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Patterns of Relationship and Sexual Behaviors in Mexican Adolescents and Associations with Well-being: A Latent Class Approach

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Abstract

To broaden our understanding of romance and sexuality during adolescence in Latin American countries, we used a person-oriented approach (latent class analysis) to examine classes marked by different patterns of romantic and sexual behaviors in Mexican adolescents. We found 5 classes: Inactive, (8.53%), Early stage (37.8%), Waiting class (27.5%), Physical (8.4%) and Committed (17.9%); but no group dating class. We also explored how these classes were associated with adolescents' mental health and school performance. Middle school adolescents in the Committed class (high in romantic and sexual behaviors) had the highest level of depressive symptoms. Girls in the Inactive class and boys in the Physical class had the lowest level of symptoms. Adolescents in the Committed class also reported less academic motivation and achievement, whereas adolescents in the Inactive class reported higher motivation. This study expands our knowledge of adolescent romantic and sexual development in Mexico.

Adolescence is a crucial period for the development of romantic relationships and sexual behavior, as first experiences of both typically occur during this period (Collins, 2003; Tolman & McClelland, 2011). Romantic and sexual development have implications for adolescent well-being, as they are associated with school performance and mental health outcomes (Vasilenko, Lefkowitz, & Welsh, 2014; Collins, Welsh & Furman, 2009). Romantic and sexual experiences are also linked, in that the majority of sexual behavior occurs within the context of relationships (Collins et al. 2009). Despite these similarities, research on these topics have largely developed separately. There is relatively little research that examines the two together and can disentangle the effects of sexual and romantic behaviors. In particular, there is little work on these topics in Latin American countries such as Mexico. Mexican researchers have mostly examined sexuality, from a risk perspective, assessing prevalence of risky behaviors (Gonzalez-Garza, Rojas-Martinez, Hernandez-Serrato & Olaiz-Fernandez, 2005), and designing and evaluating intervention programs to delay sexual debut and increase condom use (Campero, Walker, Atienzo, & Gutierrez, 2011;

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Pick, Givaudan, & Poortinga, 2003). Limited research, however, indicates that some adolescent sexual behaviors are normative in Mexico (Espinosa-Hernandez, Vasilenko & Bamaca-Colbert, 2015), but little is known about how they co-occur with romantic experiences. Examining these behaviors in Mexico, from a normative perspective, may help understand whether sexual behavioral patterns found in industrialized nations (e.g., U.S.) are culture-specific or universal. That is, we want to examine the extent to which patterns of sexual and romantic behaviors that are relatively normative among adolescents in the U.S. are also common among adolescents in Mexico. In this study, we used a person-oriented approach (latent class analysis; LCA) to examine multidimensional classes marked by different patterns of romantic and sexual behaviors in Mexican adolescents, and how these classes of behaviors were associated with their mental health and school performance. Guided by the Ecological Systems theory (Bronfenbrenner, 1994; Raffaelli, Kang & Warini, 2012), we also examined microsystems (e.g., age groups, gender, familism and Catholic affiliation) within the Mexican cultural context that predicted these individual differences (class membership). These findings may help identify microsystems that shape the timing and prevalence of these experiences in similar ways across cultural contexts. Moreover, future research that builds on this work may help tailor culturally sensitive prevention/intervention programs encouraging healthy adolescent sexual behavior in Mexico.

Age and gender differences in romantic and sexual experiences during adolescence

The prevalence of both sexual and romantic behaviors increases with age. Nationally representative samples in the U.S. indicate that 25% of twelve year olds reported being involved in a romantic relationship over the past 18 months, which increased to 50% at 15 year olds, and 70% at 18 year olds (Collins, 2003). In industrialized countries, researchers have suggested romantic relationships development occurs in several stages (Connolly, Craig, Goldberg, & Pepler, 2004; Seiffge-Krenke, 2003). During early adolescence, romantic interactions often occur in mixed-gender group settings (Connolly et al., 2004; Friedlander, Connolly, Pepler & Craig, 2007). During middle adolescence, casual dating emerges and adolescents participate in both group dating and short-term romantic dyads (Seiffge-Krenke, 2003). Finally, during late adolescence, exclusive and stable romantic relationships become more prevalent than group dating (Friedlander et al., 2007; Seiffge-Krenke, 2003). We know very little about how romantic relationships develop among Mexican adolescents. A Mexican nationally representative survey indicates that 52% of 15 year old girls and 75% of 18 year old girls report being in a romantic relationship. These relationships typically last between 9 months and a year and a half (Encuesta Nacional sobre la Dinámica de las Relaciones en los Hogares, 2011).

There has been more research on Mexican adolescents' sexual behavior compared to the literature on romantic relationships. As Mexican adolescents age, they are more likely to engage in sexual behaviors, with making out and vaginal sex being more prevalent than oral sex (Campero et al., 2010; Espinosa-Hernandez, Vasilenko et al., 2015; Gonzalez-Garza et al., 2005). Thus, Mexican boys (47%) and girls (39%) ages 18 and 19 are more likely to engage in sexual intercourse than boys (17%) and girls (17%) ages 15 to 17 (Gonzalez-

Garza et al., 2005). Most girls (range from 79% –91%) and boys (86%-95%) attending middle school (8th and 9th grade) and high school (11th and 12th grade) have engaged in making out, whereas few girls (range from 8% to 20%) and boys (range from 18% to 32%) in both middle school and high school have engaged in oral sex (Espinosa-Hernandez et al., 2015).

Both romantic and sexual behaviors are multidimensional and can encompass several different stages or behaviors. However, research in this area has often used a variable-oriented approach in which only single measures, such as whether an adolescent is in a relationship or is sexually active, are included, or in which multiple measures of different aspects have been considered separately. Although this approach is useful in understanding effects of specific behaviors, it does not provide for a comprehensive understanding of romantic or sexual experiences, convey the heterogeneity of experiences, or disentangle the effects of different facets of behaviors. Thus a person- oriented approach, which examines the interactions between different behaviors by uncovering distinct patterns of behaviors that exist in the population, may provide useful insights (Von Eye & Bergman, 2003). For example, LCA can identify subgroups of individuals that are marked by patterns of responses to a number of different measures of sexual and romantic behavior (Collins & Lanza, 2010). Such an approach can, for example, differentiate between individuals who engage in sexual behavior outside of a relationship, in a more casual dating relationship, and in a relationship marked by high level of commitment.

Although the use of person-oriented methods in research on adolescent romantic and sexual behavior is growing, it is still relatively limited. Person-oriented studies of sexual behavior have examined patterns of timing of sexual behaviors (Haydon, Herring, Prinstein, & Halpern, 2012), and patterns of sexual risk behaviors (Beadnell et al., 2005; Hipwell, Stepp, Keenan, Chung, & Loeber, 2011; Vasilenko, Kugler, Butera, & Lanza, 2015). However, these studies are limited in their information about romantic relationships. For example, although these studies included indicators of number of sexual partners or whether sexual behavior occurred within or outside of a romantic relationship, they have no information about characteristics of the relationship, such as love or commitment (Hipwell et al., 2011; Vasilenko, Kugler, Butera et al., 2015). A few studies have included both sexual and relationship behaviors. For example, one study of 7th through 12th grade adolescents examined classes of sexual and romantic behaviors that occurred in a relationship with a partner, and found 5 classes: Serious with Sex, Serious without Sex, Group Oriented, Physically Oriented, and Low Involvement (Crissey, 2005). Another study of older adolescents (aged 16–18) found similar categories, with the exception of a Private dating class instead of a group-oriented one (Vasilenko, Kugler, & Lanza, 2015). However, both of these studies focused on adolescents from the U.S., and thus little is known about patterns of sexual and relationship behavior in Mexico and whether stages of romantic development are similar to those proposed in research in developed nations.

Religion and familism as predictors of Latent class membership

Based on the Ecological Systems theory, researchers in the U.S. have emphasized the importance of identifying individual (e.g., familism and religion) and sociocultural factors

which may shape Latino adolescent immigrants' sexuality (Raffaelli et al., 2012). Thus, we examined the role of Latino values and religion as factors which may predict membership in classes of romantic and sexual behaviors. Familism is a strong bond between family members marked by feelings of loyalty and reciprocity (Villarreal, Blozis, & Widaman, 2005), and desire to meet family expectations (Sabogal, Marín, Otero-Sabogal, Marín, & Perez-Stable, 1987). Familism is associated with later timing of sexual behaviors in Latino adolescents residing in Mexico and in the U.S. (Espinosa-Hernández, Bamaca-Colbert, Vasilenko, & Mirzoeff, 2013; Espinosa-Hernandez, Vasilenko et al., 2015). To our knowledge, no quantitative studies have examined associations between familism and romantic relationships. However, qualitative research in the U.S. suggests that Latino parents may have major concerns about their daughters' interactions with boys and how such behavior may affect the family's image in the community (Raffaelli & Ontai, 2001). Thus, familism may be linked to lower levels of both romantic experiences and sexual behaviors.

Religious affiliation may also affect sexual behaviors. Studies conducted in the U.S. indicate non-religious adolescents report the youngest ages at first intercourse compared to Protestants, Catholics, Jews, Mormons, and other religious groups (Regnerus, 2007). Person-oriented analyses suggest that American adolescents who are more religious are more likely to have membership in a class marked by no romantic relationship or by a romantic relationship without sexual behavior than classes that include sexual behavior (Vasilenko, Kugler, & Lanza, 2015). In Mexico, researchers have argued that the Catholic church plays an important role in Mexican adolescents' sexual behaviors (Pick et al., 2003) and empirical evidence indicates that Catholic adolescents engaged in sexual intercourse at later ages than non-religious adolescents (Espinosa-Hernández, Bissell-Havran, & Nunn, 2015).

Psychological adjustment and sexual and romantic experiences

Although both romantic and sexual behaviors are normative during adolescence (Collins, 2003; Tolman & McClelland, 2011), adolescents may perceive these experiences as stressors that can contribute to psychological maladjustment (Vasilenko, Lefkowitz, & Welsh, 2014; Welsh, Grello, & Harper, 2003). Involvement in a romantic relationship is associated with more depressive symptoms (Davila, 2008; Joyner & Udry, 2000). Similarly, adolescents who are sexually active report more depressive symptoms than those who are not sexually active (Hallfors et al., 2004). However, dating may be associated with less social anxiety among middle and late adolescents (La Greca & Harrison, 2005; La Greca & Mackey, 2007), particularly for Latinos adolescents (La Greca & Harrison, 2005).

Individual characteristics such as gender and age may place some adolescents at a greater risk for negative mental health outcomes of sexual and romantic behaviors (Joyner & Udry, 2000; Spriggs & Halpern, 2008; Vasilenko, Lefkowitz, & Welsh, 2014; Welsh et al., 2003). For example, an early transition to sexual behavior is associated with increased depressive symptoms in girls (Meier, 2007; Spriggs & Halpern, 2008), but a transition in young adulthood is associated with less psychological distress and better body image for young men (Vasilenko, Ram, & Lefkowitz, 2011; Vasilenko, Lefkowitz, & Maggs, 2014), suggesting that sex has less negative outcomes at older ages and for adolescent boys compared to girls.

Sexual behavior and romantic relationships are also associated with academic outcomes. An early age of first sexual intercourse (as opposed to onset during middle or late adolescence) was associated with lower grades (Zimmer-Gembeck & Helfand, 2008). Inner city 7th and 8th grade students who reported grades of C or lower were 1.7 times more likely to initiate sexual intercourse than students receiving higher grades (Santelli et al., 2004). Several studies in the U.S. have also examined the link between romantic experiences and academic outcomes longitudinally and with person-oriented approaches. For instance, a larger number of dating partners was associated with greater declines in academic performance and motivation between age 12 and 16 (Zimmer-Gembeck, Siebenbruner & Collins, 2001), and adolescents with trajectories of high or frequent dating reported low study skills and were more likely to drop out compared to adolescents who had low or increasing dating trajectories (Orpinas, Horne, Song, Reeves, & Hsieh, 2013). One study using LCA suggests that individuals who were in a relationship but waiting to have sex had higher grades than those in a relationship with sexual intercourse, and that those who engaged in private (not public group dating) relationships had lower grades (Vasilenko et al., 2015). However, to our knowledge no research has examined mental health and academic outcomes of romantic and sexual experiences among adolescents in Mexico.

Current study

The current study uses a person-oriented method, LCA, and a sample of Mexican middle and high school students to A) uncover classes of sexual and romantic experiences; B) examine factors that predict class membership including age, gender, familism and religious affiliation; and C) to examine how class membership is associated with depressive symptoms, anxiety, academic motivation and grades. Because of the exploratory nature of the analyses and the lack of research on Mexican adolescents, we make no specific hypotheses. However, based on prior research on American adolescents, we would expect that classes marked by more intimate sexual and romantic behaviors may be associated with greater depressive symptoms and lower academic achievement, particularly for younger female adolescents. In addition, students in classes marked by low involvement in dating may experience more anxiety, particularly if they are older.

Method

Participants

Participants were 1,436 Mexican adolescents (53% female) attending 8th, 9th (middle school), 11th and 12th grade (high school). Adolescents' age ranged from 12 to 19 ($M = 14.5$, $SD = 1.43$). More than half of these adolescents lived in households with both their biological mother and father (70%).

Procedure

Data was collected from 7 middle schools (4 private and 3 public) and one high school in Puebla, one of the largest cities in Mexico. Principals chose the students who participate in the study, based on convenience (e.g., exam or class schedules). University IRB procedures were followed and a waiver of written parental consent obtained. School staff distributed

forms to students to take home to parents, and separated students whose parents did not allow them to participate. Students were informed of their rights as participants, and those who assented completed the survey, which took about an hour and a half. They received a piece of candy for participating. Over 60% of enrolled students in each school participated, with the exception of one large middle school where fewer classes were sampled and about 30% of the students participated (Espinosa-Hernandez, Vasilenko et al., 2015). This sample can be generalized to the student population attending those schools.

Measures

All measures were translated by a committee of two Ph.D.-level researchers and 2 undergraduate assistants who were either native Spanish speakers or bilingual. Then two Mexican middle school students and a Mexican female school psychologist read over the Spanish version of the measures to make sure grade level was adequate and items were easy to understand by a Spanish native speaker. Finally, we conducted a pilot data collection in a small private middle school in Mexico City.

Indicators of latent class membership—Indicators were drawn from the Romantic and Sexual History survey (Smetana, & Gettman, 2006). Participants were presented with a grid which listed sexual and romantic behaviors, and were asked to check whether they had engaged in each behavior during 4th to 12th grade. These items were then dichotomized to 1 = ever engaged in behavior and 2 = never engaged in behavior. We focus on four romantic relationship behaviors and four sexual behaviors. *Group dating* is measured by the item “Had ‘group dates’ with someone you liked and your friends around.” *Love* was drawn from the item “Told someone you loved him/her.” *Exclusive relationship* was measured by the item “Had an exclusive relationship for at least two months; you only saw each other, but didn’t necessarily plan to get engaged or live together”, whereas *Planned Engagement* indicated if an individual “Had a committed relationship in which you were planning to get engaged/married or live together”. *Early Physical Behavior* was drawn from two items; individuals were coded as yes on this indicator if they reported either they had “Held hands,” or “Passionately kissed and rubbed outside of clothes.” *Genital touching* indicated whether they had either “Passionately kissed and sexually rubbed over the clothes” or “Passionately kissed and sexually rubbed underneath the clothes.” *Oral sex* was drawn from the items “Performed oral sex (going down) on a partner,” and “Partner performed oral sex (going down) on you,” with oral sex defined as “a person putting his or her mouth on the partner’s genitals.” Finally, *Vaginal sex* was the response to the item “We had vaginal sex” defined as “sex in which the penis penetrates the vagina.”

Covariates—We assessed whether several factors were associated with class membership. Demographics include *age* and *gender*. Religion was assessed by first asking participants if they practiced a religion, and if yes, which religion it was. We recoded this item for analysis with two dichotomous indicators: Catholic (69%) and other (9%), with non-religious as the reference group. *Familism* was measured by 19 items from the Cultural Values Scale which related to familism and filial piety (sample item: “I try to avoid dangerous things because I don’t want my parents to worry”; Unger, Ritt-Olson, Teran, Huang, & Palmer, 2002). Participants rated each item on a 4-point scale from 1 (*Strongly Disagree*) to 4 (*Strongly*

Agree), and we used the mean score of all items ($M=3.01$, $SD=.45$). Reliability in the current study was good ($\alpha = .96$).

Outcomes—*Depressive symptoms* were measured using 20 items from the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Participants were asked how often they experienced different feelings in the past week. A sample item was “You felt sad,” and items were rated in a 0–3 scale from *Rarely or none of the time (less than one day)* to *Most or almost all of the time (5–7 days)*; $M=0.6$, $SD=0.5$). The scale had good reliability in this study ($\alpha=.91$) and other Mexican adolescent samples (Swanson et al., 1992). *Anxiety* was measured using the State-Trait Anxiety Inventory for Children, which includes 20 items ranked on a three-point scale from hardly ever to often (Spielberger, Edwards, Montouri, & Lushene, 1973). A sample item is “I worry too much” ($M=35.2$, $SD=6.7$). *Grades* were rated on a 1–10 scale ($M=5.6$, $SD=1.8$), consistent with the Mexican grading scale (6 or above is passing). *Academic motivation* was measured with three items rated on a four-point Likert scale from *strongly disagree* to *strongly agree* (sample item: “Grades are very important to me”; $M=2.8$, $SD=.5$). This scale was had good reliability in research on Mexican-origin adolescents (Plunkett & Bámaca-Gómez, 2003) and in the current study ($\alpha=0.87$)

Statistical Analyses

Analyses proceeded in three stages. First, we used PROC LCA in SAS (Lanza, Collins, Lemmon, & Schafer, 2007) to conduct an LCA based on eight indicators of adolescent romantic relationship and sexual behavior. We relied on information criteria (AIC and BIC) and interpretability to select the number of latent classes. After selecting a model, we examined predictors of class membership using LCA with covariates (Collins & Lanza, 2010). Finally, we assessed how classes of romantic relationship behavior predict mental health outcomes and how these associations differ by gender and school level (middle vs. high school) using the SAS macro LCA_Distal, which allows for model-based estimation of latent class-specific distributions of outcomes (Yang, Tan, Lanza, & Wagner, 2012) and provides less biased estimates compared to standard approaches (Lanza, Tan, & Bray, 2013).

Results

We fit models with one through eight classes (Table 1). The AIC indicated a six-class model, and the BIC indicated a four-class model. Upon comparing the interpretability of the 4, 5, and 6 class models, we chose the five-class model, as it captured a range of different patterns of relationship behaviors, and all classes were of sufficient size for further analyses by subgroup (Table 2). In addition, the bootstrap likelihood ratio test suggested that the 5-class model was a significantly better fit than the 4-class model. To determine whether the latent class model differed by gender and school level, we compared two different models: one with item response probabilities constrained to be equal across gender and age groups, and the other with the parameters estimated freely within each group. The constrained model had lower scores than the unconstrained model on both the AIC and BIC criteria, suggesting that modeling the groups together produces a better-fitting model than estimating classes separately by group. Thus, we use the same latent class model for all groups. The first class, Inactive, (8.53% of sample) consisted of adolescents who had low probabilities of reporting

all relationship and sexual behaviors. The most common class, Early Stage, had high probabilities of dating, love, exclusivity and early physical behaviors, but were unlikely to have discussed engagement or marriage or have engaged in other sexual behaviors. The Waiting class (27.5%) consisted of adolescents with very low probabilities of vaginal and oral sex, but high probabilities of dating, love, exclusivity, early physical behavior and genital touching. They also were equally likely to have or have not discussed engagement or marriage. A relatively small class (8.4%), termed Physical, had high probabilities of dating, genital kissing, touching and sexual intercourse and low probabilities of expressing love. Finally, the committed class (17.9%) had a high probability of engaging in all behaviors.

Next, we examined how covariates predicted class membership (Table 3). The largest class, Early Stage was used as the reference group. The inactive class did not differ from the Early Stage classes on any covariates. Individuals who were older were more likely to be in the Waiting compared to Early Stage class. The most significant differences with the Early Stage class were found for the Physical class; those in the Physical class were more likely to be male, older, non-religious, and have lower familism. Being older and having lower familism were also associated with being in the Committed compared to early stage class.

Finally, we examined how class membership was associated with mental health and academic outcomes. We introduced a four-level grouping variable (middle school male, middle school female, high school male, high school female) to examine differences by gender and school type. Class membership was significantly associated with depressive symptoms ($p<.001$; Figure 1), anxiety ($p<.01$; Figure 2), academic motivation ($p<.001$; Figure 3), and grades ($p<.001$; Figure 4). We summarize the findings across these analyses by latent class. Being in the inactive class, characterized by low probabilities of involvement on all indicators, was associated with lower than average depressive symptoms for all female adolescents and middle school male adolescents, but was associated with higher than average depressive symptoms for high school male adolescents. Male participants in the inactive class had levels of anxiety near the mean, whereas female middle school students had lower levels of anxiety, but female high school students had the highest level of anxiety for any class. Academic motivation and grades were close to the mean levels for most students in the inactive class, but were higher than average among female high school students.

All adolescents in the Early Stage class, characterized by dating, love, and kissing or hand-holding, had lower than average depressive symptoms. Participants in this class had near mean scores on anxiety, academic achievement, and grades.

Individuals in the Waiting class, characterized by love, exclusivity, and touching but not oral or vaginal sex, had close to mean levels of depressive symptoms, except for female adolescents in middle school, who had higher levels of symptoms. Participants in this class had near mean scores on anxiety and academic achievement, although females had slightly lower grades.

In the Physical class, which is characterized by kissing, genital touching and sexual intercourse with lower probabilities of love, middle school male adolescents had lower than

average depressive symptoms, whereas high school female adolescents had the highest level of symptoms compared to high school females in other classes. Membership in this class was associated with lower anxiety for female middle school students, but average anxiety for female high school students. Individuals in this class had lower than average academic motivation and grades.

In the committed class, marked by high probabilities of all indicators, including discussing marriage, male adolescents and female middle school students had elevated levels of depressive symptoms, whereas female high school students had average levels of symptoms. Students in this class had near mean levels of anxiety, and lower than average academic motivation and grades.

Discussion

In this study, we utilized a person- oriented method, LCA, to examine different patterns of romantic experiences and sexual behaviors in middle and high school students living in Mexico. Guided by the Ecological Systems Theory, we examined the role of individual factors such as gender, age, familism and religion in latent class membership. We also examined how class membership was associated with depressive symptoms, anxiety, academic motivation, and grades.

We selected a 5-class model, which included classes that were both similar and different to those in previous studies conducted in the U.S. (Crissey, 2005; Vasilenko, Kugler, & Lanza, 2015). For example, in both this and prior U.S. studies, there were classes marked by commitment and sexual behavior, commitment without sexual behavior, physical relationships, and little or no sexual and romantic activity (Crissey, 2005; Vasilenko, Kugler, & Lanza, 2015). In both this and U.S. studies, classes marked by commitment but not sexual intercourse were common (i.e., the early stage and waiting classes in our study). However, in the U.S. studies, a class marked by both commitment and sexual behaviors was the most common pattern of behaviors, whereas in the Mexican sample, this pattern (Committed) was much less common than the classes marked by commitment but no sexual intercourse. These differences suggest that more intimate sexual behavior may be relatively uncommon in Mexican adolescents' relationships, and that they typically occur primarily in the context of an exclusive and loving relationship where the possibility of an engagement has been discussed. Moreover, the Committed class, is the only group that reports high probability of engaging in oral sex (76%), which may suggest engaging in oral sex is not as normative during adolescence (Espinosa-Hernandez, Vasilenko et al., 2015) and likely to occur in the context of highly committed relationships. Second, in contrast to Crissey's (2005) analysis with a similar age range in the U.S., we did not find a group oriented cluster. In our study, adolescents in most classes (except for Inactive) engaged in group dating, but typically had also expressed love or had been in an exclusive relationship. This suggests that Mexican adolescents may exhibit patterns of relationship development which differ from those theorized in industrialized nations (Connolly et al., 2004; Friedlander et al., 2007), in which more casual group dating does not precede love and commitment, but in which these facets of relationship occur in tandem.

When assessing gender, age, religious affiliation, and familism as predictors of class membership using Early Stage as the reference group, few differences emerged. Adolescent in the Physical class were the most different compared to adolescents in the Early Stage class. Specifically, boys, older and non-religious adolescents and those with lower levels of familism were more likely to be in the Physical class compared to the Early Stage. These findings are in line with previous studies (Crissey, 2005; O'Sullivan & Meyer-Bahlburg, 2003; Vasilenko, Kugler, & Lanza, 2015). For instance, qualitative studies suggest that Latina girls are socialized to consider sexual behaviors in the context of romantic relationships (O'Sullivan & Meyer-Bahlburg, 2003), whereas boys may be more able to separate sexual behavior from emotional intimacy and therefore more likely to be in the Physical class compared to the Early Stage class. Similar to a LCA conducted in the U.S., which suggested that non-religious adolescents were more likely to be in a physically-oriented class (Vasilenko, Kugler, & Lanza, 2015), in this study, Catholic adolescents were less likely than non-religious adolescents to be in the Physical compared to the Early Stage class. Thus, adolescents who are older, male, and non-religious may be more likely to engage in a wider variety of sexual behaviors and romantic experiences with lower levels of emotional intimacy compared to younger, female and Catholic adolescents.

Older adolescents were also more likely to be in the Waiting and Committed classes. These findings may also support longitudinal studies that indicate stable and committed romantic relationships are more common in late adolescence (Friedlander et al., 2007; Seiffge-Krenke, 2003). Similar to previous studies (Espinosa-Hernández et al., 2013; Espinosa-Hernandez, Vasilenko et al., 2015; Raffaelli & Ontari, 2001) indicating that familism may delay the timing of sexual behaviors and possibly romantic relationships, adolescents with higher levels of familism were less likely to be in the Physical and Committed classes compared to the Early Stage class. Mexican adolescents who have stronger bonds with family may receive more traditional sexual socialization messages and may want to maintain or increase parental approval by delaying sexual intercourse and highly committed and intimate romantic relationships. These findings highlight the role of cultural values in both romantic and sexual behaviors among Latino populations.

Finally, we also examined how class membership was associated with depressive symptoms, anxiety, academic motivation, and grades. Based on research conducted in the U.S. (Joyner & Udry, 2000; Spriggs & Halpern, 2008; Vasilenko, Lefkowitz, & Welsh, 2014; Welsh et al., 2003), we expected that classes marked by more intimate sexual and romantic behaviors may be associated with greater depressive symptoms and lower academic achievement, particularly for younger, female adolescents. In line with these predictions, younger adolescents in the Committed class had the highest levels of depressive symptoms, and all adolescents in the Committed class reported lesser academic motivation and achievement. In contrast, adolescents in the Inactive class reported higher motivation. We discuss findings in greater detail organized by latent class.

Adolescents in the Inactive class reported low involvement on all indicators. This class was associated with low depressive symptoms for all girls and middle school boys, low levels of anxiety for middle school girls, and high academic motivation and grades for high school girls. These findings may indicate that low sexual and romantic involvement might be

beneficial for most adolescents' well-being, especially during early/middle adolescence (Vasilenko, Lefkowitz, & Welsh, 2014). Although high school girls in the Inactive class are most likely to succeed academically, they also reported the highest level of anxiety. Studies conducted in the U.S. (La Greca & Harrison, 2005) suggest that the link between romantic relationships and anxiety might be stronger among Latina girls. Moreover, in qualitative studies (O'Sullivan & Meyer-Bahlburg, 2003), Latina girls reported pressure "to find a man". This pressure may be stronger among high school girls and may result in high levels of anxiety.

Adolescents in the Early Stage class reported dating, love, and kissing or hand-holding, and had average levels of most of our outcomes, but had lower depressive symptoms.

Adolescents in this class may engage in the romantic experiences and sexual behaviors that Mexican society may consider socially desirable or "normative" during middle and late adolescence. Mexican adolescents may be encouraged to be in romantic relationships, but discouraged to engage in sexual intercourse. Thus, across gender and ages, adolescents in the Early Stage class report low depressive symptoms.

Adolescents in the Physical class reported engaging in genital kissing, touching and sexual intercourse and were less likely to express love. Middle school boys had the lowest levels of depressive symptoms, whereas high school girls had the highest level of symptoms. These gender differences are consistent with U.S. sexuality research (Spriggs & Halpern, 2008) and qualitative sexuality research among Latinas (Raffaelli & Ontai, 2001) indicating that sexual behavior, especially outside the context of a committed romantic relationship, may be more detrimental for girls than boys because it may affect both the girls' and their families' reputation, especially in more religious cultures where society endorses the sexual double standard.

In the committed class, adolescents reported high involvement in all indicators, including discussing marriage. Younger adolescents, including middle school girls and boys, in the Committed class had the highest level of depressive symptoms. These findings support the notion that early adolescents may perceive romantic experiences as stressors that may contribute to psychological maladjustment (Welsh et al., 2003). Interestingly, among high schoolers, boys in the Committed class continued to have higher than average depressive symptoms, whereas girls did not. Previous theoretical and some empirical studies (Welsh et al., 2003) suggest that boys compared to girls may take longer to develop skills necessary to successfully cope with serious romantic relationships. Future studies should further examine intimacy development among Mexican girls and boys to better understand these associations. Similar to U.S. longitudinal studies that suggest more dating experiences, including romantic relationships involving sexual intercourse, are associated with lower academic achievement and motivation (Zimmer-Gembeck et al., 2001; Orpinas et al., 2013; Vasilenko, Kugler, & Lanza, 2015), we also found that both male and female adolescents in both levels of school who were in the Committed classes reported lesser academic motivation and achievement.

There are several limitations to this study. First, it is cross-sectional; therefore we cannot rule out cohort effects. Moreover, we estimated models suggesting that class membership

was associated with adjustment, although the directionality of associations may be reversed. Future studies should assess sexual and romantic behaviors and psychological adjustment variables longitudinally to better understand the role of classes in psychological adjustment among Mexican adolescents. In addition, longitudinal data would allow for the use of newly developed methods for causal inference with latent class exposures (e.g., Kang & Schafer, 2010; Schuler, Leoutsakos, & Stuart, 2014) which could help determine whether patterns of sexual behavior are causally linked to outcomes, or whether there are third variable explanations. We also assessed depressive symptoms in the past two weeks, future studies may consider other measures, such as a clinical diagnosis to better understand associations between sexual behavior, romantic experiences and depression. Because we collected data in only one city in Mexico, these findings cannot be generalized to all Mexican adolescents. Puebla, the city where data was collected, may be more religious compared to other cities in Mexico (Lipsett-Rivera, 2013) such as Mexico City or cities close to border with the U.S. Although we included adolescents attending some private schools most of our data was collected in a large public school, so findings cannot be generalized to all adolescents living in Puebla.

In sum, this study expands our understanding of different patterns of romantic and sexual behaviors in Mexican adolescents, and how these classes are linked to psychological adjustment. Our findings suggest that most Mexican adolescents are classified in classes which are characterized by high probabilities of dating, love, exclusivity and some sexual behaviors but that do not include oral or vaginal sex. Findings suggest several negative outcomes of more serious relationships in adolescence, although girls without relationship experience may have more anxiety in high school. Findings suggest some similarities in sexual and romantic development compared to prior research in Western countries, as well as differences in the role of the peer group and the prevalence of sexual behaviors. These findings may have implications for researchers who are interested in developing intervention/prevention programs that desire to encourage healthy sexual development. Understanding the diversity that exists in sexual behaviors and romantic experiences among Mexican adolescents may allow researchers to identify specific groups of adolescents in order to develop targeted interventions.

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Figure 1.
Estimated level of depressive symptoms for adolescents by romantic and sexual behavior latent class, by gender and school type (middle v. high school). Dotted lines indicate overall mean depressive symptoms.

Figure 2. Estimated level of anxiety symptoms for adolescents by romantic and sexual behavior latent class, by gender and school type (middle v. high school). Dotted lines indicate overall mean anxiety symptoms.

Figure 3. Estimated level of academic motivation for adolescents by romantic and sexual behavior latent class, by gender and school type (middle v. high school). Dotted lines indicate overall mean academic motivation scores.

Figure 4.
Estimated grades for adolescents by romantic and sexual behavior latent class, by gender and school type (middle v. high school). Dotted lines indicate overall mean grades.

Table 1

Fit Statistics for LCA Models of Adolescent Romantic Relationship and Sexual Behavior With One Through Eight Latent Classes

# of Classes	G ²	AIC	BIC	CAIC	aBIC	Entropy
1	2180.76	2196.76	2238.88	2246.88	2213.47	1.00
2	714.15	748.15	837.66	854.66	783.66	.75
3	281.83	333.33	470.73	496.73	388.14	.79
4	166.20	236.20	420.49	455.49	309.30	.73
5	114.18	202.18	433.86	477.86	294.09	.71
6	96.02	202.02	481.09	534.09	312.72	.71
7	81.46	205.46	531.92	593.92	334.96	.74
8	75.10	217.10	590.95	661.95	265.41	.76

Note: AIC = Akaike information criteria, BIC = Bayesian information criteria, CAIC = consistent Akaike information criteria, aBIC = adjusted Bayesian information criteria

Table 2

Latent Class Prevalence and Item-Response Probabilities for Six Class Model of Adolescent Romantic Relationship and Sexual Behavior

	Class 1: Inactive	Class 2: Early Stage	Class 3: Waiting	Class 4: Physical	Class 5: Committed
<i>Latent Class Prevalence</i>					
	8.35%	37.75%	27.6%	8.4%	17.9%
Indicators	<i>Item-Response Probabilities</i>				
Group dating	0.30	0.76	0.96	0.87	0.98
Said "I love you"	0.17	0.64	0.98	0.57	1.00
Exclusive	0.13	0.75	0.97	0.75	0.96
Discussed Engagement	0.04	0.11	0.51	0.31	0.75
Early physical activity	0.22	0.96	1.00	1.00	1.00
Genital Touching	0.00	0.24	0.74	0.91	1.00
Oral Sex	0.00	0.00	0.04	.52	.76
Sexual intercourse	0.00	0.00	0.00	.70	.80

Note: Item-response probabilities indicate estimate percentage of individuals in a given class reported engaging in the behavior. Probabilities greater than .6 in bold to facilitate interpretation.

Odds Ratios and Confidence Intervals Showing Associations Between Demographic and Attitudinal Factors and Class Membership

Table 3

	Class 1: Inactive	Class 2: Early Stage	Class 3: Waiting	Class 4: Physical	Class 5: Committed	Change in 2*LL
Gender (Male)	1.01 [0.99–1.03]	REF	0.95 [0.80–1.12]	0.20* [0.12–0.37]	1.00 [0.97–1.02]	43.60***
Age	.83 [0.67–1.02]	REF	1.34* [1.17–1.54]	1.79* [1.41–2.28]	2.35* [1.99–2.78]	194.45***
Religion						
Catholic	0.74 [0.41–1.32]	REF	1.22 [0.74–2.00]	0.44* [0.23–0.86]	1.08 [0.72–1.61]	9.47+
Other	0.39 [0.12–1.28]		0.95 [0.43–2.03]	0.59 [0.20–1.78]	0.77 [0.37–1.59]	3.97
Familism	1.40 [0.74–2.65]	REF	0.95 [0.58–1.56]	0.24* [0.11–0.53]	0.39* [0.25–0.62]	20.46***

Note: LL = log likelihood

* $p < .05$,

** $p < .01$,

*** $p < .001$.