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Descriptive epidemiology of intimate partner aggression in Ukraine

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Abstract *Aims* Partner aggression is believed to be widespread in Eastern Europe although systematic evidence is sparse. Using data from the World Mental Health (WMH) survey in Ukraine, we present the first population-based findings on the descriptive epidemiology of partner aggression among married adults. *Methods* Married men ($n = 558$) and women ($n = 558$) were interviewed with the WMH-Composite International Diagnostic Interview (WMH-CIDI) module assessing aggression in the marriage. Risk factors included demographic characteristics, witnessing parental aggression, early onset and adult episodes of DSM-IV psychiatric and alcohol disorders, and marital problem severity. *Results* More women than men reported aggression by their spouse in the past year (12.7 vs. 5.8%) or ever in the marriage (20.1 vs. 8.6%), while ~11 and 19% of both sexes behaved aggressively against their spouse in these time periods. Among men, the unique risk factors for behaving aggressively were being married once, witnessing parental violence, early onset alcohol abuse,

and intermittent explosive disorders (IED); the risk factors for reporting that their wives were aggressive were early onset alcohol abuse, IED and marital problems. Among women, the risk factors for behaving aggressively were younger age, unemployment, living in a rural area, early onset alcohol abuse, mood/anxiety disorders, and marital problems; the risk factors for reporting that their husbands behaved aggressively were younger age, early onset alcohol abuse, and marital problems. *Conclusions* Partner aggression is a significant public health issue in Ukraine predicted by alcohol abuse and IED before and after age 20 for men and women.

Key words Ukraine – partner aggression – alcohol abuse – psychiatric morbidity – marital problems

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Introduction

Although marital violence is believed to be widespread in Eastern Europe, the only systematic data currently available are from the 6-country survey of reproductive health among 15–44 year-old married women conducted by the US Centers for Disease Control [6]. The lifetime rates of physical aggression by a male partner were 5% in Georgia, 15% in Moldova, 19% in Ukraine, 20% in Azerbaijan, 21% in Russia, and 29% in Romania. These rates cannot be generalized to all women in these countries since younger women are significantly more likely than older women to report physical abuse by their intimate partners [20, 21]. In 2002, we interviewed a national probability sample of adults ages 18 and older in Ukraine [5] as part of the World Mental Health Survey consortium [10]. The survey included items about physical aggression in the marriage, ranging from pushing to hitting, directed by or against the respondent. Thus, one aim of this report is

to describe the rates of partner aggression in married men and women in Ukraine.

Western studies of intimate partner violence indicate that multiple risk factors are associated with these behaviors, including sex (men inflict greater injury, but women are somewhat more likely to use physical aggression), younger age, childhood exposure to parental violence, psychiatric and substance use disorders, and marital problems [3, 7, 12, 15–18, 23, 28, 29, 34]. A multi-factorial meta-analytic review of variables related to partner aggression concluded that distal variables, e.g., observing violence in one's family of origin, were associated with aggression and victimization, but proximal variables, such as recent substance use disorders and marital problems, bore an even stronger association with intimate partner violence [27]. The relationship of these factors to marital aggression has not been evaluated in an Eastern European setting. Ukraine, like other former Soviet republics, experienced massive social and economic upheavals and political instability since the break-up of the Soviet Union. By western standards, daily life is extremely harsh. In a national monitoring survey conducted in 2000, for example, only one in four adults had hot water in their apartment, and the majority of respondents surveyed could not afford the food they needed [22]. Socio-economic factors like lower education and income have a small but significant association with partner aggression in the US [28], but given the centrality of economic problems in Ukraine, the contribution of these risk factors to partner aggression may be stronger there than in western nations.

The present study examines the rates and risk factors for partner aggression separately for married women and men in Ukraine. In the broader context of epidemiologic research on partner aggression, the present study extends existing research by focusing on a community sample outside of the United States and other culturally similar countries and by examining a comprehensive array of risk factors, including demographic variables such as gender, education, and financial adequacy, early life exposure to parental aggression, internalizing (depression and anxiety) and externalizing (alcohol abuse and intermittent explosive) disorders in both youth and adulthood, as well as current serious marital problems.

Method

■ Sample and procedure

The 2002 Ukraine-WMH study is a nationally representative survey of residents age 18 and older from Ukraine's 24 oblasts and the republic of Crimea. The sampling design has been described in greater detail elsewhere [5, 32]. Briefly, sample selection followed a four-tier multi-stage cluster design. One hundred seventy primary sampling units (PSUs) were selected so that each oblast (state) was represented, and urban and rural areas were represented propor-

tionally. Then, postal districts were randomly selected within PSUs; streets within postal districts; buildings within streets; apartments within buildings, and lastly, adults (i.e., ≥ 18 years) within apartments. A total of 4,725 interviews were completed, for a final response rate of 78.3%.

The field work was conducted by the Kiev International Institute of Sociology (KIIS) in collaboration with the Ukrainian Psychiatric Association (UPA) in 2002. The instruments and instructions manuals were translated into Russian and Ukrainian using WHO-approved translation methods. Recruitment and consent procedures were approved by the Committees on Research Involving Human Subjects of Stony Brook University and by internal review boards established at KIIS and UPA. Written informed consent was obtained.

The survey instrument was Version 3 of the World Mental Health Composite International Diagnostic Interview (WMH-CIDI) [10]. The WMH-CIDI was divided into two parts in order to reduce respondent burden. All respondents ($N = 4,725$) received Part I of the interview. Part I respondents who met criteria for DSM-IV mood or anxiety disorder or alcohol dependence and a random sample (16%) of the remaining respondents were administered the longer and more detailed Part II ($N = 1,720$). Part II contained the module on the marital relationship and was administered to respondents who were currently married or cohabiting ($N = 1,116$). As will be described later, weighting procedures were used to enable generalization of the findings to the married or cohabiting population of Ukraine.

■ Measurement of partner aggression

In order to improve respondents' comfort about answering potentially embarrassing and highly personal questions, the items describing partner aggression were contained in a booklet read by the respondent. The booklet contained a page with 3 lines: pushed, grabbed or shoved (line 1); threw something (line 2); and slapped or hit (line 3). Respondents were asked how often, when they had a disagreement with their partner, they did "any of the things on this list" (often, sometimes, rarely, never). Respondents were then asked how often their spouse did "any of the things on this list" (often, sometimes, rarely, never). Given potential under-reporting of such behavior, aggression was defined as ever versus never occurring. Respondents acknowledging aggression in their marriage were also asked the number of days in the past year that these incidents occurred.

■ Measurement of risk factors

Three sets of risk factors were examined: demographic characteristics, early life factors, and adult risk factors. The demographic variables included age, education (high school or less vs. more than high school), employment status (currently employed, unemployed, retired/disabled), marital status (married once, married more than once, cohabiting), financial status of the family (adequate = enough money for durables; inadequate = not enough money for clothing; very inadequate = not enough money for food), urbanicity (rural, semi-urban, urban), and language of interview (Russian vs. Ukrainian).

Early life factors included childhood exposure to parental violence (witnessing aggression between their parents as a child, yes/no) and onset prior to age 20 of DSM-IV mood/anxiety disorders (major depression, dysthymia, panic disorder, agoraphobia, social phobia, generalized anxiety disorder, post-traumatic stress disorder), intermittent explosive disorder (IED), and alcohol abuse (with or without dependence). The WMH-CIDI contained special probes designed to maximize recall of age of onset [10].

Adult risk factors included new or recurrent episodes from age 20 onward of mood/anxiety disorders, IED, and alcohol abuse, as well as an assessment of current marital problems. The latter variable was a composite created by summing across five items indicating serious problems in the marriage: spouse ever threatened

Table 1 Descriptive characteristics of the married men and women in the Ukraine-WMH (weighted data)

	Total (N = 1,116)	Men (N = 558)	Women (N = 558)	Test statistic ^a
Demographic variables				
Age, mean ± SD	46.0 ± 15.8	47.6 ± 17.3	44.0 ± 14.5	2.93**
Education				
High school or less	54.0	56.2	51.8	0.84
More than high school	46.0	43.8	48.2	
Employment				
Employed	57.7	62.5	52.8	12.25**
Unemployed	11.3	12.3	10.4	
Retired/disabled	31.0	25.2	36.8	
Marital status				
Married once	79.4	81.6	77.1	1.89
Cohabiting	8.0	7.5	8.6	
Married more than once	12.6	10.9	14.3	
Financial status				
Adequate	19.3	22.6	16.0	4.43
Inadequate	50.5	49.3	51.8	
Very inadequate	30.1	28.2	32.1	
Urbanicity				
Urban	33.8	32.9	34.8	0.50
Semi-urban	33.1	32.9	33.4	
Rural	33.0	34.3	31.8	
Language				
Russian	55.5	52.3	58.6	2.29
Ukrainian	44.6	47.7	41.4	
Early life risk factors				
Parental violence	19.7	22.4	17.0	1.78
Disorders before age 20				
Alcohol abuse	2.6	4.3	0.9	7.65**
IED	2.3	2.9	1.6	1.25
Mood/anxiety	7.1	6.0	8.3	1.37
Adult risk factors				
Disorders since age 20				
Alcohol abuse	15.0	27.4	2.6	64.44***
IED	4.3	4.7	3.9	0.41
Mood/anxiety	18.1	14.1	22.1	11.56***
Marital problems, mean ± SD	0.6 ± 1.1	0.4 ± 1.0	0.8 ± 1.2	4.23***

^aChi squared tests for categorical variables and *t* tests for continuous variables (age, marital problems)

* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$

divorce (yes/no); respondent threatened divorce (yes/no); frequent arguments with spouse (most of the time vs. some/rarely/never); issue specific disagreements with spouse on matters of finance, raising children, recreation, sex and intimacy, friends, life philosophy, and major decisions (all or most of the time on one or more area vs. less frequently); and spouse having tantrums (often/sometimes vs. rarely/never). The final score had a range of 0–5.

Statistical analysis

In order to account for non-response and selection bias and to approximate the population distribution of Ukraine on key socio-demographic variables, the sample was weighted [1, 5]. Full sample weights were further adjusted for differential probability of selection into Part II. To adjust for clustering and weighting, all analyses were conducted using the SUDAAN software system, which uses the Taylor series linearization method to adjust the standard errors for the stratified design and sample weights [24]. These procedures allow us to generalize the findings to the full sample of married or cohabiting respondents.

Gender differences were analyzed using *t* tests for continuous variables and chi squared tests for categorical variables. Logistic regression was used to examine the associations of the risk factors to partner aggression during the past year. Unadjusted and adjusted odds ratios and 95% confidence intervals are presented. In the multivariable analyses, the risk factors were entered in blocks to develop progressively more comprehensive models mirroring their temporal ordering. Block 1 adjusted for the demographic variables.

Block 2 adjusted for the significant demographic variables and early life risk factors. Block 3 adjusted for the significant demographic and early life risk factors and adult variables.

Results

Sample characteristics

Table 1 shows the distributions of the key variables. On average, the cohort was in their mid-40 s (the men were significantly older), most were married once, and close to half had some education beyond high school. Women were more likely to be retired or disabled, but the distribution of financial adequacy was relatively similar for the men and women. The sample was relatively equally distributed on urbanicity, and about half of both the men and women were interviewed in Russian. Twenty percent of the sample witnessed parental aggression while growing up. Although more men met criteria for IED and more women met criteria for mood/anxiety disorder before age 20, these gender differences were not statistically significant. However, men were significantly more

Table 2 Rates of partner aggression reported by married men (weighted $n = 558$) and women (weighted $n = 558$) in the Ukraine-WMH

	Men (%)	Women (%)	χ^2
Aggression by spouse against respondent			
Ever	8.6	20.1	12.10***
Past year	5.8	12.7	5.51*
Aggression by respondent against spouse			
Ever	18.7	18.5	0.00
Past year	11.4	11.3	0.00

* $P \leq 0.05$, *** $P \leq 0.001$

likely to have alcohol abuse before age 20. The men continued to have higher rates of alcohol abuse and the women had higher rates of depression/anxiety disorders after age 20. The women also reported more marital problems compared to the men.

■ Prevalence of aggression

Table 2 shows the rates of partner aggression reported by the men and women. Significantly more women than men reported that their spouse engaged in aggressive behavior. Specifically, 20.1% of women compared to 8.6% of men reported that their spouse ever used physical aggression against them (OR = 2.68; 95% CI = 1.51–4.76), with 12.7% of women and 5.8% of men reporting aggression in the past year (OR = 2.39; 95% CI = 1.13–5.05). The average number of days in the past year that aggressive acts occurred was 10.2 ± 26.9 according to the women and 2.6 ± 4.6 according to the men ($P = 0.01$). In contrast, no gender difference was found in rates of aggression directed against the spouse, and the average number of days in the past year that respondents behaved aggressively was not significantly different according to the women (5.5 ± 4.6 days) and the men (3.1 ± 6.1 days).

Among both men and women, being aggressed against by one's spouse in the past year was strongly correlated with behaving aggressively against the spouse ($\phi = 0.64$ and 0.63 , respectively). Nevertheless, while similar percentages of men and women acknowledged male-to-female aggression, significantly more women than men reported female-to-male aggression (lifetime $P = 0.002$; past year $P < 0.05$).

■ Risk factors

Table 3 presents the unadjusted and adjusted odds ratios for the risk factors for the men's reports of aggression by and against their wives. Men who behaved aggressively against their wives were significantly younger and were 5.5 times as likely to be married once (vs. multiple times). Among the early life risk factors, men reporting aggression were 3 times as likely to have witnessed parental aggression

in childhood, 7 times as likely to develop alcohol abuse, and 11 times as likely to have IED before age 20. In adulthood, they were four times as likely to have alcohol abuse, almost six times as likely to have IED, and reported more marital problems compared to men who did not behave aggressively. In the multivariable analysis, marital status, witnessing parental violence, and early onset alcohol abuse and IED remained significant although the odds ratios were reduced in size. With the exception of marital status, a similar pattern of associations was found for the men's reports that their wives behaved aggressively toward them. By and large, the odds ratios were larger, but the confidence intervals were broader. Only early onset alcohol abuse and IED, and marital problems remained significant in the multivariable analysis of men's reports that their wives used physical aggression against them.

Table 4 examines the women's reports of marital aggression. Women who were aggressive toward their husbands were more than two times as likely to be unemployed, to be living in a rural area, and to have early onset depression/anxiety. Moreover, such women were 22 times as likely to have early onset alcohol abuse. During their adult years, they were six times as likely to have alcohol abuse and three times as likely to have IED. They also reported more marital problems. The pattern of associations in the multivariable analysis was similar except that younger age was significantly related to behaving aggressively, and adult episodes of alcohol abuse and IED were no longer significant. Women who reported that their husbands behaved aggressively toward them (e.g., victimization) were younger than other married women. No other demographic characteristic was significant. Among the early life risk factors, women with physically aggressive husbands were 19 times as likely to have early onset alcohol abuse and almost 2 times as likely to have depression/anxiety. They were also 6.5 times as likely to abuse alcohol and 3 times as likely to have IED after age 20 and reported more marital problems. In the multivariable analysis, age, alcohol abuse before age 20, and marital problems remained significant.

Discussion

In Ukraine, more women (12.7%) than men (5.8%) reported that their spouse was aggressive toward them in the past year, and women reported more incidents of aggression against them than men. Similar gender patterns were found in population-based studies in Germany [33], Hong Kong [30], and Mexico [4], but no gender differences were found in the US [26], Canada [25] and the UK [14]. We note that the percent of women reporting physical victimization in Ukraine is similar to the rate reported by women in the US [26]. It is difficult to draw inferences about

Table 3 Risk factors for partner aggression in the past year reported by Ukrainian men

	Aggression against wife		Aggression by wife	
	OR (95% CI)	AOR (95% CI) ^a	OR (95% CI)	AOR (95% CI) ^a
Block 1. Demographic variables				
Age	0.98 (0.96–1.00)*	0.98 (0.95–1.02)	0.96 (0.93–0.99)*	0.96 (0.91–1.02)
Education				
High school or less	1.27 (0.5–3.12)	1.10 (0.42–2.85)	1.35 (0.39–4.72)	1.27 (0.37–4.38)
More than high school	1.00	1.00	1.00	1.00
Employment				
Employed	1.00	1.00	1.00	1.00
Unemployed	1.38 (0.52–3.68)	1.05 (0.35–3.20)	0.76 (0.20–2.88)	0.64 (0.19–2.17)
Retired/disabled	0.47 (0.19–1.15)	0.71 (0.19–2.71)	0.34 (0.10–1.08)	0.94 (0.16–5.43)
Marital status				
Married once	5.51 (1.39–21.85)*	5.68 (1.45–22.25)*	1.83 (0.45–7.41)	2.10 (0.47–9.30)
Cohabiting	7.16 (0.74–69.55)	7.42 (0.75–73.55)	6.03 (0.81–44.73)	5.00 (0.75–33.48)
Married more than once	1.00	1.00	1.00	1.00
Financial status				
Adequate	1.00	1.00	1.00	1.00
Inadequate	0.88 (0.30–2.53)	1.27 (0.48–3.37)	1.02 (0.41–2.50)	1.34 (0.52–3.43)
Very inadequate	1.01 (0.39–2.62)	1.24 (0.51–3.01)	0.88 (0.35–2.24)	1.11 (0.44–2.84)
Urbanicity				
Urban	1.00	1.00	1.00	1.00
Semi-urban	1.40 (0.39–5.05)	1.51 (0.41–5.54)	0.42 (0.11–1.71)	0.57 (0.17–1.94)
Rural	2.13 (0.62–7.35)	2.27 (0.72–7.15)	0.99 (0.28–3.53)	1.54 (0.43–5.44)
Language				
Russian	0.81 (0.30–2.21)	1.04 (0.37–2.91)	1.59 (0.48–5.21)	1.55 (0.49–4.85)
Ukrainian	1.00	1.00	1.00	1.00
Block 2. Early life risk factors				
Parental violence	3.24 (1.25–8.36)*	2.61 (1.09–6.26)*	4.69 (1.22–18.06)*	3.03 (0.77–11.95)
Disorders before age 20				
Alcohol abuse	7.27 (2.22–23.76)**	4.22 (1.36–13.08)*	14.05 (2.95–66.85)**	5.72 (1.03–31.91)*
IED	11.58 (2.45–54.82)**	7.15 (1.87–27.29)**	29.35 (5.95–144.73)***	13.48 (3.26–5.67)***
Mood/anxiety	0.65 (0.17–2.50)	0.79 (0.23–2.71)	1.05 (0.24–4.69)	0.99 (0.29–3.42)
Block 3. Adult risk factors				
Disorders since age 20				
Alcohol abuse	4.02 (1.72–9.43)**	2.56 (0.88–7.39)	6.11 (2.00–18.72)**	2.53 (0.94–6.84)
IED	5.78 (1.43–23.34)*	0.49 (0.07–3.38)	13.58 (3.22–57.33)***	0.69 (0.07–6.72)
Mood/anxiety	1.51 (0.48–4.73)	1.65 (0.39–7.02)	1.85 (0.55–6.22)	1.41 (0.39–5.13)
Marital problems	1.55 (1.10–2.19)*	1.27 (0.92–1.74)	1.71 (1.15–2.55)**	1.43 (1.03–1.99)*

^aAdjusted for all variables in the block and significant variables in the previous blocks

* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$

cross-national discrepancies, given cross-study differences in measurement and cultural response styles, especially social desirability bias. However, it seems likely that in Ukraine, men under-reported being victimized by their wives because of the degree to which this admission is considered socially unacceptable. The latter interpretation also seems reasonable since twice as many women (11.3%) reported behaving aggressively toward their husbands while only 5.8% of men indicated that they were victimized by their wives.

Before considering the implications of our findings, it is important to specify the key limitations of this endeavor. Specifically, we had no corroboration regarding aggression by anyone else in the household. However, the lifetime rate of spouse aggression reported by the women in our sample (20.1%) was remarkably similar to the rate (19%) found for Ukraine in the CDC 6-country survey [6]. It would also have been useful to have data on attitudes about the use of physical aggression by men and women in

Ukraine. Furthermore, recall bias is always an issue in studies of this type although the WMH-CIDI goes further than most instruments in attempting to improve dating of lifetime events. We also do not have data as to whether the aggressive acts resulted in medical treatment or criminal justice involvement. Lastly, we did not have data on marital aggression among currently unmarried adults, who may have been divorced because of spousal aggression. Thus the rates reported in this paper may well be underestimates of the amount of partner aggression occurring in the general population of Ukraine. Because of these limitations, the current study is best regarded as an initial effort to understand the epidemiology of intimate partner aggression in Ukraine. Nevertheless, it is an important first step and fills a major gap in our knowledge about partner aggression in a former Soviet setting.

The age findings in Ukraine were consistent with results obtained in the US, with the variance accounted for by age being relatively small [20]. We

Table 4 Risk factors for partner aggression in the past year reported by Ukrainian women

	Aggression against husband		Aggression by husband	
	OR (95% CI)	AOR (95% CI) ^a	OR (95% CI)	AOR (95% CI) ^a
Block 1. Demographic variables				
Age	0.97 (0.94–1.00)	0.97 (0.93–1.00)*	0.97 (0.95–1.00)*	0.98 (0.96–1.00)*
Education				
High school or less	1.57 (0.67–3.70)	1.37 (0.58–3.26)	1.28 (0.62–2.66)	1.35 (0.62–2.94)
More than high school	1.00	1.00	1.00	1.00
Employment				
Employed	1.00	1.00	1.00	1.00
Unemployed	2.95 (1.22–7.15)*	2.48 (1.10–5.60)*	1.93 (0.80–4.65)	1.68 (0.70–4.06)
Retired/disabled	1.13 (0.54–2.37)	1.78 (0.77–4.11)	0.68 (0.35–1.30)	0.93 (0.48–1.83)
Marital status				
Married once	1.10 (0.41–2.93)	0.94 (0.33–2.66)	0.95 (0.40–2.24)	0.91 (0.36–2.32)
Cohabiting	1.91 (0.46–7.88)	2.41 (0.49–11.88)	1.36 (0.34–5.46)	1.69 (0.37–7.64)
Married more than once	1.00	1.00	1.00	1.00
Financial status				
Adequate	1.00	1.00	1.00	1.00
Inadequate	0.88 (0.30–2.53)	1.27 (0.48–3.37)	1.02 (0.41–2.50)	1.34 (0.52–3.43)
Very inadequate	1.01 (0.39–2.62)	1.24 (0.51–3.01)	0.88 (0.35–2.24)	1.11 (0.44–2.84)
Urbanicity				
Urban	1.00	1.00	1.00	1.00
Semi-urban	1.91 (0.73–5.02)	2.13 (0.76–5.98)	1.98 (0.82–4.75)	1.96 (0.80–4.78)
Rural	2.35 (1.07–5.16)*	2.33 (1.07–5.09)*	1.62 (0.76–3.44)	1.47 (0.67–3.22)
Language				
Russian	0.90 (0.51–1.57)	0.97 (0.57–1.67)	0.79 (0.39–1.60)	0.76 (0.37–1.56)
Ukrainian	1.00	1.00	1.00	1.00
Block 2. Early life risk factors				
Parental violence	2.07 (0.96–4.47)	1.60 (0.80–3.21)	1.67 (0.97–2.87)	1.47 (0.84–2.57)
Disorders before age 20				
Alcohol abuse	21.98 (4.65–103.81)***	13.32 (1.72–103.07)*	19.06 (4.08–89.05)***	12.80 (2.29–71.57)**
IED	2.95 (0.97–8.98)	1.78 (0.46–6.90)	1.97 (0.60–6.48)	1.15 (0.33–3.97)
Mood/anxiety	2.87 (1.31–6.31)*	2.24 (1.05–4.81)*	1.95 (1.15–3.32)*	1.64 (0.97–2.76)
Block 3. Adult risk factors				
Disorders since age 20				
Alcohol abuse	6.09 (1.56, 23.79)*	5.31 (0.59, 48.21)	6.54 (1.79–23.86)**	6.61 (0.71–61.29)
IED	3.17 (1.28, 7.87)*	1.70 (0.39, 7.36)	3.19 (1.34–7.57)*	1.43 (0.39–5.31)
Mood/anxiety	1.00 (0.42, 2.42)	0.38 (0.09, 1.71)	1.05 (0.56–1.97)	0.79 (0.32–1.93)
Marital Problems	1.89 (1.47, 2.44)***	2.08 (1.61, 2.67)***	2.13 (1.69–2.67)***	2.15 (1.75–2.64)***

^aAdjusted for all variables in the block and significant variables in the previous blocks

* $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$

initially hypothesized that financial strain and lower education would be associated with reports of aggression in the marriage, but neither variable proved to be significant. Language of interview was included in the analysis because of potential cultural differences between Ukrainian-speaking respondents in western Ukraine and Russian-speaking respondents living in eastern Ukraine, but this variable also proved not to be associated with marital aggression among the married men and women in our sample. In contrast, the most important risk factors were witnessing parental violence, early onset and later episodes of externalizing disorders, and current marital problems. These results showing relatively small or non-significant effects of socio-economic factors compared to larger effects of familial and personal variables are consistent with findings from western settings [3, 27].

Given the strong correlation between reports of using aggression and being the victim of aggression, it was not surprising that the risk factors for both types

of behaviors were similar. What was more unexpected was the similarity between the risk factors for the men's reports about aggression and the risk factors for the women's reports. In both cases, the most potent risk factors were early onset alcohol abuse and IED. Although we did not have reports from both spouses, the pattern of results would suggest that assortative mating is likely a partial explanation for these findings. That is, men and women with a tendency toward externalizing, aggressive behaviors might have selected a spouse with a similar behavioral profile, as has been noted for depression and alcoholism [13, 31].

Witnessing parental aggression was significantly associated with men's reports about engaging in and being the victim of aggression in the marriage, but it was not significantly associated with the women's reports of marital aggression. Although the prevalence of witnessing parental aggression was not significantly different for the men and women (22.4 vs. 17.0%, respectively), the measure is based on a single

item, and the actual exposures were unknown. It is probable that in most cases, given the patriarchal nature of Ukraine's history, the aggression that respondents remembered witnessing involved violence against the mother, rather than the reverse. Further, given the phenomenon of same sex modeling, the men may have imitated their father's behavior more than women imitated their mother's behavior, and these childhood experiences could then have had a stronger effect on the men's later behavior than on the women's behaviors. This hypothesis needs to be tested in future studies.

As noted earlier, alcohol abuse and IED occurring before and after age 20 were the most important risk factors for aggression in the marriage. Alcoholism is a major public health problem throughout the former Soviet Union. Although the social costs of alcoholism in Ukraine are well documented, efforts to curb the problem have been limited to controlling the sale and distribution of alcohol rather than developing prevention and intervention programs. Future programs designed to address alcohol abuse from adolescence through adulthood will be critical for reducing partner aggression and victimization in Ukraine. In general, problematic use of alcohol is a risk factor for partner aggression in the United States and other western countries [3, 8] and should be addressed in any multifaceted prevention or intervention program designed to reduce partner abuse. Indeed, alcohol abuse is associated with violent behavior in general in community and patient populations [11, 35], and alcohol relapse is predictive of subsequent partner aggression in clinical samples [8].

The present study was among the first to include the diagnosis of Intermittent Explosive Disorder (IED) as a predictor of partner violence, and in both men and women, meeting criteria for IED before age 20, i.e., before the typical age of marriage, was associated with subsequent aggression. IED is comorbid with alcohol abuse [5], and thus in the adjusted models, the relationships were no longer statistically significant. The DSM-IV criteria for a diagnosis of IED include several discrete episodes of failure to resist aggressive impulses that result in serious assaultive acts or destruction of property, aggressiveness out of proportion to any precipitating psychosocial stressor, and the episodes are not better accounted for by another mental disorder or physiological effects of a substance or a general medical condition [2]. In the first US paper to describe the epidemiology of IED, Kessler et al. [9] found that 5–7% of the population met diagnostic criteria, but the average age of first anger attack was under 15. In the Ukraine sample, only 2.3% of the married population met criteria for IED before age 20, and 4.3% had such anger attacks after age 20. To the extent that young men and women in Ukraine who exhibit these behaviors are arrested or otherwise identified by society, their risk for domestic violence should also be

incorporated into treatment interventions, should such programs ever become a reality.

The findings regarding marital problems were especially noteworthy. On the one hand, marital conflict can be considered a precursor to aggression [19] and thus our findings provide a source of validity for the reports about marital aggression. On the other hand, the findings from the multivariable analyses indicated that marital problems were significantly associated with women's reports about using aggression and being the victim of aggression, and men's reports about being the victim of aggression. However, marital problems were not significantly associated with men's reports of behaving aggressively. The pattern of results suggested that once early onset alcohol abuse and IED and witnessing parental violence were accounted for, neither marital strain nor adult disorders was significantly associated with whether men behaved aggressively toward their wives. Further research is needed to understand the associations of marital conflict with use of physical aggression by men especially because among the women, marital conflict remained an important correlate of husband's aggression.

If one is to reduce partner aggression in Ukraine, there is a clear need for prevention and treatment of alcohol abuse in both men and women. In addition, as has been shown in the US in both cross-sectional and longitudinal research with men and women, relationship problems, such as the marital stressors included in this report, place these women at great odds for being both aggressive and victimized. The relationship between factors like alcohol abuse and marital strains can be bidirectional, but there is enough evidence in the US showing the causal role of alcohol abuse [4] and marital discord [17, 19] on partner aggression that it is reasonable to assert that one method of reducing partner aggression is to reduce alcohol abuse and significant relationship discord.

Conclusions

In Ukraine, more women (12.7%) than men (5.7%) reported aggression by their spouse in the past year or ever (20.1 vs. 8.6%), while ~11 and 19% of both sexes reported behaving aggressively against their spouse in these timeframes. The most important risk factors for physical aggression in the marriage were witnessing parental violence in childhood, early onset and adult episodes of alcohol abuse and IED, and marital problems. Given the cultural acceptance of both wife-beating and binge drinking in former Soviet countries, multi-dimensional prevention and intervention programs that address both of these issues simultaneously are needed to reduce marital aggression.

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