Hi, my name is Dawn Browder, and I’m a doctoral student at Iowa State University in the department of Human Development and Family Studies.

Today, I will be talking with you about maternal depression among rural mothers focusing on the differences and similarities between Latina and non-Latina mothers.
Depression is a common mental disorder distinguished by symptoms of persistent sadness, loss of interest or pleasure, feelings of guilt or low self-worth, upset sleep or eating patterns, low energy, and poor concentration. These symptoms can become recurrent or chronic and lead to significant impairments in a person’s ability to take care of daily responsibilities, including providing for the emotional and physical needs of oneself and of one’s family members.

Depression is increasingly recognized as a leading health disorder among women and girls worldwide. According to the World Health Organization, depression is currently the fourth most common health disorder for women worldwide. In the United States, approximately 12 million women experience depression, twice the rate of men.

Although depression affects members of all racial and ethnic groups, due to poverty and other contextual factors, low-income women are twice as likely to experience depression than non-low-income women, with low-income woman having a 25% prevalency rate and non-low income women having 12% rate. Among Latino women, an approximate depressive symptomatology rate of 38%. However, Latino women are less likely to seek mental health services when they are depressed. Therefore, understanding depression from the viewpoint of Latino women is especially important.

Maternal depression ties into the previous 2 presentations of housing and food security in that an association between maternal depression and food security has been found. Recently, Huddleston-Casas, Charigo and Simmons, faculty at University of Nebraska-Lincoln and University of Kentucky, found a recursive relationship between food security and maternal depression among rural mothers. This study looked at 3 years of data. Their findings indicated that the causal relationship between household food insecurity and depression is bidirectional. Food security levels influenced the depression levels of that current year and future years’ depressive levels, while depression levels influenced the food security levels of that current year and future years’ food security level. Thus, addressing nutrition and mental health simultaneously may be made more effective than addressing them individually.
The current study had 2 main objectives. Using a sample of rural mothers, we first wanted to find what influenced depressive symptoms among Latina mothers. Then we wanted to see if these associations differed by ethnicity, namely Latina versus non-Latina.
In this study, we looked at women over a 3 year time period. We included only the women who had complete scores for Years 1 & 3 on both the scale that measured depressive symptoms and the scale that measured food security. From the initial sample, 53 Latina mothers and 219 non-Latina mothers had complete scores in both years. The Latina were from 6 states, while the 219 non-Latina were from 12 states. The non-Latina included all other ethnicities, such as Caucasian, African American, Asian American, and American Indian.
The measurements used in this study included the USDA Core Food Security Module that Yoshie and Kim previously described and the Center for Epidemiologic Studies Depression Scale (CES-D). The CES-D is designed to capture the frequency of depressive symptoms over the last 7-day period. Respondents were asked to self-rank themselves from 0 (rarely) to 3 (5-7 days) on the measure for a variety of statements such as “I was bothered by things that usually don’t bother me” and “I talked less than usual.” After assigning a value for each item, the 20 items are summed resulting in a score ranging between 0 and 60. A score of 16 or higher indicates high levels of depressive symptoms. Therefore, for this study, the participants’ level of depressive symptoms were indicated as being low if their total score on the CES-D was 0-15 or as being high if their total score was 16 or higher.
Overall, when we looked at the two different groups, Latina versus non-Latina, we found that the Latina mothers in the study were slightly older and had more children. However, the number of children in Latina households was not much greater than the number found in non-Latina households. The Latina mothers had 2.8 children while the non-Latinas had 2.2 children. However, more Latina had a partner/spouse living with them and had a higher annual income. 82% of the Latina had a partner while only 57% of non-Latina did. Furthermore, the annual income of the non-Latina was barely 2/3 of their Latina counterparts, with $14,435/year versus $21,175/year for the Latina households.
Now, we’ll look at how the depressive symptoms of the Latina mothers compared to the non-Latina. The range of CES-D scores was 12 points smaller for the Latina, meaning among the Latina mothers the scores ranged from 0 to 41, while the scores ranged from 0 to 53 among the non-Latina. Furthermore, the average score for the Latina was 4 points less than that of the non-Latina, with the Latina averaging 14 points on the CES-D and their counterparts averaging 18 points. Then, when the 2 groups were further analyzed by CES-D scores, we see that the means of both the low depressive symptoms group and the high depressive symptom group for the Latina mothers were 2 points less than that of their counterparts. In addition, more Latina mothers were classified as having few depressive symptoms than the non-Latina mothers. 58% of the Latina mothers were classified as being low in depressive symptomatology, while 47% of their counterparts were classified as low.
When we look further at the differences across levels of depressive symptoms and ethnicity, we found that the Latina mothers in both low & high depressive symptoms groups averaged 30 years of age and were approximately 1 year older than their non-Latina counterparts. The low group of Latina mothers tended to have more children than all other groups. They averaged 1 more child than non-Latina mothers in the low group and averaged 1.2 more children than both high depressive groups. When we look at the annual incomes of each group, we see that the difference between low and high groups for both Latina and non-Latina is around $2,500. However, the Latina households’ annual income was around $6,500 more than their counterparts.

<table>
<thead>
<tr>
<th></th>
<th>Latina</th>
<th>Non-Latina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>30 years</td>
<td>29 years</td>
</tr>
<tr>
<td># of Children*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low: m=3.3</td>
<td></td>
<td>Low: m = 2.3</td>
</tr>
<tr>
<td>High: m=2.1</td>
<td></td>
<td>High: m = 2.1</td>
</tr>
<tr>
<td>Annual Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low: $22,462</td>
<td></td>
<td>Low: $15,480</td>
</tr>
<tr>
<td>High: $19,361</td>
<td></td>
<td>High: $13,524</td>
</tr>
</tbody>
</table>

* significant difference between Latina groups
To understand this table, it is important to note that the Latina are in blue, while the non-Latina are in orange. In addition, the low depressive symptoms groups are a lighter shade of blue or orange, while the high depressive symptoms groups are a darker shade.

When looking at the first set of columns, we see that both Latina groups are more likely to have a partner than their non-Latina counterparts.

The second set of columns shows the percentage of mothers employed by group. An interesting difference exists here. Latina mothers who scored higher on the CES-D were more likely to be employed than Latina mothers who scored lower on the scale. However, the opposite was true for non-Latina mothers—mothers who scored higher on the CES-D were more likely to be unemployed than non-Latina were scored lower. In addition, mothers from all groups worked less hours than their partners. However, among the high groups, Latino partners worked more hours/week than non-Latino partners.

When looking at the third set of column, only a slight difference exists between the 2 groups of non-Latina mothers who completed high school. However, among Latina mothers, those who completed high school were less likely to have depressive symptoms than those who didn’t have a high school education.

When looking at the fourth column, all four columns are similar in height, with the non-Latina households with a mother who scored low on the CES-D being more likely to be food secure than the other 3 groups. However, it is interesting to note that the percentages of food secure households in the Latina groups were more similar than those of the non-Latina groups.

In the final set of columns, the participants’ responses to the question, “are compared. It is interesting to note the disparity between the 2 Latina groups compared to the disparity between the 2 non-Latina groups. Both the low depressive symptoms groups were likely to be satisfied with their lives. However, when looking at the high depressive symptoms groups, we see that the non-Latina group was much less likely to be satisfied with their lives than the Latina
Many mothers in the study described how they felt alone. One described her life in this way, “When I am sick with the flu or a fever, nobody looks after me. I alone have to go about doing everything. And if I am really feverish, really dizzy, I go like that to the stores, because I don't have anybody to look after them. It is my responsibility, because I don't have anybody else.”
By year 3, we again see that the Latina mothers in the study were slightly older and had more children. Again, the number of children in Latina households was not much greater than the number found in non-Latina households. The Latina mothers had 3 children while the non-Latinas had 2.3 children. This was a 0.1 increase from the 2 years previous. Again, more Latina had a partner/spouse living with them and had a higher annual income. 84% of the Latina had a partner while 59% of non-Latina did. However, the annual income of the non-Latina was nearly 3/4 of their Latina counterparts by year 3, with $23,520/year versus $32,215/year for the Latina households.

<table>
<thead>
<tr>
<th>Year 3</th>
<th>53 Latina Mothers</th>
<th>219 Non-Latina Mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age:</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>Partner:</td>
<td>84%</td>
<td>59%</td>
</tr>
<tr>
<td>Total number of children: mean = 3</td>
<td>Total number of children: mean = 2.3</td>
<td></td>
</tr>
<tr>
<td>Annual income: mean = $32,215</td>
<td>Annual income: mean = $23,250</td>
<td></td>
</tr>
</tbody>
</table>
Now, we’ll look at how the depressive symptoms of the Latina mothers compared to the non-Latina in Year 3. The range of CES-D scores was much closer, with only a 4 point difference, meaning among the Latina mothers the scores ranged from 0 to 54 (up from 41 in year 1), while the scores ranged from 0 to 51 (down from 53 in year 1) among the non-Latina. Furthermore, the average score for the Latina was 2 points less than that of the non-Latina, with the Latina averaging 14 points on the CES-D (the same as in year 1) and their counterparts averaging 16 points (down from 18 in year 1). Then, when the 2 groups were further analyzed by CES-D scores, we see that several differences from year 1 exist. Although the means of both the low depressive symptoms group and the high depressive symptoms group for the Latina mothers were 2 points less than that of their counterparts in year 1, by year 3 the Latina low group’s average is 4 points less than the non-Latina. However, the Latina high depressive symptoms group increased to 29 from 24, while the non-Latina’s decreased from 26 to 21. However, more Latina mothers were again classified as having few depressive symptoms than the non-Latina mothers. 70% of the Latina mothers in year 3 were classified as being low in depressive symptomatology (up from 58% in year 1), while 59% of their counterparts were classified as low (up from 47%).
When we look further at the differences across levels of depressive symptoms and ethnicity, we again found that the Latina mothers in both low & high depressive symptoms groups averaged 32 years of age and were approximately 1 year older than their non-Latina counterparts. The low group of Latina mothers tended to have more children than all other groups. Although the difference between the non-Latina groups was small, it did differ significantly between the 2 groups, with the low depressive symptom group having more children than the mothers who scored high on the CES-D. When we look at the annual incomes of each group, we see several differences not only between low/high groups but also between the Latina groups and their counterparts. The difference between Latina groups was statistically significant and was nearly $10,000 with the low group averaging around $35,000/year and the high group averaging $25,500/year. Although less broad, the difference between non-Latina groups was also statistically significant, with the low group averaging around $25,000 (which is $10,000 less than their Latina counterpart) and the high group averaging close to $20,400/year (which is $5,000 less than their Latina counterpart).
When we look at this table, we need to note again that the Latina are in blue, while the non-Latina are in orange. In addition, the low depressive symptoms groups are a lighter shade of blue or orange, while the high depressive symptoms groups are a darker shade.

Again we see in the first set of columns that both Latina groups are more likely to have a partner than their non-Latina counterparts.

The second set of columns shows the percentage of mothers employed by group. Previously in Year 1, Latina mothers who scored higher on the CES-D were more likely to be employed than Latina mothers who scored lower on the scale. However, by year 3, we see that the opposite is true for Latina mothers. It is now similar to that of non-Latina mothers from both years 1 & 3—mothers who scored higher on the CES-D were more likely to be unemployed than those who scored lower. In addition, by year 3, mothers in the low groups worked more hours than mothers in the high depressive symptom group, while partners of mothers in the low groups worked less hours than their counterparts. However, the total number of hours worked per household was more for households whose mother was in the low group. In addition, Latina households worked a total of 72 hours/week while non-Latina households worked 65 hours/week.

When looking at the third set of column, it is similar to that of year 1 with only a slight difference between the 2 groups of non-Latina mothers who completed high school and much larger difference between the Latina mothers who completed high school versus those who didn’t have a high school education.

When looking at the fourth set of columns, several changes occurred from year 1 to year 3. Although the non-Latina households with a mother who scored low on the CES-D is still more likely to be food secure than the other 3 groups, these households have a much greater likeliness to be food secure than the other households. In addition, the disparity between the two sets of low/high groups is much greater than in year 1.

In the final set of columns, the non-Latina mothers who scored low on the CES-D are more likely to be satisfied with their lives than only other group. Furthermore, the disparity between the low/high groups grew. Both the high depressive symptoms groups were less likely to be satisfied with their lives. In fact, they were less satisfied than in year 1.
After looking at the low and high depressive symptom groups, we analyzed associations with depressive symptoms which was measured by the CES-D. Among the Latina in the sample, number of children and satisfaction with life were positively associated with her depressive symptom score, meaning the more children a mother had and the more satisfied she was with her life, the lower her depressive symptoms as measured by the CES-D. This differed from the non-Latina in the study in that the number of children and the age of the mother were negatively associated with her CES-D score, meaning the more children that she had and the older she was, the higher her CES-D score. In addition, food security and satisfaction with life were positively associated to depressive symptoms among non-Latina, meaning the more food secure a household was and the more satisfied with life a mother was, the lower her depressive symptoms.
Many Latina mothers in the study described how their time with their children affected their depressive levels. One described it this way, “It's, it's hard. It's hard...It's like, at night when I'm driving home, you know, I get real depressed. Cuz, I really miss my kids.”
The next two tables show significant differences between Latina and non-Latina in years 1 and 3. In these tables, blue still represents Latina and orange represents non-Latina. However, the light color represents year 1, while the dark blue & orange represent year 3.

The number of children is significantly different between Latina mothers and their non-Latina counterpart. However, in year 1, it is just over 1 child difference, and at year 3, it is only 1.5 children difference.

The second set of columns looks at the number of social support programs in which the household participates. These programs include such programs as Food Stamps, WIC, School Lunch, and Medicaid. The non-Latina household participated in significantly more governmental programs than their Latina counterparts. In addition, among the Latina households, participation in programs decreased from year 1 to year 3, from 3 programs to just over 2 programs.
In these tables, it is important to note that blue still represents Latina and orange represents non-Latina with the lighter shades representing year 1 and the darker shades representing year 3.

In the first set of columns, the percent poverty is examined. It is interesting to note that in both years 1 & 3 the Latina households were more likely than their counterparts to be above the poverty threshold which takes not only a household’s annual income into account but also the family size. Although the Latina households had more income/family member, the non-Latina households had a greater gain in income/family member from year 1 to year 3, increasing around 38% from a little over 80% poverty to around 118%, while Latina households had only a 19% gain in income/family member, from 101% poverty to not quite 121%.
Loneliness and isolation were themes found in the interview transcripts of the Latina mothers. This mother explains it by saying, “Well, I think that depression, it really never goes away, because I am alone here. My husband at least has his sister here, but me, I am alone.”
The present study highlights 2 snapshots in these mothers lives. The associations with depressive symptoms are consistent over time within both groups—Latinas and non-Latinas. However, future work should include more longitudinal work with a larger sample size. By increasing the sample size of the Latina sample to that of the non-Latina sample, a more rich understanding of how and why associations affect depression. In addition,