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Union Type and Depressive Symptoms Among Mexican Adults

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Abstract

Diversity in union type is increasing around the world as cohabitation and higher order unions become more prevalent in developing and developed countries. This necessitates a more nuanced understanding of how different union types relate to individual well-being across social settings. In this study, the authors analyze nationally-representative data from Mexico in cross-sectional and change models to evaluate differences in depressive symptoms across union type (marital vs. cohabiting and first vs. higher order unions) among Mexican men and women. The findings suggest that cohabiting unions do not provide the same mental health benefits as marital unions (especially for men). Repartnering is also associated with higher depressive symptoms (especially for women), which indicates possible lasting mental health disadvantages of divorce/separation or entrance into lower quality second unions. These results suggest that the changing family context in Mexico, which includes increasing cohabitation and union instability, may have important consequences for individuals' psychological well-being.

Keywords

cohabitation; marriage; mental health; Mexico; remarriage

Introduction

Research to date suggests that marriage benefits individuals' health, by increasing social control over unhealthy behaviors (Duncan, Wilkerson, & England, 2006; Umberson, 1987), social integration and support (Pearlin & Johnson, 1977; Waite, 1995), and economic resources (Waite, 1995). Marriage benefits for mental health in particular have been found consistently in both the U.S. and developing country contexts (Andrade, Walters, Gentil, & Laurenti, 2002; Frech & Williams, 2007; Gorn, Sainz, & Icaza, 2005; Umberson, 1987; Umberson & Williams, 1999; Waite & Gallagher, 2000). Most of this research, however, does not distinguish between cohabiting and marital or first and higher order unions. As cohabiting and repartnering are increasingly prevalent around the world (Garcia & Rojas, 2001; Heuveline & Timberlake, 2004; Sobotka & Toulemon, 2008) it is important that we understand the consequences of these distinct types of unions for individuals' health and well-being. There is a particular paucity of research on union type and mental health among some of the world's most vulnerable adults—those in developing country contexts.

To address this gap in family research, we consider whether union type (cohabitation vs. marriage and first vs. higher order unions) is associated with depressive symptoms among

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women and men in Mexico. Mexico is an important setting to study because its family context, traditionally characterized by high fertility rates and stable unions, is changing. There has been a steady decline in the total fertility rate, divorce and separation rates are increasing, and cohabitation (which has historically been akin to marriage) is becoming less stable than in the past (CONAPO, 1999; Heaton & Forste, 2007; Martin, 2002). Research is needed to understand the implications of this emerging family context for individual well-being in contemporary Mexico.

Mexico also provides an important context within which to study gender differences in the associations between union type and depressive symptoms. Recent research suggests that gender differences in mental health are stronger in countries such as Mexico, where gender inequalities are relatively high (Das, Do, Friedman, & McKenzie, 2009; Hopcroft & Bradley, 2007; Seedat et al., 2009). However, we know little about whether women and men experience similar mental health benefits (or costs) across union types in these settings.

The findings from this study will contribute to our understanding of how increasingly diverse union types relate to psychological well-being of women and men in Mexico. We also aim to inform the larger body of literature on union status and health by assessing whether first marriages have mental health benefits distinct from other union types and whether this holds across gender in a developing country context.

Background

As increasing cohabitation and divorce rates spread throughout the developed and developing worlds, it is important that we understand whether different union types have distinct mental health benefits (or penalties); and, whether these effects hold in non-U.S. settings. Cohabitation, or the formation of informal residential unions, is an increasingly important type of union to study: By the early 2000s it was estimated that 50% of women aged 19 to 44 years ever cohabited in the United States (Kennedy & Bumpass, 2008), and there are equally or higher rates of cohabitation in some Western European and Scandinavian countries (Heuveline & Timberlake, 2004). In developing country contexts, including Central and Eastern Europe (Hoem & Kostova, 2008; Matysiak, 2009; Thornton & Philipov, 2008) and Latin America (Garcia & Rojas, 2001), cohabitation rates are on the rise. Furthermore, cohabitation has long been a socially acceptable type of union in many European (Sobotka, 2008) and Latin American (Heaton & Forste, 2007) countries. These increasingly prevalent informal unions, however, may provide fewer health benefits than marriage through less access to resources, social support, and social integration, as well as lower levels of commitment when compared with marital unions (Cavanagh & Huston, 2006; Heaton & Forste, 2007; Manning & Brown, 2006; Manning, Smock, & Majumdar, 2004; Osborne & McLanahan, 2007; Raley & Wildsmith, 2004).

The instability of both cohabiting and marital unions also suggests that we need to consider the effects of higher order unions on individual well-being. Repartnering rates have been increasing in the United States, and elsewhere, in the past two decades (Bumpass, Sweet, & Martin, 1990; Coleman, Ganong, & Fine, 2000; Dewilde & Uunk, 2006). Individuals who experience divorce, cohabitation dissolution, or widowhood may repartner because of individual choice or social and economic pressures (Dewilde & Uunk, 2006). Women often suffer more economic loss with divorce and social pressure to be married, particularly in traditional marriage contexts and thus may be more likely than men to accept lower quality relationships in order to repartner. Furthermore, individuals who have repartnered may not reap as many mental health benefits as being in a first union because of negative psychological effects of multiple union transitions, the strains of forming a step-family, or the lack of commitment in a second union. Trends suggest that repartnering through

cohabitation is increasingly common (Coleman et al., 2000), and this type of repartnering may be associated with higher levels of depression if these relationships represent less committed or lower quality partnerships compared with first unions or remarriages.

Empirical work to date (mostly in the United States) suggests that cohabitators are less depressed (Ross, 1995) and have greater levels of subjective well-being (Kamp Dush & Amato, 2005) than their single noncohabiting counterparts, but have more depressive symptoms than married individuals (Brown, 2000; LaPierre, 2009; Marcussen, 2005). Research on higher order unions has found that individuals' mental health improves with remarriage in the United States (Waite, Luo, & Lewin, 2009; Willits, Benzeval, & Stansfeld, 2004) and Britain (Blekesaune, 2008); however, adults in higher order unions have more depressive symptoms than those in first marriages (Demo & Acock, 1996; LaPierre, 2009).

Little research has assessed the comparative mental health benefits (or detriments) across the various union types (i.e., first cohabitations vs. first marriages vs. "recohabitations" vs. remarriages). Furthermore, no published study to date has explored the associations of these different union types with mental health in a developing country context. We expand on past research by considering the associations between various union types and depressive symptoms among adults in Mexico.

Union Status and Mental Health in Mexico

Mexico is a middle-income country with large income inequalities: Almost 50% of individuals lived in poverty and 20% in extreme poverty in 2002 (World Bank, 2005), when the study data were collected. Similar to the rest of Latin American, in Mexico, marriage is a culturally important tradition that has remained the main context within which to bear and raise children (Fussell & Palloni, 2004). But there are signs of considerable family structure change taking place (Garcia & Rojas, 2001; Lopez, 2004). Over the past 25 years, there have been important demographic transitions in Mexico, including dramatic decreases in the total fertility rate from 6.0 to 2.5, an increase in age at first union, and increases in the prevalence of cohabiting unions (Amador, 2004; CONAPO, 2005; Quilodran, 2004; Solis, 2004).

Recent statistics show that family structure continues to change, albeit slowly, in Mexico: Crude marriage rates (the number of marriages per 1,000 people) decreased from 6.1 in 2002 to 5.6 in 2006 (United Nations, 2006b), and crude divorce rates (the number of divorces per 1,000 people) rose from 0.6 in 2002 to 0.7 in 2006 (United Nations, 2006a). There is also evidence that unions (marital and cohabiting) in Mexico are increasingly unstable, as the number of households headed by women has increased from 1 in 8 in 1976 to 1 in 5 in 2000 (CONAPO, 2003).¹ Although cohabiting unions are traditionally more stable and socially accepted in Mexico than in the United States, a recent study suggests that Mexican cohabiting unions are becoming less stable than in the past (Heaton & Forste, 2007).

There is relatively little research on adult mental health status in Mexico and even less on how it may be impacted by these changes in the family context. It has been estimated that 15% of Mexican adults report feeling depressed the previous day (Parker, Rubalcava, & Teruel, 2007). Mexican women with more children reported lower quality of life (Hernandez & Aranda, 2009), indicating a possible mental health disadvantage of higher fertility rates among Mexican women similar to that found in developed countries (Evenson & Simon, 2005; Twenge, Campbell, & Foster, 2003). Regarding union status and mental

¹When reporting statistics, we report them for the year that is nearest to the time of data collection (2002 or 2005) to better understand the context within which this study is undertaken. These rates have remained largely unchanged since the early 2000s.

health, one study of adults in Mexico City found that divorced/widowed women (but not men) were at higher risk of depression than those in unions (Gorn et al., 2005). These limited studies point to the potential importance of emerging family contexts for adult well-being in Mexico, and that gender differences may be important in this context.

In sum, many of the family change patterns seen in the United States are emerging in Mexico, indicating a substantial and growing population of cohabitators and an increasing number of individuals exiting a first union and entering a second union. It is not yet clear whether these different union types are associated with adult health and well-being in Mexico. If cohabiting unions confer fewer resources than marriage, it is plausible that we will find more depressive symptoms among cohabitators than married individuals. It is even more likely that individuals in a second or higher order union may suffer more depressive symptoms than those in a first union (of any type), as Mexico provides a context where divorce and separation are not the norm and may have lasting mental health consequences. Higher order unions may also be of lower quality if individuals feel compelled to repartner in this society where few adults remain unmarried.

Gender differences in these associations will be important to consider for a number of reasons. First, women tend to suffer from worse mental health around the world and particularly in developing country contexts where gender inequalities are large (Seedat et al., 2009). Recent research suggests that the gender gap in depression is particularly high in Mexico compared with other developing countries (Das, Do, Friedman, McKenzie, & Scott, 2007). Differences in the protective effects of unions may exist in settings, such as Mexico, where women may benefit less from certain types of unions because of their disadvantaged social and economic position vis-à-vis men within and outside of the family context. As previously mentioned, one study with a limited sample in southern Mexico found key gender differences in the mental health effects of divorce and widowhood (Gorn et al., 2005), but little other work has explored gendered differences in union status and well-being in Mexico.

Research also suggests that women are not only exposed to more psychological distress, but also may be more likely to report symptoms akin to depression whereas men exhibit more substance and alcohol abuse (Rieker & Bird, 2000). Gender inequalities in Mexico, thus, may reflect not only differences in levels of psychological distress between women and men but also how they experience and report this distress. We consider the associations between union status and depression separately by gender to take into account gender differences in social and economic position and level and reporting of psychological distress among adults in Mexico.

This study aims to answer three research questions: (1) Is cohabitation associated with depressive symptoms among Mexican adults? (2) Are second or higher order unions associated with depressive symptoms among Mexican adults? (3) How do the associations between union type and depressive symptoms vary by gender? Importantly, we use contemporary nationally representative data (described below), which allow us to answer these questions within the current Mexican context.

Method

Data

Our data come from the Mexican Family Life Survey (MxFLS), a nationally representative dataset of 8,440 households in 150 communities collected in 2002 and 2005 (Parker, Rubalcava, & Teruel, 2008). Unlike other Mexican data sets, the MxFLS includes complete union histories and a series of questions to assess mental health among individuals 15 years

and older. Although we refer to our sample as “adults,” we include those 15 to 18 years old because individuals can legally marry at age 14 and because of the relatively early age at marriage/cohabitation in Mexico: In our data, 11% of those younger than 18 years were already in a union. The union histories collected in the MxFLS distinguish between marital and cohabiting unions and allow for an assessment of whether the union was a first, second, third, and so forth, union. All second and higher order unions were collapsed into one category because of the small number of third and fourth unions in this sample.

Our base sample consists of 16,493 individuals who have ever been in union and who have a valid depressive symptom score in 2002 or 2005. This sample includes only individuals who have been in a union to be able to assess the association between union type and depressive symptoms while controlling for age at first union. After dropping cases with missing values on the independent variables, the sample is reduced to 16,137 individuals (8,975 women and 7,162 men).

Table 1 presents the descriptive statistics for the full sample and disaggregated by gender. This sample reflects the developing context of Mexico, with 42% of the sample living in a rural area (<25000 inhabitants), 13% identifying as indigenous, and 62% having had primary level or no schooling. Although fertility rates are lower than in the past, the average number of children born is almost 3. The average age of the sample individuals is 42, and 4% of the sample is under age 20. The average number of adults in the household is 3, indicating the presence of extended families.

Table 1 also shows the importance of analyzing this sample separately for women and men. Women have significantly higher mean depressive symptoms scores (measure discussed below) and have more variation in distribution than do men (women’s mean = 8.3, men’s mean = 4.8). This supports research that suggests women may experience more psychological distress or may report more depressive symptoms resulting from this distress than men (Nolen-Hoeksema, 2001; Rieker & Bird, 2000). As noted in Table 1, mean values also differ significantly by gender for union status and control variables (except for household welfare and wealth). Given these differences, the depressive symptom measure (and its association with union type) may be more meaningfully compared within rather than across gender.

Key Variables

The outcome of interest is extent of depressive symptoms, which takes into account both the frequency and number of different symptoms typically associated with depression. This type of measure is commonly used in studies in the United States (Booth, Rustenbach, & McHale, 2008; Frech & Williams, 2007; Hughes & Waite, 2009; LaPierre, 2009) and elsewhere (Das et al., 2009). Our variable is constructed based on self-reports of how often in the past 4 weeks the individual had been sad, cried, slept poorly, had difficulty waking up, lacked concentration, lost appetite, been obsessed, had poor performance, experienced chest pressure, been nervous, been tired, been pessimistic, experienced aches, been irritable, felt insecure, felt useless, been afraid, lost interest in everyday activities, felt lonely, and thought of death. These questions are based on the General Health Questionnaire (GHQ) that has been validated internationally (Goldberg et al., 1997) and in Mexico (Calderon, 1997; Caraveo-Anduaga, Martinez, Saldivar, Lopez, & Saltijeral, 1998) as a measure of depressive symptoms. Although the MxFLS depression data have not been highly used, one study using these data found depressive symptoms among Mexican adults to be associated with various measures of employment instability (Parker et al., 2008).

Following existing research, we created a summary scale by adding the frequency scores across all symptoms (Das et al., 2009), where 0 = *no occurrence*; 1 = *sometimes*; 2 = *a lot of*

the time; and 3 = *all the time*. Table 1 shows an average score of almost 7 for the full sample, >8 for women and <5 men. Although this is relatively low, there is substantial variation across the sample, with a standard deviation of 7.3 points in the full sample and 8 points among women (see Table 1). Given the skewed nature of this variable, the values are logged for use in the ordinary least squares (OLS) regressions. As previously mentioned, the gender differences in the mean and standard deviations indicate that Mexican women and men may experience and report depressive symptoms differently, supporting our gender-stratified analyses.

Our independent variables include various measures of union type. Using the union history data, we constructed measures of whether individuals were currently in their first marital union, first cohabiting union, second or higher order marriage, or second or higher order cohabitation. Because cohabitations (referred to as free unions in Mexico) are socially acceptable and relatively common individuals were not given an explanation of what a free union is, but were given the option as a union status choice. One limitation of these data is that for those in higher order unions, union type (cohabiting or marital) could be ascertained only for the current union.

As indicated in Table 1, 71% of the sample was in their first union (61% were in a first marital union, and another 10% were in a first cohabiting union). Reflecting the stability of unions in Mexico, only 6% of sample individuals were in a second or higher order union, either through formal marriage (2.5%) or cohabitation (3.5%), and 6% were divorced/separated. Another 5% of the sample was widowed. The gender-specific means indicate that a higher percentage of sample women are not in a union (i.e., divorced, separated, or widowed) and a higher percentage of sample men are in both first and second marriages. The percentage of individuals in a cohabiting (either first or second) unions also differs significantly by gender, with a slightly higher mean for men (17%) than for women (16%).

Statistical Methods

We use two sets of statistical analyses to assess the associations between union type and depressive symptoms among Mexican adults. First, we conduct a set of OLS regression models using the cross-sectional data to examine the associations between different union types and logged depressive symptoms. The OLS models estimate associations between logged depressive symptoms and (1) being in a cohabiting versus marital union; (2) being in a second or higher order versus first union; (3) being in a first marriage versus a first cohabitation, a second (or higher order) cohabitation, and a second (or higher order) marriage. We conduct these regression models for the full sample, followed by gender-specific models.

In all models we control for the following potential confounders: age at first union, gender (in the full sample), rural community, age, whether the respondent is under age 20, indigenous ethnicity, education (less than primary, primary, and greater than high school compared with some secondary/high school education), total number of children ever born, whether the respondent worked in the past 12 months, number of children and adults in the household, receipt of government support (i.e., welfare), and a composite wealth score.²

The OLS regression analyses also include state dummy variables to control for unobserved differences across geographic states. Such differences may include social norms surrounding

²We use principal component analysis to define a composite household wealth measure based on household assets, housing quality, water availability, and type of sanitation. This method is supported in the literature as an efficient way to control for household economic status in developing country settings (Filmer & Pritchett, 2001). We use the first wealth component score (eigenvalue >3) as a control variable.

marriage, local marriage markets, and the extent of economic or other deprivation. Although social norms and deprivation do not necessarily follow state boundaries, the models were tested with local community (*municipio*) dummy variables, but the results did not change and the state dummies were preferred for their parsimony.

The sample includes multiple individuals per household, although in the gender-specific samples only about 25% of men and 35% of women have another respondent in their household. This sample clustering is accounted for in all models by adjusting the standard errors using the *cluster* command in STATA (Angeles, Guilkey, & Mroz, 2005; Wooldridge, 2000).³ We evaluate statistical significance of coefficients through two-tailed tests of $p < .05$ and report unstandardized coefficients.⁴ Given the gender differences in the sample distribution of depressive symptoms scores and past research, we test for gender interactions and stratify the models by gender.

We also recognize that recent studies of marital status and health have highlighted the potential selectivity bias inherent in traditional OLS models (Blekesaune, 2008; Brown, 2000; Lamb, Lee, & DeMaris, 2003; Osler, McGue, Lund, & Christensen, 2008). We address this concern by checking our cross-sectional results against results from change models—change in depressive symptoms regressed on change union type—between the two waves of data. These models effectively drop out unobserved, time-invariant differences among the individuals and provide evidence that lessens (but does not eliminate) concerns about selectivity (Wooldridge, 2000). The change models are not our primary models of interest because the estimates depend on a relatively small number of prospective changes in union status between 2002 and 2005, especially when stratified by gender. The prospective transitions by union type were: entry into a first marriage (all = 362, women = 200, men = 162), a first cohabitation (all = 146, women = 72, men = 74), a second or higher order marriage (all = 58, women = 28, men = 30), and a second or higher order cohabiting union (all = 49, women = 31, men = 18).

Controls included in the OLS models are included in the change models, along with several variables that capture changes in: the number of children, work status, receiving government aid, and the wealth score. Baseline depressive symptoms is also included as a control because of its potential to affect both subsequent change in depressive symptoms and the risk of entering a union as indicated by previous research (Frech & Williams, 2007; Wade & Pevalin, 2004; Wu & Hart, 2002). Although we evaluate statistical significance at $p < .05$, we also indicate where $p < .1$ because of the small number of prospective change in union type in the gender-specific and fully disaggregated change models.

Results

The first set of regression results, cross-sectional OLS analysis of logged depressive symptoms, is presented in Table 2. Holding constant all control variables, the results from Model 1 indicate a mental health disadvantage of cohabitation over marriage: Being in a cohabiting union is associated with almost a 19% increase in depressive symptoms.⁵ Model 2 indicates that higher order unions (marital or cohabiting) are associated with 31% higher depressive symptoms compared with first unions. The models in Table 2 also illustrate higher depressive symptoms among divorce/separated individuals (control variable) compared with those in first unions.

³Results did not change when the models were run with one random person per household.

⁴Because our variables of interest are dummy variables, standardizing the coefficients makes the findings less meaningful because there is no longer a reference category comparison (Pampel, 2000).

⁵With the logged dependent variable the following calculation transforms the coefficients (c) into percentage change: $100 \times [\exp(c) - 1]$ (Halvorsen & Palmquist, 1980).

Model 3 further disaggregates union status into the full set of union types: second marriages, first cohabitations, and second cohabitations, compared with first marriages. The results indicate that individuals in both higher order marital and cohabiting unions have significantly more depressive symptoms than those in first marriages. Being in a first cohabiting union (compared with first marital union) has a smaller, but still significant, effect on individuals' depressive symptoms, indicating a potential health disadvantage of cohabitation even if it is a first union. The regression results also show that individuals in second or higher order cohabiting unions have, on average, 19% higher depressive symptoms scores than those in first cohabitations.

Control variables conform to expectations: Younger age at first union, being female, living in an urban area, lower education, having more children, and having fewer adults in the household are associated higher depressive symptoms. (See Table 2.)

Table 3 provides the results for women in this sample. Among women, cohabitation is associated with a 21% increase in depressive symptoms, and being in a higher order union is associated with a 38% increase. Model 3 reveals that women in second marriages have an estimated 42% higher depressive symptoms score, on average, than those in first marriages. Being in a second or higher order cohabitation is also worse than both a first marriage (39% higher) and a first cohabitation (26% higher). These results suggest that what matters for depressive symptoms among Mexican women is whether they have repartnered (through marriage or cohabitation) rather than whether the union is formal (marriage) or informal (cohabitation).

Results for the sample men are presented in Table 4. In general, the effects for men are similar to those for women and gender interactions were not statistically significant. However, the final disaggregated model indicates that, although first cohabiting and first marital unions do not carry different mental health benefits for women, men are disadvantaged by first cohabiting compared with first marital unions, with depressive symptoms scores 20% higher, on average, in first cohabitations. Like women, men suffer more depressive symptoms in second or higher order cohabiting unions compared with first marriages (approximately 28% higher). Unlike women, higher order marriages did not differ significantly from first marriages for men. For men, the key difference seems to be the formal status of the union, with cohabiting unions, both first and second, being associated with higher average depressive symptoms than first marriages among men.

Most control variables operated similarly for men and women. However, it is worth noting the significant positive associations between depressive symptoms and the number of children ever born and current work status for women. This suggests that role strain and multiple work/family responsibilities may be a source of mental health issues for women in the contemporary Mexican context. Among men, their depressive symptoms scores were not associated with number of children and were negatively associated with work status, indicating possible mental health benefits for men of assuming the culturally supported role of family provider.

Table 5 provide a summary of the results from the change models, where the coefficients represent individual-level change in depressive symptoms scores between 2002 and 2005 with entrance into a given union type compared with remaining in a stable union.⁶ The purpose of these models is to assess whether the OLS results are supported when unobserved, time-invariant differences among individuals are removed from the models.

⁶Stable cohabitating and marital unions were not significantly different and stable second unions were not numerous enough to constitute a separate category, thus all stable unions were included in the reference group.

The variables of interest are prospective transitions into different types of unions. Exiting a union was also included in the models but was not differentiated by union type because of the small number of transitions out of unions during this time. Full-sample and gender-specific model results are presented in Table 5.

As Model 1 in Table 5 indicates, in the full sample, transitioning into a cohabiting union in 2002-2005 was associated with significantly higher change in depressive symptoms scores compared with those who remained in stable unions. Transitioning into a new marriage was not significantly different from being in a stable union or transitioning into a new cohabiting union. Model 2 shows that in the full sample, depressive symptoms increase by 1.4 points more when Mexican adults enter a higher order union compared with remaining in a stable union ($p < .05$) and by 1.3 points more than when entering a first union ($p < .1$). Model 3, with the full range of prospective changes in union type, indicates that change in depressive symptoms increases more when individuals enter a higher order marriage or a first cohabitation compared with those in stable unions ($p < .1$) and compared with those who entered a first marriage ($p < .05$).

When stratified by gender, the results from Model 1 suggest that cohabitation increases depressive symptoms among men, but not women, compared with being in a stable union and entering a marital union (both by about 1.3 points). Comparing Model 2 results across genders shows that women experience larger increases in depressive symptoms scores than men when transitioning into a second union. Neither of these coefficients is statistically significant, though, likely because of the small number of prospective transitions into a second union by gender ($n = 59$ for women, $n = 48$ for men). Results from Model 3 for women shows that a higher order marriage is significantly associated with an increase in change in depressive symptoms compared with being in a stable union ($p < .05$), entering a first marriage ($p < .05$), and entering a first cohabitation ($p < .1$). For men, there is a significantly greater change in depressive symptoms when men enter a cohabiting compared with marital union: first cohabitations are worse than first marriages and second cohabitations are worse than second marriages ($p < .1$). Entering either a first or second cohabitation is associated with a larger increase in depressive symptoms than remaining in a stable union among men ($p < .1$). The Model 3 results disaggregated by gender should be interpreted cautiously, however, since they are based on relatively few cases of prospective transitions.

Discussion

This research aimed to fill an important gap in family and health research by analyzing the association between union type and mental health among women and men in Mexico. U.S. research suggests potential differences in depressive symptoms between cohabiting and married individuals (Brown, 2000; LaPierre, 2009), between remarried and first marriage individuals (LaPierre, 2009), and between those in second versus third unions (Barrett, 2000). However, little research has considered differences in individuals' psychological well-being when both dimensions (formal vs. informal and first vs. higher order unions) are considered. Furthermore, examining the links between mental health and union type in developing countries is critical, since cohabiting unions and repartnering (through marriage or cohabitation) are increasingly prevalent and may have distinct implications for individuals' well-being in these settings.

This study used nationally representative data from the MxFLS to assess how distinct union types were associated with depressive symptoms among Mexican adults through the use of cross-sectional and change models. The results of both OLS and the prospective change models suggest a mental health disadvantage of cohabitation relative to marriage. This

supports the existing literature that cohabiting unions are less stable in current-day Mexico than in the past (Heaton & Forste, 2007), and may be beginning to resemble cohabiting unions in the United States. There is some evidence that the disadvantage of cohabitation relative to marriage may be stronger for men (although gender differences were not statistically significant). The OLS and change models suggested that for men being in a first or second cohabiting union was associated with a mental health penalty compared with being in a first marital union (there was no significant effect between a first cohabitation and first marriage among women). This may reflect that in contemporary Mexico traditional gender roles benefit men in marriage but not in modern consensual unions, with implications for their mental health.

We also found higher depressive symptoms among adults in higher order unions (cohabiting and marital) in the contemporary Mexican context. Again, this was supported in the cross-sectional and change models. Repartnering was potentially more detrimental to women than men—women had significantly higher depressive symptoms when in both higher order marriages and cohabiting unions, whereas men were only affected by being in higher order cohabiting but not marital unions. Although there is some evidence that remarriage/repartnering can improve individuals' psychological well-being in developed country contexts (Blekesaune, 2008; Waite et al., 2009; Willits et al., 2004), this was not found to be the case in Mexico. In this setting, it may be that the social stigma or economic stress associated with union dissolution may have longer lasting effects, especially for women. This supports findings from a previous study in southern Mexico where divorced/widowed women (but not men) suffered from depression more than those in a union (Gorn et al., 2005). It may also be that higher order unions are of lower quality if individuals (especially women) repartner because of social pressure or economic need.

Study limitations, however, should be considered. A main limitation is our inability to fully address selectivity among individuals across all union types. The change models did support the cross-sectional findings while controlling for unobserved, time-invariant heterogeneity. Although not all selectivity can be ruled out, the results from the change models indicate social processes, not just selectivity, underlie some of the observed differences in depressive symptoms across union types. The results from the change models should be considered with caution, since they rely on a relatively small number of prospective transitions especially when disaggregated fully by union type and by gender.

Another caveat is the small effect sizes found. Although the OLS models indicate relatively large percent change in depressive symptoms scores, overall depression scores were low in this population. The change models further illustrated that individual-level change in depressive symptoms with entrance cohabiting and higher order unions was, on average, relatively small. However, the largest effect size (a 1.4-point increase in change in depressive symptoms score on a 60-point depressive symptoms scale) is consistent with U.S. studies that have found union transition effect sizes from 3 to 5 points (Brown, 2000) and 2 to 3 points (Frech & Williams, 2007) on 84-point depressive symptoms scales. In this study, in addition to using a more limited 60-point scale, the small effect sizes may be due, in part, to including older individuals who made their union transitions decades ago, before the relatively recent changes in the nuptial regime in Mexico. One benefit of the change models is to capture relatively recent union transitions, a better indication of the associations of union type with depressive symptoms in contemporary Mexico. If current trends persist, union type may have stronger associations with well-being for future generations.

In sum, the findings from this article present a first step in understanding how increasing diversity in family structure may impact adult well-being in the context of contemporary Mexico. Future studies should consider disaggregating union status into these various union

types, rather than grouping married and cohabiting or married and remarried individuals together. It is also important to study other developing country contexts where we know little about these alternate union types, and where most of the growth in informal and higher order unions is likely to occur in the next decade. Differences by gender and across other social groups should be considered, as they may be important in understanding the links between union status and individual well-being in developing country settings.

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Table 1

Sample Descriptive Statistics: Individuals Aged 15+ Years Ever in Union, MxFLS

Variable	Full Sample		Women		Men	
	Mean	SD	Mean	SD	Mean	SD
Depressive symptoms scale	6.79	7.33	8.34	7.89	4.84*	6.02
Union type						
First marriage	0.61	0.49	0.60	0.49	0.62*	0.49
Second union—marriage	0.03	0.16	0.02	0.14	0.03*	0.17
First cohabitation	0.10	0.30	0.10	0.30	0.10	0.30
Second union—cohabitation	0.04	0.18	0.04	0.19	0.03	0.18
Controls						
Divorced/separated	0.06	0.25	0.08	0.28	0.04*	0.20
Widowed	0.05	0.22	0.07	0.26	0.03*	0.16
Age at first union	21.44	5.88	19.99	5.27	23.26*	6.10
Male	0.44	0.50	—	—	—	—
Rural	0.42	0.49	0.42	0.49	0.43	0.49
Age	41.88	15.93	40.88	15.80	43.12*	16.00
Age <20 years	0.04	0.19	0.05	0.21	0.02*	0.15
Indigenous	0.13	0.33	0.12	0.32	0.13*	0.34
No school	0.38	0.49	0.39	0.49	0.37*	0.48
Primary school	0.24	0.43	0.25	0.43	0.23*	0.42
Some secondary school	0.30	0.46	0.31	0.46	0.30	0.46
High school graduate	0.07	0.26	0.05	0.22	0.10*	0.29
Total no. of children	2.89	2.54	3.39	2.80	2.27*	1.99
Working	0.60	0.49	0.36	0.48	0.91*	0.29
No. of children in household	1.89	1.63	1.93	1.63	1.85*	1.62
No. of adults in household	2.91	1.40	2.90	1.41	2.94*	1.39
Receiving government support	0.23	0.42	0.23	0.42	0.23	0.42
Wealth score	0.06	1.82	0.07	1.80	0.04	1.85

Variable	Full Sample		Women		Men	
	Mean	SD	Mean	SD	Mean	SD
Data from Year 2005	0.11	0.31	0.11	0.31	0.12 *	0.32
<i>n</i>	16,137		8,975		7,162	

* $p < .05$, indicates significant mean difference by gender.

Table 2

Ordinary Least Squares Regression of Logged Depressive Symptoms Score on Union Type for Full Sample. Mexico Family Life Survey. N= 16,137.

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Union type						
Married	REF					
Cohabiting	0.17**	(0.043)				
Any first union			REF			
Any second union			0.27**	(0.055)		
First marriage					REF	
Second marriage					0.27**	(0.085)
First cohabitation					0.13*	(0.052)
Second cohabitation					0.31**	(0.073)
Controls						
Divorced/separated	0.24**	(0.057)	0.23**	(0.057)	0.25**	(0.057)
Widowed	0.056	(0.060)	0.071	(0.061)	0.076	(0.061)
Age at first union	-0.011**	(0.0028)	-0.0095**	(0.0028)	-0.0099**	(0.0028)
Male	-0.81**	(0.035)	-0.81**	(0.035)	-0.81**	(0.035)
Rural	-0.082*	(0.038)	-0.081*	(0.038)	-0.080*	(0.038)
Age	0.015**	(0.0014)	0.014**	(0.0014)	0.014**	(0.0014)
Age <20 years	-0.088	(0.087)	-0.047	(0.087)	-0.066	(0.087)
Indigenous	0.10	(0.054)	0.100	(0.054)	0.10	(0.054)
No school	0.30**	(0.044)	0.31**	(0.044)	0.31**	(0.044)
Primary school	0.10**	(0.040)	0.11**	(0.040)	0.11**	(0.040)
High school graduate	-0.23**	(0.062)	-0.24**	(0.062)	-0.23**	(0.062)
Children ever born	0.020**	(0.0063)	0.017**	(0.0063)	0.017**	(0.0063)
Working	0.061	(0.036)	0.056	(0.036)	0.057	(0.036)
No. of kids in household	0.0019	(0.011)	0.0024	(0.011)	0.0028	(0.011)
No. of adults in	-0.052**	(0.012)	-0.050**	(0.013)	-0.051**	(0.013)

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
household						
Receives government aid	0.021	(0.043)	0.019	(0.043)	0.021	(0.043)
Household wealth	0.0037	(0.012)	0.00064	(0.012)	0.0031	(0.012)
Data from 2005	-0.46**	(0.057)	-0.45**	(0.057)	-0.42**	(0.057)
Constant	0.93**	(0.11)	0.95**	(0.11)	0.92**	(0.11)
Adjusted R^2	.125		.125		.125	

Note: REF = reference group. State dummies included in analysis but not reported for brevity. Robust standard errors controlling for household clustering are given in parentheses.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Ordinary Least Squares Regression of Logged Depressive Symptoms Score on Union Type for Mexican Women: Mexico Family Life Survey, $N = 8,975$

Table 3

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Union type						
Married	REF					
Cohabiting	0.19**	(0.053)				
Any first union			REF			
Any second union			0.32**	(0.069)		
First marriage					REF	
Second marriage					0.35**	(0.11)
First cohabitation					0.099	(0.066)
Second cohabitation					0.33**	(0.087)
Controls						
Divorced/separated	0.19**	(0.065)	0.19**	(0.065)	0.20**	(0.066)
Widowed	0.064	(0.069)	0.078	(0.069)	0.082	(0.069)
Age at first union	-0.010**	(0.0036)	-0.0083*	(0.0036)	-0.0086*	(0.0037)
Rural	-0.072	(0.046)	-0.069	(0.046)	-0.069	(0.046)
Age	0.011**	(0.0019)	0.010**	(0.0019)	0.011**	(0.0019)
Age <20 years	-0.17	(0.10)	-0.12	(0.10)	-0.14	(0.10)
Indigenous	0.043	(0.066)	0.046	(0.066)	0.046	(0.066)
No school	0.31**	(0.056)	0.32**	(0.056)	0.32**	(0.056)
Primary school	0.16**	(0.052)	0.17**	(0.051)	0.17**	(0.051)
High school graduate	-0.30**	(0.091)	-0.30**	(0.092)	-0.30**	(0.091)
Children ever born	0.034**	(0.0076)	0.033**	(0.0076)	0.033**	(0.0076)
Working	0.15**	(0.039)	0.14**	(0.039)	0.14**	(0.039)
No. of kids in household	0.012	(0.013)	0.013	(0.013)	0.013	(0.013)
No. of adults in household	-0.060**	(0.015)	-0.058**	(0.015)	-0.059**	(0.015)
Receives government aid	-0.052	(0.051)	-0.054	(0.051)	-0.053	(0.051)

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Household wealth	0.0030	(0.014)	0.00095	(0.014)	0.0025	(0.014)
Data from 2005	−0.46**	(0.072)	−0.45**	(0.072)	−0.42**	(0.072)
Constant	1.07**	(0.14)	1.08**	(0.14)	1.06**	(0.14)
Adjusted R^2	.084		.085		.085	

Note: REF = reference group. State dummies included in analysis but not reported for brevity. Robust standard errors controlling for household clustering are given in parentheses.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Ordinary Least Squares Regression of Logged Depressive Symptoms Score on Union Type for Mexican Men: Mexico Family Life Survey, $N = 7,162$

Table 4

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Union type						
Married	REF					
Cohabiting	0.15 *	(0.062)				
Any first union			REF			
Any second union			0.18 *	(0.087)		
First marriage					REF	
Second marriage					0.17	(0.12)
First cohabitation					0.18 *	(0.076)
Second cohabitation					0.25 *	(0.12)
Controls						
Divorced/separated	0.29 *	(0.13)	0.28 *	(0.13)	0.30 **	(0.13)
Widowed	0.12	(0.039)	0.14	(0.039)	0.15	(0.040)
Age at first union	-0.011 **	(0.0039)	-0.010 *	(0.0039)	-0.011 **	(0.0040)
Rural	-0.088	(0.054)	-0.091	(0.054)	-0.088	(0.054)
Age	0.015 **	(0.0020)	0.014 **	(0.0020)	0.015 **	(0.0020)
Age <20 years	0.052	(0.15)	0.090	(0.15)	0.067	(0.15)
Indigenous	0.16 *	(0.075)	0.16 *	(0.075)	0.16 *	(0.075)
No school	0.30 **	(0.068)	0.31 **	(0.068)	0.30 **	(0.068)
Primary school	0.035	(0.061)	0.043	(0.061)	0.040	(0.061)
High school grad	-0.20 *	(0.083)	-0.21 *	(0.083)	-0.20 *	(0.083)
Children ever born	0.019	(0.013)	0.014	(0.013)	0.015	(0.013)
Working	-0.19 *	(0.084)	-0.19 *	(0.084)	-0.19 *	(0.084)
No. of kids in household	-0.020	(0.017)	-0.018	(0.018)	-0.018	(0.018)
No. of adults in household	-0.041 *	(0.017)	-0.039 *	(0.017)	-0.040 *	(0.017)
Receives government aid	0.12	(0.061)	0.11	(0.061)	0.12	(0.061)

	Model 1		Model 2		Model 3	
	B	SE	B	SE	B	SE
Household wealth	0.0062	(0.016)	0.0024	(0.016)	0.0059	(0.016)
Data from 2005	-0.45**	(0.078)	-0.44**	(0.078)	-0.42**	(0.078)
Constant	0.24	(0.20)	0.27	(0.19)	0.22	(0.20)
Adjusted R^2	.080		.079		.080	

Note: REF = reference group. State dummies included in analysis but not reported for brevity. Robust standard errors controlling for household clustering are given in parentheses.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5
Change in Depressive Symptoms Regressed on Change in Union Type: Mexico Family Life Survey (Reference Group = Stable Union)

	Full Sample (N = 10,455)						Women (n = 6,328)						Men (n = 4,127)					
	Model 1			Model 2			Model 1			Model 2			Model 1			Model 2		
	B	SE		B	SE		B	SE		B	SE		B	SE		B	SE	
Entered union																		
Marriage	0.31	(0.34)					0.45	(0.55)					-0.004	(0.34)				
Cohabitation	0.89*	(0.45)					0.32	(0.71)					1.33*	(0.55)				
First union			0.13	(0.30)					-0.24	(0.46)						0.37	(0.38)	
Second union			1.43*	(0.72)					1.89	(1.16)						0.64	(0.67)	
First marriage						-0.14	(0.32)						-0.48	(0.49)				0.079 (0.38)
Second marriage						1.98†	(1.06)						4.25*	(1.88)				-0.27 (0.71)
First cohabitation						0.88†	(0.51)						0.45	(0.82)				1.21† (0.64)
Second cohabitation						0.76	(0.94)						-0.32	(1.27)				2.20† (1.26)
Other union categories																		
Exited union	0.62	(0.46)		0.62	(0.46)		0.62	(0.46)	0.38	(0.59)	0.38	(0.59)	0.38	(0.70)	0.76	(0.70)	0.76	(0.70)
Unmarried	-0.09	(0.22)		-0.09	(0.22)		-0.09	(0.22)	-0.22	(0.27)	-0.22	(0.27)	-0.22	(0.40)	-0.09	(0.40)	-0.09	(0.40)

Note: Controls included but not reported for brevity. Robust standard errors controlling for household clustering are given in parentheses.

† $p < .1$

* $p < .05$.