are at *high risk* and *low risk* of justifying wife beating. The distinguishing attributes of these groups are in Table 4 and are based on the estimated models in Table 3. The first two groups represent women who have and have not experienced violence in childhood and adulthood, with all other variables set to their mean or modal values. The second two groups represent women who are more and less socially and economically dependent on their spouse, again with all other variables set two their mean or modal values. The third two groups represent women who live in more and less patriarchal environments, with all other variables set to the mean or modal values. And, the last two groups represent women who are and are not disadvantaged in all three of the above ways, with the remaining variables set to their mean or modal values.

(Table 4)

These comparisons reveal that women who are disadvantaged in any of these three ways have higher predicted probabilities of justifying all forms of domestic violence against women than do women who are not similarly disadvantaged. Specifically, compared to women who have

never been exposed to violence in childhood or in marriage, women who have been exposed to both forms of violence have between 0.13 (for burns food) and 0.28 (for neglects children) higher predicted probabilities of justifying wife beating, all else being equal. Likewise, women who are socially and economically dependent on their spouse have between 0.15 (for burning food) and 0.53 (for any reason) higher predicted probabilities of justifying wife beating than do their less dependent but otherwise similar peers. The same general pattern is apparent when comparing women who live in more and less patriarchal governorates. Comparing the first six groups of women, who are or are not disadvantaged according to only one set of criteria, the gaps in the predicted probabilities of justifying wife beating are largest for women who are and are not dependent on marriage. Finally, women who are disadvantaged in all three ways (previously exposed to violence in childhood and marriage, more dependent on marriage, and living in more patriarchal governorates) have by far the highest predicted probabilities of reporting that wife beating is justified: for this group of women, predicted probabilities range from 0.53 to 0.91, whereas predicted probabilities range from only 0.04 to 0.13 for women who are not disadvantaged in *any* of these three ways.

CONCLUSIONS

This paper has explored whether measures for social learning, marital dependency, and social context account for women's reports that domestic violence is justified. Few theoretically-grounded studies have investigated these relationships cross-culturally, and such studies are needed to understand why women in some, especially poor, contexts often justify domestic violence against women (Kishor & Johnson, 2004; ORC Macro, 2007).

The results from this analysis of reproductive-aged women in Egypt suggest that a high percentage of women in this setting justify wife beating for even minor reasons, such as burning

the food (18%). Even more so, however, women reportedly justify wife beating for reasons that relate to a wife's transgression of her expected gender roles, such as refusing to have sex with her husband (34%), arguing with her husband (36%), going out without telling her husband (41%), and neglecting the children (41%). Overall, one half of women in this setting reportedly justify wife beating for at least one of the reasons given during interview, and over one quarter (27%) report that wife beating is justified for four or five of the reasons given.

Despite high overall levels of justifying wife beating in this sample, the multivariate analyses reveal substantial variability in the probability that women report that any one reason for wife beating is justified. Consistent with hypothesis one (H_1), regarding the role of social learning, women who have experienced some form of physical violence in childhood and especially some form of domestic violence have higher odds of reporting that wife beating is justified. Consistent with hypothesis 2 (H_2), regarding the role of marital dependency, women who are dependent on marriage insofar as their husband has substantially more grades of schooling have higher odds of justifying wife beating for most of the reasons about which questions were asked. Similarly, women who entered into more patriarchal (e.g., blood-relative) marriages have higher odds of reporting that wife beating is justified for most of the reasons about which questions were asked. Finally, with regard to hypothesis 3 (H_3), regarding the role of social context, women who live in less patriarchal settings – which are defined by higher average ages at first marriage for women and higher percentages of Christians in the governorate – have at least marginally lower odds of reporting that wife beating is justified for most if not all of the reasons about which questions were asked.

These findings underscore the multiple determinants of women's attitudes about wife beating. However, the simulations that are presented in Table 4 reveal that women's dependence

on marriage accounts for the largest share of the variability in women's reported attitudes about wife beating. This result is apparent in that women who are less socially and economically dependent on their spouse have the lowest probabilities of justifying wife beating for any reason, compared to women who were adversely socialized or who live in more patriarchal communities. These findings support the early argument of Kalmuss and Straus (1982) that women who have, or perceive themselves to have, social and economic alternatives marriage are not forced to tolerate an abusive husband.

Some of the limitations of this study suggest important avenues for further research. First, responses to survey questions concerning women's attitudes about domestic violence against women may be difficult to interpret and may subject to measurement error (e.g., Schuler & Islam, 2007). For example, differences across surveys in the wording of these attitudinal questions, such as asking about women's *tolerance* for, versus *acceptance* or *justification of* wife beating, may result in different prevalences of women's attitudes about such violence. Also, in cross-cultural research that involves the translation of these attitudinal questions, women may understand these questions in ways that differ from their intent. For both reasons, researchers should compare cautiously rates of women's *acceptance* of domestic violence against women, both across surveys within country and across countries. Experimental research also is needed to quantify the response effects of changes in question wording, order, and context on estimated prevalences of women's *acceptance* of wife beating.

A second limitation of the 2005 Egypt Demographic and Health Survey is that men's views about domestic violence against women are lacking. In fact, women are the subjects of most studies of domestic violence, and relatively little is known in poor settings about men's views on this topic. In one such study in Southwestern Nigeria, however, a surprisingly low

percentage (22%) of men reported that violence against women is justified (Ogunjuyigbe, Akinlo, & Ebigbola, 2005). Such rates among men, compared to often higher rates among women, raise interesting methodological questions about these cross-cultural attitudinal surveys. Women, for example, may report on the *social* acceptability of wife beating rather than on their own views about it (Schuler & Islam, 2007). And some men, by contrast, may hide an acceptance of such violence, especially in the context of a face-to-face interview. Although spousal reports of domestic violence have been consistent (Khawaja & Tewtel-Salem, 2004), potential response biases still merit further investigation. Such research is important because men's views about gender and violence correlate with their actual treatment of women (e.g., Bryant & Spencer, 2003). Also, documenting accurately men's attitudes and their effects may further inform social policy in Egypt and elsewhere. Thus, a combination of methodological and substantive research may reveal ways to improve social norms about women, and thereby may limit women's risk of domestic violence.

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Table 1.

Characteristics of the Sample, Ever-Married Women Aged 15 – 49 Years in Egypt, 2005, (5450)

	%	Mean	(SD)	Min	Max
Social Learning in Childhood and Adulthood					
Genitally cut (ref: uncut)[a]	95.7				
Ever physically abused by parents after age 15 years (ref: never)	20.2				
Childhood Residence urban	34.5				
Rural	62.6				
Missing	3.0				
Ever experienced any domestic violence (ref: never)	32.4				
Dependency on Marriage					
Difference in completed grades of schooling (husband-wife)		1.5	4.5	-18	16
Husband ≥ 6 fewer grades	5.3				
Husband 1 – 5 fewer grades	13.1				
Husband and wife same number of grades	34.6				
Husband 1 – 5 more grades	31.0				
Husband ≥ 6 more grades	16.0				
Difference in age (husband-wife), in years		7.0	7.0	-32	69
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				
Number of living sons		1.4	1.3	0	8
None	27.1				
1 – 2	54.8				
≥ 3	18.1				
Number of living daughters		1.5	1.2	0	8
None	23.3				
1 – 2	58.0				
≥ 3	18.7				
Age at first marriage, in years		19.5	4.3	8	42
1st quartile	8-16				
2nd quartile	17-19				
3rd quartile	20-22				
4th quartile	23-42				
Husband a blood relative (ref: non-relative)	36.1				
Any brother-in-law coresident	1.9				
No	96.4				
Missing	1.7				
Any parent-in-law coresident	13.7				
No	84.6				
Missing	1.7				
Coresident with husband (ref: no)	93.5				
Governorate Environment in 2005					
Average household standard of living score for the governorate		-0.1	1.5	-2.7	2.6
Adult (≥ 15 y) female-to-male ratio of ever attendance		0.8	0.1	0.6	1.0
% of population in governorate Christian		5.2	4.8	0.0	17.7
Average age at first marriage, women 15 – 49 years		19.3	1.2	17.2	21.2
Region					
Urban Governorates	19.8				
Urban Lower (Northern) Egypt	8.9				
Rural Lower Egypt	22.0				
Urban Upper (Southern) Egypt	13.7				
Rural Upper Egypt	31.1				
Frontier Governorates	4.5				
Other Socio-demographic Variables					
Age at interview, in years		33.5	8.6	15	49
Duration of marriage, in months		168.0	109.0	0	468
Any deceased daughters (ref: none)	10.6	0.1	0.4	0	5
Any deceased sons (ref: none)	11.7	0.2	0.5	0	8
Religion Christian (ref: Muslim)	5.4				
Household standard of living score		0.0	2.7	-9.4	6.0
1st quantile	-9.4--1.9				
2nd quantile	-1.9-0.1				
3rd quantile	0.1-1.9				
4th quantile	1.9-6.0				
Respondent's interview interrupted (ref: no)	4.0				

[a] For binary variables, only the percentage for non-reference categories is shown, and the reference category is
is indicated in parentheses.

Table 2.

Percent Distribution of Women by Reported Agreement that Wife-Beating is Justified,

Ever-Married Women 15-49 Years in Egypt, 2005

A husband is justified in hitting or beating his wife if she (ref: no or don't know):	%
Neglects the children	40.7
Goes out without telling him	40.5
Argues with him	36.4
Refuses to have sex with him	34.1
Burns the food	18.0
Does any of the above	50.0
Number of actions for which husband reportedly is justified in hitting or beating his wife:	
0	50.0
1	7.2
2	8.0
3	8.3
4	10.4
5	16.1

Table 3.

Log Odds of Justifying Wife-Beating, by Reason for Wife-Beating and for Any of These Reasons, Ever-Married Women Aged 15 - 49 Years in Egypt, 2005

	Goes out		Neglects children		Refuses sex		Argues with husband		Burns food		Any of these reasons	
	B	(SE) p	B	(SE) p	B	(SE) p	B	(SE) p	B	(SE) p	B	(SE) p
Social Learning in Childhood and Adulthood												
Genitally cut (ref: uncut)	0.34	(0.22)	0.56	(0.20) **	0.37	(0.24)	0.51	(0.26) *	0.24	(0.25)	0.18	(0.21)
Ever physically abused by parents after age 15 years (r	-0.03	(0.10)	-0.11	(0.09)	-0.13	(0.12)	0.00	(0.10)	-0.43	(0.15) **	-0.04	(0.09)
Childhood residence urban												
Rural	0.37	(0.14) **	0.34	(0.14) *	0.42	(0.14) **	0.24	(0.14) †	0.51	(0.17) **	0.30	(0.13) *
Missing	0.31	(0.23)	0.27	(0.22)	-0.08	(0.27)	0.13	(0.25)	0.02	(0.36)	0.04	(0.22)
Ever experienced any domestic violence (ref: never)	0.53	(0.08) ***	0.53	(0.08) ***	0.40	(0.09) ***	0.49	(0.09) ***	0.43	(0.11) ***	0.56	(0.09) ***
Dependency on Marriage												
Difference in completed grades of schooling (husband-wife)(ref: same)												
Husband ≥ 6 fewer grades	-0.10	(0.19)	0.05	(0.18)	-0.39	(0.21) †	-0.11	(0.19)	0.21	(0.24)	0.01	(0.17)
Husband 1-5 fewer grades	0.01	(0.12)	0.07	(0.12)	0.02	(0.14)	-0.13	(0.14)	-0.05	(0.16)	0.09	(0.12)
Husband 1-5 more grades	-0.05	(0.10)	0.00	(0.09)	-0.07	(0.10)	-0.13	(0.09)	-0.14	(0.12)	-0.04	(0.09)
Husband ≥6 more grades	0.32	(0.12) **	0.32	(0.12) **	0.18	(0.12)	0.22	(0.12) †	0.12	(0.14)	0.28	(0.12) *
Difference in age (husband-wife), in years (ref:same, husband 3 years older)												
Husband younger	0.02	(0.24)	0.00	(0.22)	0.05	(0.24)	0.07	(0.24)	0.20	(0.27)	0.10	(0.22)
Husband 4-13 years older	-0.08	(0.10)	-0.11	(0.10)	-0.06	(0.11)	-0.12	(0.10)	0.01	(0.12)	-0.08	(0.10)
Husband >13 years older	-0.02	(0.15)	0.03	(0.16)	0.24	(0.16)	0.16	(0.17)	0.12	(0.18)	0.01	(0.16)
Number of living sons(ref:none)												
1-2	0.06	(0.10)	0.13	(0.10)	0.04	(0.11)	0.12	(0.10)	0.03	(0.13)	0.08	(0.09)
≥3	0.16	(0.13)	0.13	(0.14)	0.04	(0.14)	0.23	(0.13) †	0.09	(0.16)	0.22	(0.13) †
Number of living daughters(none)												
1-2	-0.07	(0.10)	-0.07	(0.10)	-0.02	(0.10)	-0.02	(0.11)	-0.03	(0.13)	-0.05	(0.10)
≥3	0.14	(0.15)	0.12	(0.15)	0.28	(0.15) †	0.29	(0.15) †	0.05	(0.16)	0.24	(0.15)
Age at first marriage, in years	0.02	(0.10)	0.09	(0.10)	0.06	(0.10)	0.03	(0.10)	0.05	(0.12)	0.02	(0.09)
Husband a blood relative (ref: non-relative)	0.21	(0.08) *	0.18	(0.08) *	0.22	(0.08) **	0.23	(0.08) **	0.00	(0.10)	0.19	(0.08) *
Any brother-in-law coresident (ref:no)												
Yes	-0.56	(0.31) †	-0.57	(0.29) †	-0.44	(0.29)	-0.59	(0.31) †	-0.70	(0.34) *	-0.71	(0.30) *
Missing	-0.63	(0.31) *	-0.57	(0.29) †	-0.54	(0.32) †	-0.36	(0.30)	-0.44	(0.39)	-0.87	(0.29) **
Any parent-in-law coresident (ref:no)												
Yes	0.23	(0.11) *	0.10	(0.11)	0.16	(0.11)	0.22	(0.11) †	0.19	(0.14)	0.15	(0.11)
Missing	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00) .	0.00	(0.00)
Coresident with husband (ref: no)	0.65	(0.15) ***	0.46	(0.17) **	0.36	(0.16) *	0.61	(0.17) ***	0.21	(0.20)	0.63	(0.16) ***
Governorate Environment in 2005												
% of population in governorate Christian	-0.02	(0.01) †	0.00	(0.01)	-0.02	(0.01) †	-0.01	(0.01)	-0.02	(0.01) †	-0.02	(0.01) †
Average age at first marriage, women 15-49 years	-0.38	(0.08) ***	-0.44	(0.08) ***	-0.47	(0.08) ***	-0.20	(0.08) **	-0.39	(0.10) ***	-0.31	(0.08) ***
Region(ref: urban governorates)												
Urban Lower (Northern) Egypt	-0.66	(0.22) **	-0.49	(0.22) *	-0.55	(0.21) **	-0.12	(0.22)	-0.18	(0.26)	-0.59	(0.22) **
Rural Lower Egypt	-0.54	(0.22) *	-0.27	(0.21)	-0.37	(0.21) †	0.15	(0.23)	-0.05	(0.25)	-0.44	(0.23) †
Urban Upper (Southern) Egypt	-0.72	(0.26) **	-0.82	(0.29) **	-0.94	(0.26) ***	-0.16	(0.29)	-0.36	(0.35)	-0.57	(0.28) *
Rural Upper Egypt	-0.81	(0.30) **	-1.04	(0.30) ***	-0.87	(0.29) **	-0.05	(0.29)	-0.62	(0.36) †	-0.62	(0.30) *
Frontier Governorates	-0.37	(0.31)	-0.50	(0.33)	-0.68	(0.35) †	-0.19	(0.34)	-0.37	(0.50)	-0.60	(0.31) †
Other Socio-demographic Variables												
Age at interview, in years	-0.06	(0.10)	-0.12	(0.09)	-0.08	(0.10)	-0.07	(0.10)	-0.07	(0.12)	-0.06	(0.09)
Duration of marriage, in months	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)	0.01	(0.01)
Any deceased daughters (ref: none)	0.00	(0.13)	-0.15	(0.13)	0.14	(0.13)	0.00	(0.14)	0.17	(0.14)	0.02	(0.14)
Any deceased sons (ref: none)	0.22	(0.12) †	0.11	(0.12)	0.05	(0.13)	0.13	(0.12)	0.15	(0.14)	0.08	(0.12)
Religion Christian (ref: Muslim)	-0.47	(0.17) **	-0.26	(0.17)	-0.50	(0.20) *	-0.36	(0.20) †	-0.48	(0.28) †	-0.30	(0.16) †
Household standard of living score	-0.19	(0.02) ***	-0.18	(0.02) ***	-0.17	(0.02) ***	-0.20	(0.02) ***	-0.18	(0.03) ***	-0.19	(0.02) ***
Respondent's interview interrupted (ref: no)	-0.34	(0.20) †	-0.22	(0.20)	-0.03	(0.22)	-0.19	(0.21)	-0.89	(0.30) **	-0.06	(0.20)

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 4.
Predicted Probabilities of Justifying Wife-Beating, by Reason for Wife-Beating and for Any of These Reasons,
Ever-Married Women Aged 15 – 49 Years in Egypt, 2005

	Goes out	children	Refuses sex	husband	Burns food	reasons
Exposed to Adverse "Social Learning" in Childhood and Adulthood[a]						
Yes, high risk	0.482	0.431	0.396	0.479	0.197	0.622
No, low risk	0.211	0.154	0.165	0.210	0.069	0.367
Difference (Yes – No)	0.271	0.277	0.231	0.269	0.128	0.255
Socially and Economically Dependent on Marriage[b]						
Yes, high risk	0.565	0.450	0.458	0.568	0.200	0.687
No, low risk	0.107	0.103	0.125	0.094	0.051	0.153
Difference (Yes – No)	0.458	0.347	0.333	0.474	0.149	0.534
Lives in Patriarchal Environment in 2005[c]						
Yes, high risk	0.428	0.434	0.487	0.218	0.189	0.438
No, low risk	0.228	0.242	0.267	0.148	0.084	0.265
Difference (Yes – No)	0.200	0.192	0.220	0.070	0.105	0.173
Exposed to Adverse Social Learning, Dependent on Marriage, and Lives in a Patriarchal Environment in 2005						
Yes, high risk	0.889	0.859	0.837	0.742	0.534	0.914
No, low risk	0.074	0.083	0.061	0.04	0.041	0.13
Difference (Yes – No)	0.815	0.776	0.776	0.702	0.493	0.784

[a] "Adverse" defined as genitally cut, rural childhood residence and ever experienced any domestic violence. Other variables are set to their mean (continuous) or modal (categorical) values (never physically abused after 15 y by a parent; husband and wife same number of grades, 1–2 daughters alive, 1–2 sons alive, husband a blood relative, no brother-in-law co-resident, no parent-in-law co-resident, spouse co-resident, 5.2% of population in governorate Christian, average age at first marriage 19 y for women in the governorate, 33 years old at interview, lives in Rural upper Egypt, married 168 months, no deceased daughter, no deceased son, husband 4 – 13 years old, 19 years old at first marriage, Muslim, 0 for household standard of living score, not interrupted during interview).

[b] "Dependent" defined as husband ≥6 more grades, ≥3 daughters alive, ≥3 sons alive, husband a blood relative, no brother-in-law coresident, no parent-in-law coresident, husband co-resident. Other variables set to their mean or modal value. (Genitally cut, rural childhood residence, never experienced any domestic violence, not physically abused after 15 y by parent, 5.2% of population in governorate Christian, age at first marriage for women in governorate 19 years, lives in Rural upper Egypt, 33 years old at interview, married 168 months, no deceased daughter, no deceased son, husband 4–13 years older, 19 years old at first marriage, Muslim, 0 household standard of living score, not interrupted during interview).

[c] "Patriarchal" defined as 0.98% of population in governorate Christian, average age at first marriage of women in the governorate 18 years Urban Governorates. Other variables are set to their mean (continuous) or modal (categorical) values. (Genitally cut, rural childhood residence, never experienced physical abuse after 15 y by parent, never experienced any domestic violence, husband and wife the same number of grades, 1 – 2 daughters alive, 1 – 2 sons alive, husband a blood relative, no brother-in-law co-resident, no parent-in-law co-resident, husband co-resident, 33 years old at interview, married 168 months, no deceased daughter, no deceased son, husband 4-13 years older, 9 years old at first marriage, Muslim, 0 for household standard of living score, not interrupted during interview).