



# Tdap Vaccination Acceptance among Pregnant Hispanic Women: English versus Spanish Speakers

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## ABSTRACT

❖ **Background:** The tetanus, diphtheria and acellular pertussis vaccine (Tdap) for pregnant women was recommended by the Advisory Committee on Immunization Practices (ACIP) in 2012 to reduce pertussis morbidity and mortality in infants. The objective of the proposed capstone study was to compare preferred English-speaking with non-English preferred speaking Hispanic women and their decision to accept or reject third-trimester Tdap vaccination.

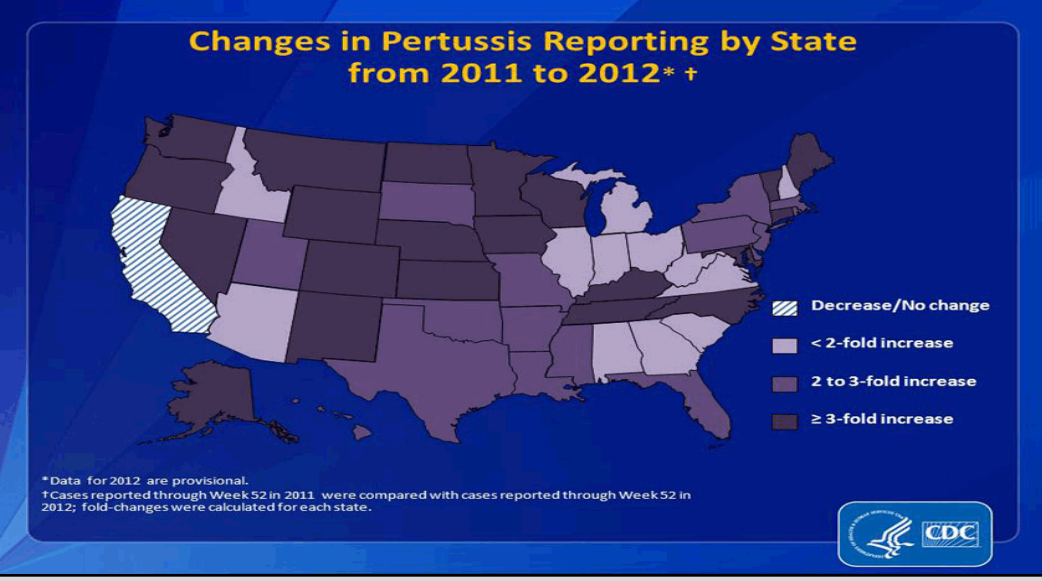
❖ **Method:** Using the electronic medical record, a retrospective review was conducted to evaluate patient decisions about the Tdap vaccination among 182 to 400 Hispanic women who received prenatal care between 27 and 36 weeks in a large southwestern public health care system starting in June 1, 2013 through December 2, 2013.

❖ **Results:** After exploring any potential relationships of covariates to the dependent variable, logistic regression was used to explore the effect of the ability to communicate in English on the decision to accept Tdap vaccination during pregnancy. Of all the predictor variables, only education level and number of total clinic visits were significant predictors. This indicates that as the level of education increases, the likelihood of accepting the Tdap vaccine increases. In addition, the more total number of clinic visits, the likelihood of accepting the Tdap vaccine also increases. The independent variable Language however, was not a significant predictor of accepting Tdap vaccination ( $p = .785$ ). However, the model overall, was statistically significant,  $\chi^2 (7) = 40.22, p < .001$ , but with a relatively low predictive power, Nagelkerke  $R^2 = .163$ .

## INTRODUCTION

**Pertussis (whooping cough)**

- ❖ Caused by Bordetella Pertussis
- ❖ Highly contagious respiratory tract infection.
- ❖ Cause of infant mortality and morbidity



**Pertussis Cases**

**2012 ACIP Tdap Vaccination Guideline**

- ❖ Administer Tdap vaccine during 3<sup>rd</sup> trimester of pregnancy
- ❖ Administer postpartum (if not taken during pregnancy)
- ❖ Cocooning

**Factors Influencing Health Decisions**

1. Limited English Proficiency
2. Culture
3. Health Literacy

**UNDERPINNINGS**

- ❖ Healthy People 2020 Objective 11D-1.6
- ❖ CDC, ACIP Guideline
- ❖ Title VI of Civil Rights Act of 1964
- ❖ The Joint Commission National Goal

## PURPOSE

❖ To explore if language barriers in a population of Hispanic women who do not prefer English affect their decisions to receive or not receive Tdap vaccinations during the 3<sup>rd</sup> trimester of pregnancy.

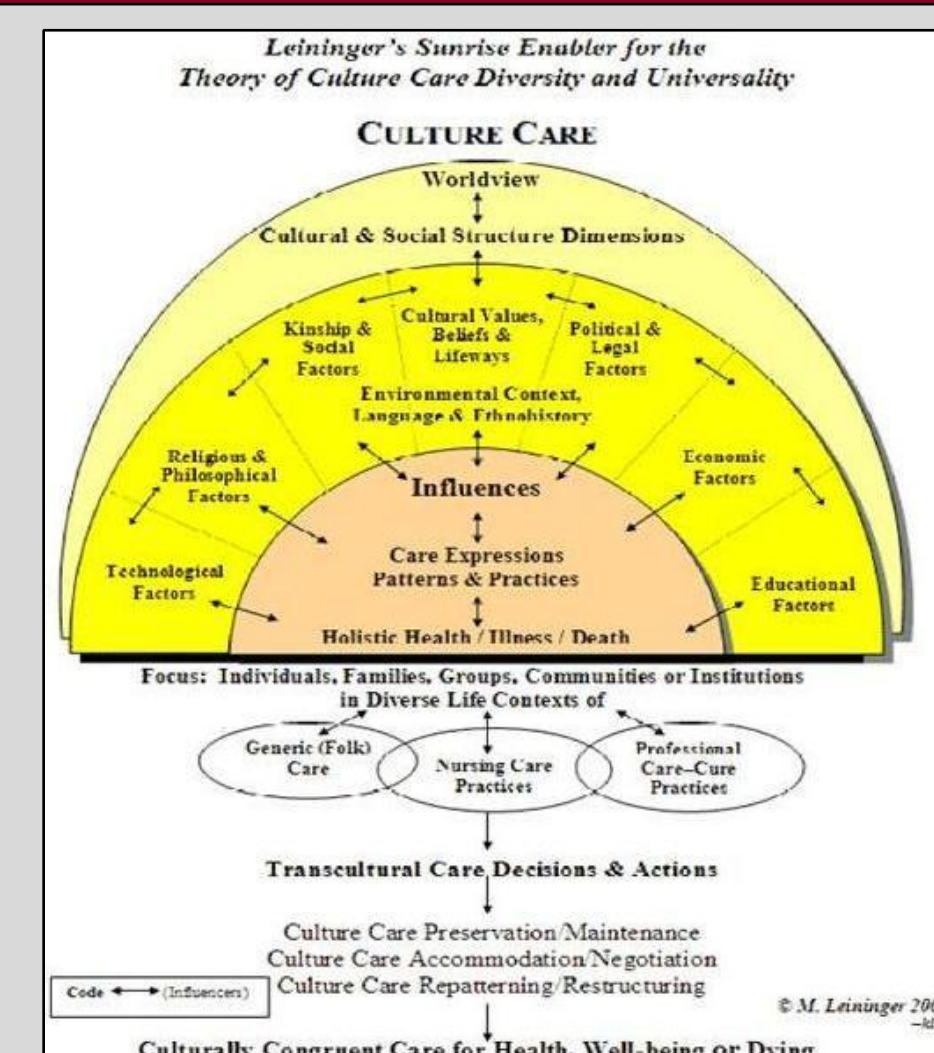
## RESEARCH QUESTION

❖ There will be a significant difference in Tdap vaccination acceptance during the 3<sup>rd</sup> trimester of pregnancy among Hispanic women who prefer and who do not prefer to communicate in English.

## HYPOTHESIS

❖ Does the preference to communicate in English affect the decision of Hispanic women in large healthcare system in the Southwestern United States to accept Tdap vaccination during the 3<sup>rd</sup> trimester of pregnancy?

## THEORETICAL FRAMEWORK



❖ To improve and advance quality of care through creative use of transcultural nursing knowledge.

❖ Sunrise Enabler explains acquisition of transcultural knowledge by means of examining social structure, worldview, cultural values, language, environmental context.

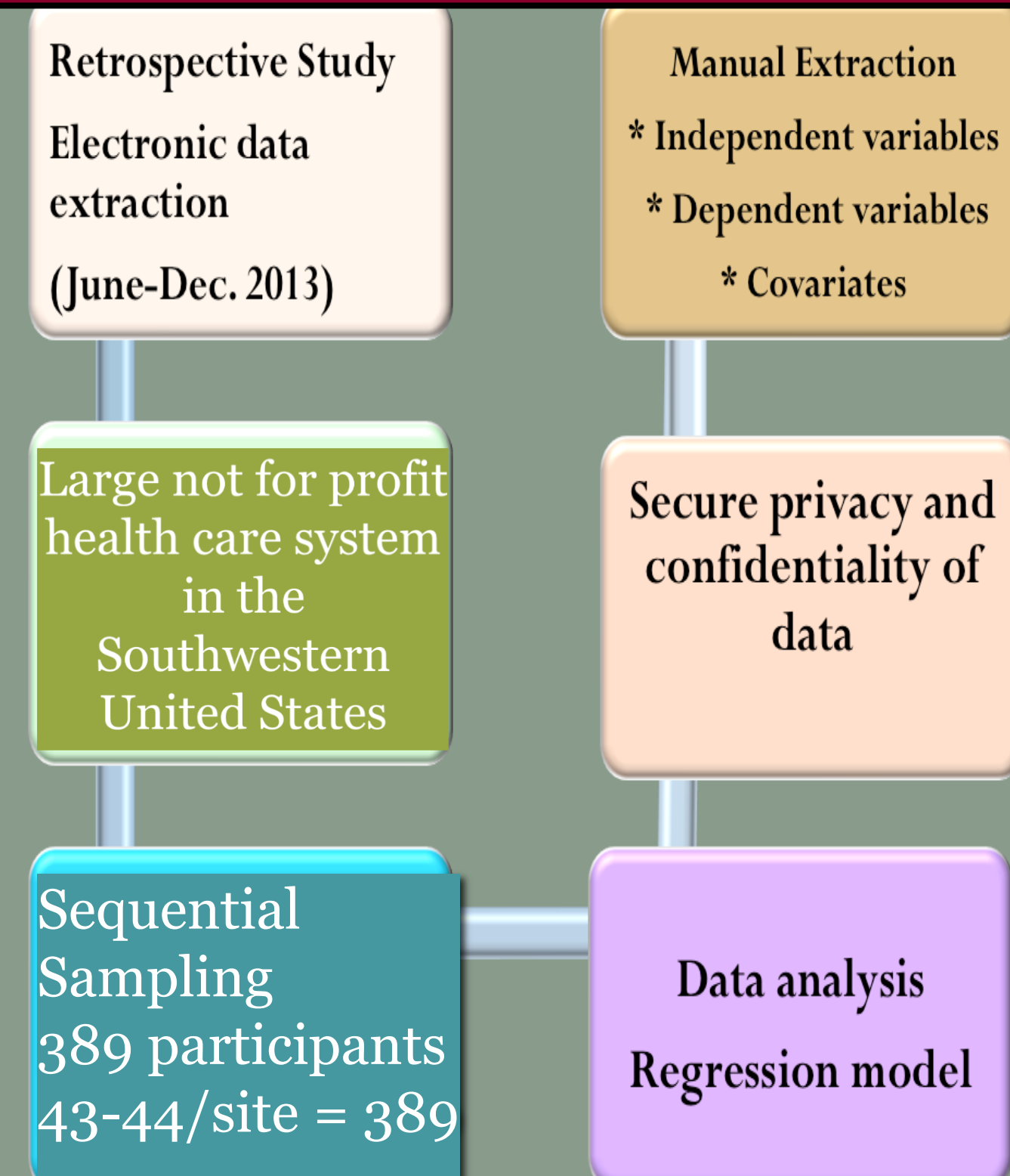


## REVIEW OF LITERATURE

**Criteria**

- ❖ Significance and safety of Tdap vaccination during pregnancy
- ❖ Barriers to vaccination: Limited English Proficiency (LEP); cultural beliefs

## INSTRUMENTATION



## POPULATION & SAMPLE

<b>Inclusion Criteria</b>	<ul style="list-style-type: none"> <li>❖ Pregnant client who received prenatal care between 27 and 36 weeks at large healthcare system in the Southwestern United States.</li> <li>❖ Self-identify as Hispanic.</li> <li>❖ Selected Spanish or English as preferred language to discuss healthcare.</li> </ul>
<b>Exclusion Criteria</b>	<ul style="list-style-type: none"> <li>❖ Does not identify as Hispanic.</li> <li>❖ &lt; 27 wks. EGA; &gt; 36 wks. EGA.</li> <li>❖ No health visit in electronic health records (EHR) during 3<sup>rd</sup> trimester of pregnancy.</li> </ul>

## PROJECT OBJECTIVES

❖ Compare English preferred-speaking with non-English preferred speaking Hispanic women in their decision to accept or reject 3<sup>rd</sup> trimester Tdap vaccinations.

❖ Results will guide health providers as they strive to implement evidence-based care to pregnant populations.

## EVALUATION

Relationship between Independent and Dependent Variable

Frequencies and Percentages for Preferred Language by Accepted Tdap Vaccine

Preferred Language	Accepted Tdap Vaccine		$\chi^2$	p
	Yes	No		
Spanish	131 (63.0)	76 (67.3)	.59	.445
Not Spanish	77 (37.0)	37 (32.7)		

There was no significant relationship between acceptance of Tdap vaccine and preferred language.

A relationship between the 2 variables could not be confirmed ( $p = .445$ ).  $\chi^2 = .59$

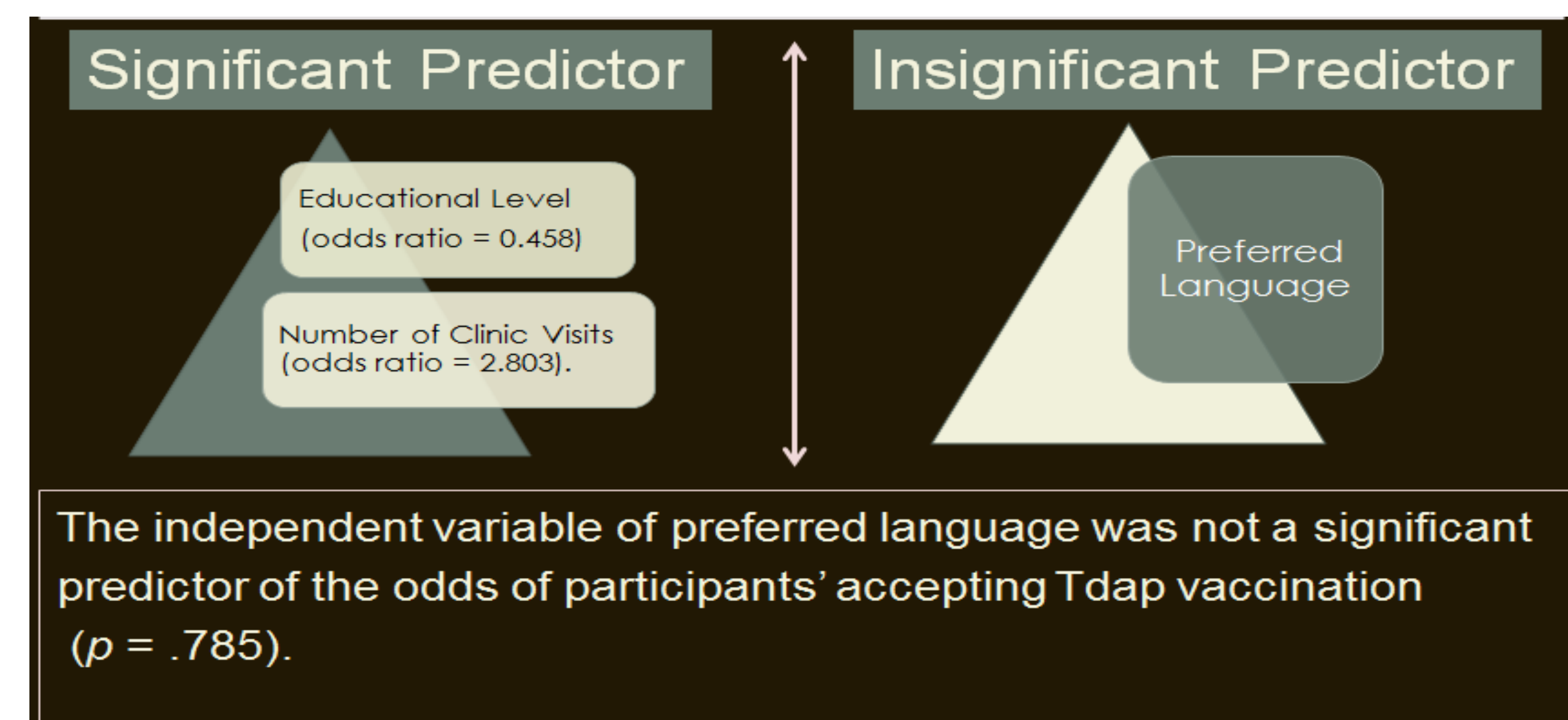
	B	SE	Wald	OR	p	95.0% CI
Preferred Language (Spanish, compared to English)	.080	.29	.074	1.083	.785	.611 1.919
Marital Status (Married, compared to Unmarried - Single/Divorced)	.398	.30	1.75	1.489	.186	.825 2.687
Education Level (Grades 1-6, compared to High school/college)	-.781	.32	6.09	.458	.014	.246 .851
Age	.009	.03	.13	1.009	.720	.959 1.062
Gravida	.312	.16	3.63	1.366	.057	.991 1.883
Parity	-.125	.19	.42	.882	.516	.605 1.288
Total Number of Clinic Visits (11-20, compared to 1-10)	1.031	.27	15.04	2.803	<.001	1.665 4.718

Note:  $\chi^2 (7) = 40.22, p < .001$ , Nagelkerke  $R^2 = .163$ .

❖ A logistic regression model was conducted to predict the odds of participants' accepting the Tdap vaccine, using the independent variable and the control variables

❖ Overall, the model was statistically significant.  $\chi^2 (7) = 40.22, p < .001$

But with relatively low predictive power. Nagelkerke  $R^2 = .163$ .



## DISCUSSION

### Conceptual Framework

❖ Validates Leininger's Transcultural Nursing Theory.

- Language preference alone cannot predict dimensions of human care behavior. Other variables such historical, social, and cultural context should be considered to have a better understanding of the holistic behavior of a person.
- To improve and advance quality of care through creative use of transcultural nursing knowledge.
- Sunrise Enabler explains acquisition of transcultural knowledge by means of examining social structure, worldview, cultural values, language, environmental context.

## DELIVERABLES



- ★ Highlights the need for effective patient-provider communication regardless of client's preferred language.
- ★ Study provides data which suggests need for educating health care providers about their responsibility to offer Tdap in 3<sup>rd</sup> trimester
- ★ Data will be used to raise the awareness of health care system leaders that the Electronic Health Record should be updated to foster Tdap compliance.

## RECOMMENDATIONS

**Improve counseling strategies to increase Tdap vaccine acceptance.**

**Providers should increase compliance in offering Tdap vaccination.**

**Increase onsite interpreters to improve effective health communication.**

**Improve the EHR Tdap Best Practice Advisory (BPA) by adding a flow summary in order to encourage provider compliance.**

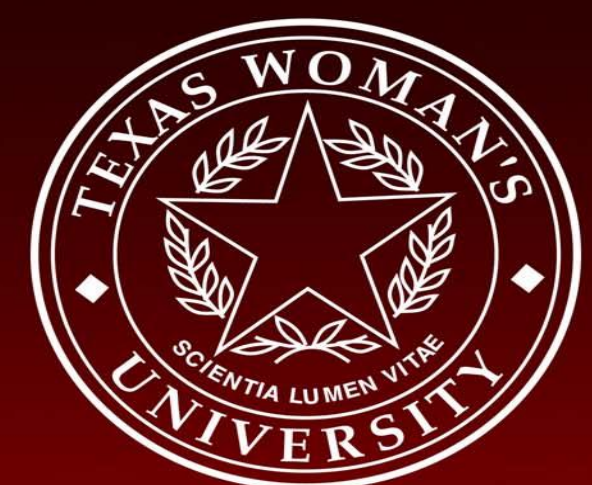
## FUTURE RESEARCH

- Prospective research to identify effectiveness of Tdap vaccination by comparing the rate of infant pertussis case prior to and after implementation of the vaccination protocol.
- More research needed to explore reasons why providers did not offer Tdap vaccination to pregnant women.
- Future research should include cultural beliefs, insurance status, underestimation of personal risk, and misunderstanding of vaccination risk, and mistrust toward the healthcare system.
- Future studies should explore the topic of Tdap vaccination acceptance in pregnancy across an array of ethnicities.

## CONCLUSION

In conclusion, although this study did not suggest a relationship between preferred language and Tdap compliance, it does suggest that much more research is needed regarding how to better serve our client population. Health providers should continuously seek culturally and linguistically appropriate evidence-based strategies to meet the needs of pregnant women in Hispanic and other ethnic groups who have LEP and low health literacy.





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# References