Spiritual Coping: A strong buffer used by women at risk for preterm birth

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Faculty disclosure

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Goals and Objectives

- Session goal:
  - Describe Neuman's Systems Model of stress as it relates to birth outcomes.
  - Describe the impact of acculturation on birth outcomes.
- Session objectives:
  - Identify factors which strengthen lines of defense against stress in pregnant women.
  - Identify factors which weaken lines of defense against stress in pregnant women.
  - Describe how spiritual coping is protective during pregnancy.

Introduction

- After acculturating to the United States of America, pregnant Latinas progressively have poorer birth outcomes than when they arrived. *This is called the "Latina paradox" because it is the opposite result found among other ethnic groups.*

- There are many variables that may affect this paradox, including biomedical and psychosocial ones.

- Stress as well as coping and social support have been found to impact birth outcomes among Caucasian and African American women.

- Limited research has been done on the impact of the acculturation process on birth outcomes among Latinas.

Purpose

- To examine the associations between stress, stress buffers, acculturation and birth outcomes in Mexican immigrants and Mexican-American women.
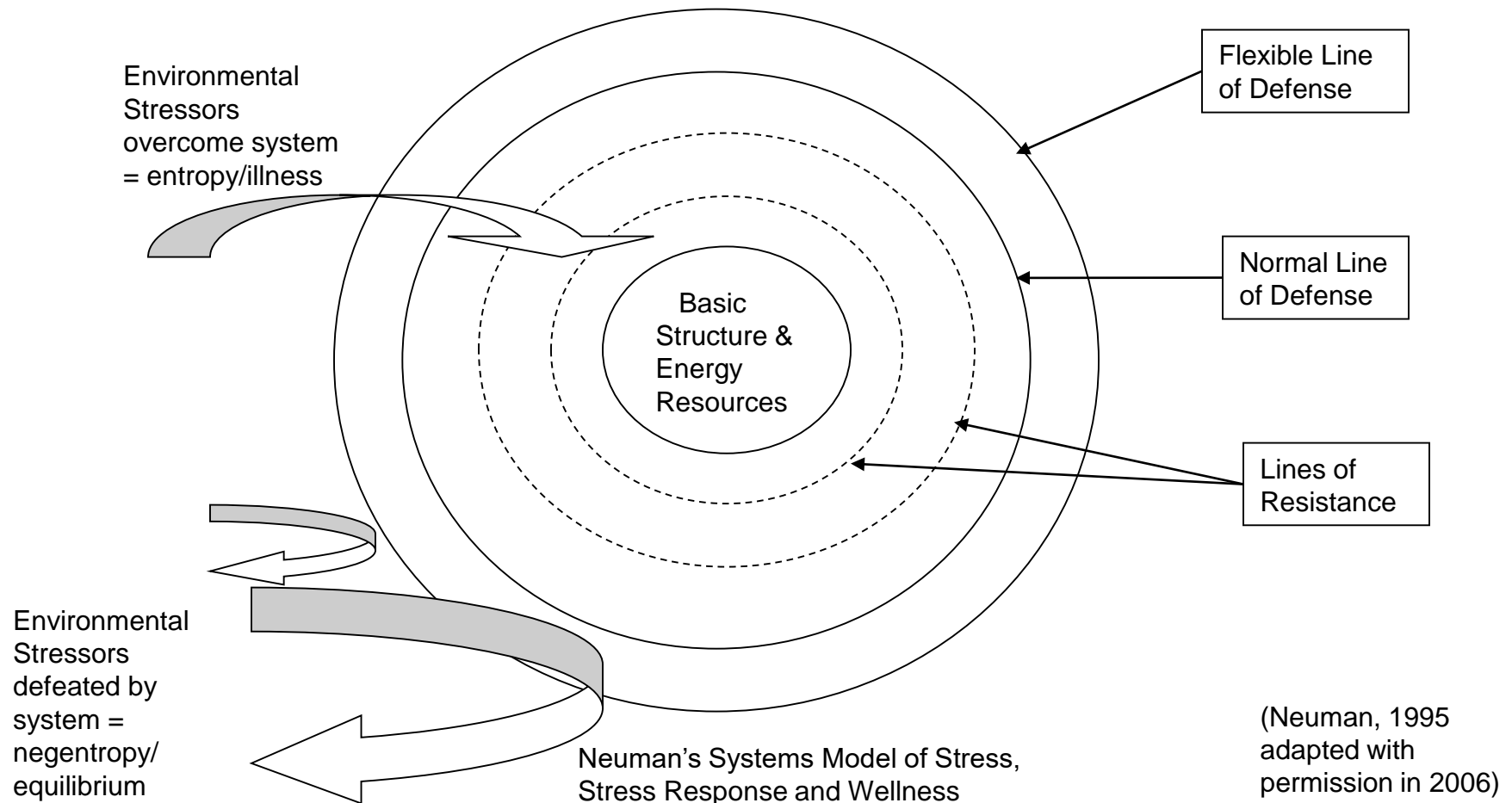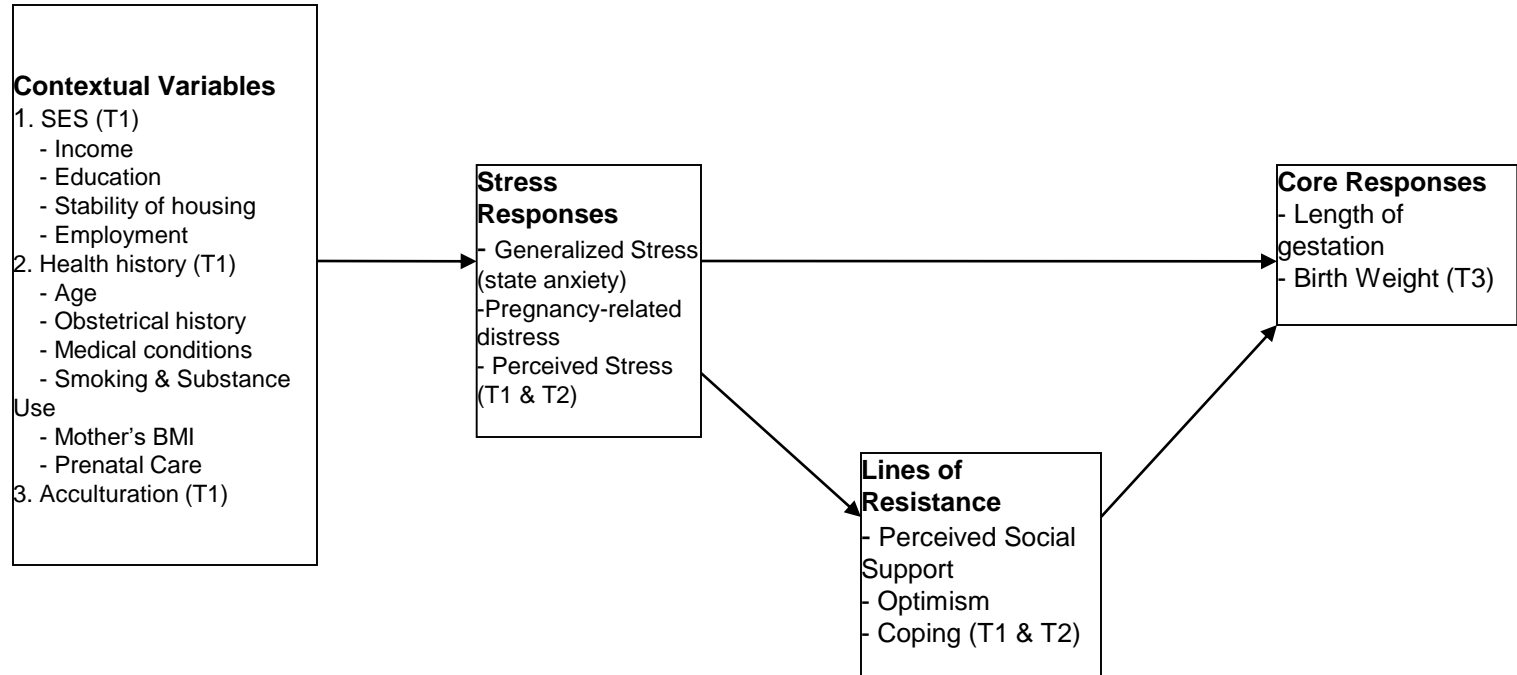
Theoretical Framework

- **Betty Neuman's Systems Model**
  - ☐ The client's system is subject to stressors from the environmental system
  - ☐ The client's system has buffers against these stressors
  - ☐ The client's culture and perception of stressors can affect these buffers
  - ☐ Hispanic immigrants' buffers may change as they become more acculturated.

Theoretical Orientation: Neuman's Systems Model

Flexible Line of Defense

Normal Line of Defense

Lines of Resistance

Environmental Stressors overcome system = entropy/illness

Basic Structure & Energy Resources

Environmental Stressors defeated by system = negentropy/ equilibrium

Neuman's Systems Model of Stress, Stress Response and Wellness

(Neuman, 1995 adapted with permission in 2006)

Conceptual Framework

Contextual Variables
1. SES (T1)
   - Income
   - Education
   - Stability of housing
   - Employment
2. Health history (T1)
   - Age
   - Obstetrical history
   - Medical conditions
   - Smoking & Substance Use
   - Mother's BMI
   - Prenatal Care
3. Acculturation (T1)

Stress Responses
- Generalized Stress (state anxiety)
-Pregnancy-related distress
- Perceived Stress (T1 & T2)

Lines of Resistance
- Perceived Social Support
- Optimism
- Coping (T1 & T2)

Core Responses
- Length of gestation
- Birth Weight (T3)

Methodology

- Design
  - Descriptive, prospective study
  - Snowball and convenience sample
  - Standardized questionnaires used twice during pregnancy

Sample and Setting

- 84 16-41 year-old Mexican and Mexican American Women
- Interviews conducted in the woman's home, or wherever she felt most comfortable
- Offered in her preferred language
- Women in 3 Michigan Counties referred by: health departments, prenatal clinics, churches, and by friends and family

Methodology

- Data Collection
  - Standardized Questionnaires with Likert Scales – used with permission
    - Acculturation Rating Scale II (Cuéllar, Arnold, & Maldonado)
    - STAI (Spielberger) - State
    - Perceived Stress Scale (Cohen)
    - Prenatal distress questionnaire and prenatal coping inventory (Lobel)
    - Social support – ISEL 12 (Cohen and Hoberman)
    - Optimism – LOT-R (Carver)
- Data Analysis: two-tailed with α <.05; SPSS 16.0 statistical software

Demographics

- The majority of the subjects were first generation (78.6%) or 2nd generation (14.3%) Mexican women.
- Most women were receiving prenatal care (96.4%); did not have gestational diabetes (91.7%), high blood pressure (95%) or a prior vaginal infection (73.8%).
- Two-thirds of the women had had prior pregnancies. Of these, 11.6 % had had early labor (7 of 60); 8.3% (5 of 60) also had had bleeding, diabetes or high blood pressure.
- The majority of the women denied either smoking or alcohol consumption (96.4%).
- Most of the women (72 or 85.7%) had BMI scores above 19.8 kg/m2.
- The majority of the women were very Mexican Oriented (61.90%) and 2/3 requested to have the interviews conducted in Spanish.

Acculturation and Avoidance as Coping (One-way Anova)

There was a significant difference in the means for avoidance coping and acculturation, $F(3, 71) = 3.038$, $p = .035$, Levene's = 6.916.

Women who were Balanced Bicultural ($M = 6.97$, SD = 8.73) or Slightly Anglo-oriented ($M = 6.83$, SD = 7.24) significantly used avoidance for coping more than women who were Very Mexican Oriented ($M = 2.80$, SD = 3.90).

Acculturation and Appraisal of Social Support (One-way Anova)

There was a significant difference in the means for appraisal of social support and acculturation, $F(3, 71) = 3.905$, $p = .012$, Levene's = 3.395.

Very Mexican women ($M = 7.36$, SD = 2.41) appraised their social support significantly higher than Strongly Anglo-oriented women ($M = 4.57$, SD = .78).
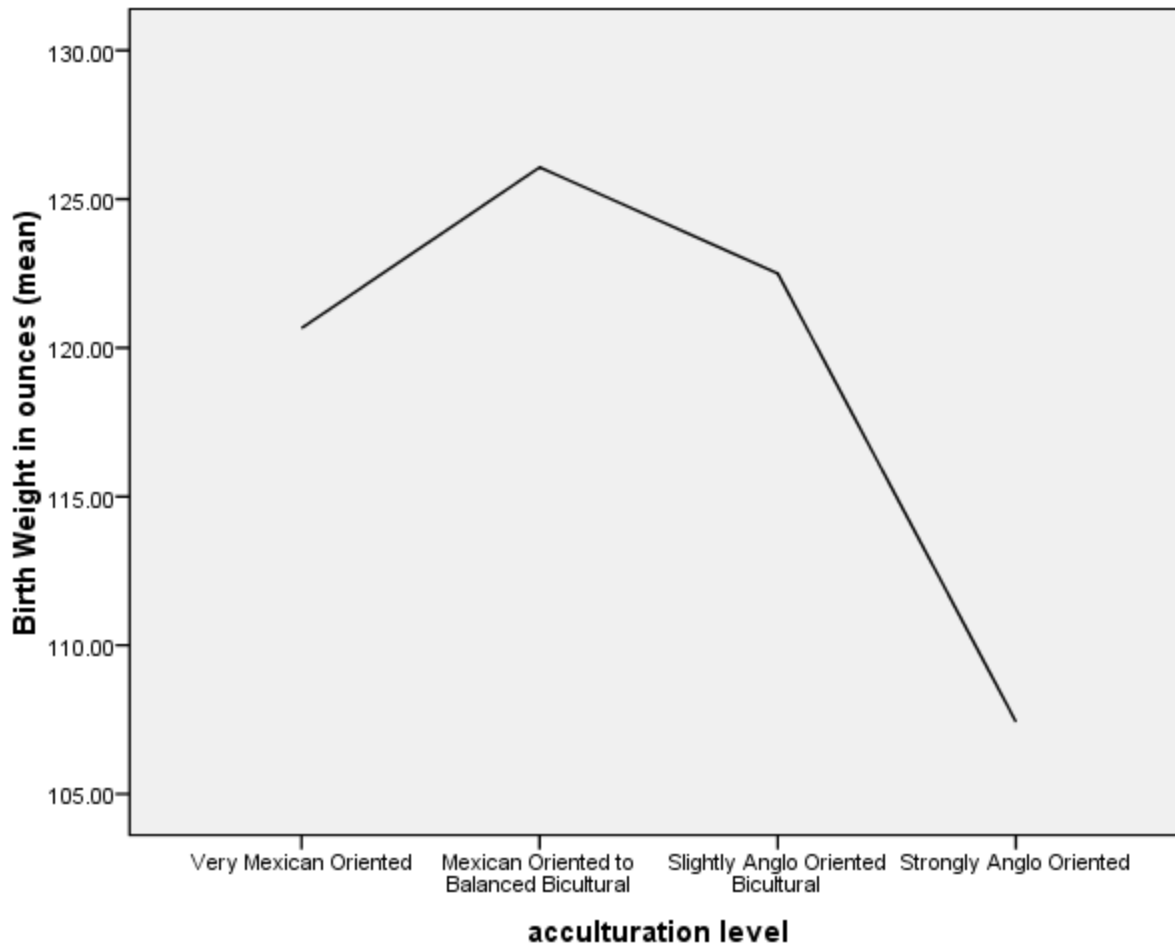
Summary of significant correlations

- Birth weight was positively correlated with length of gestation ($r = .288$, p = 0.01).

- Birth weight was moderately and positively correlated with mother's age ($r = .227$; p = 0.05) and with spiritual/positive coping style, a subcategory of coping ($r = .262$; p = 0.05); and negatively correlated with diabetes ($r_s = -.310$, p = .005).

- Length of gestation were moderately and negatively correlated with pregnancy-related distress ($r = -.245$; p = 0.05), and, positively correlated with a sense of belonging ($\beta = .258$, p = .039).

Bi-variate analysis for acculturation

- Acculturation (scale I – cultural orientation) was moderately and negatively correlated with age (r = -.378; p = .001) and with social support in general (r = -.367; p = .001) and with each subscale.

- Acculturation (scale 2 – cultural marginalization):
  - Women who had difficulty accepting Mexican ideas and attitudes (Mexican marginality) had higher stress in all categories: current stress (r = .344, p = .033), stress over the last month (r = .288, p = .012) and pregnancy-related stress (r = .264, p = .02).
  - One coping style, "avoidance", was positively correlated with Mexican Marginality (r = .247, p = .03).
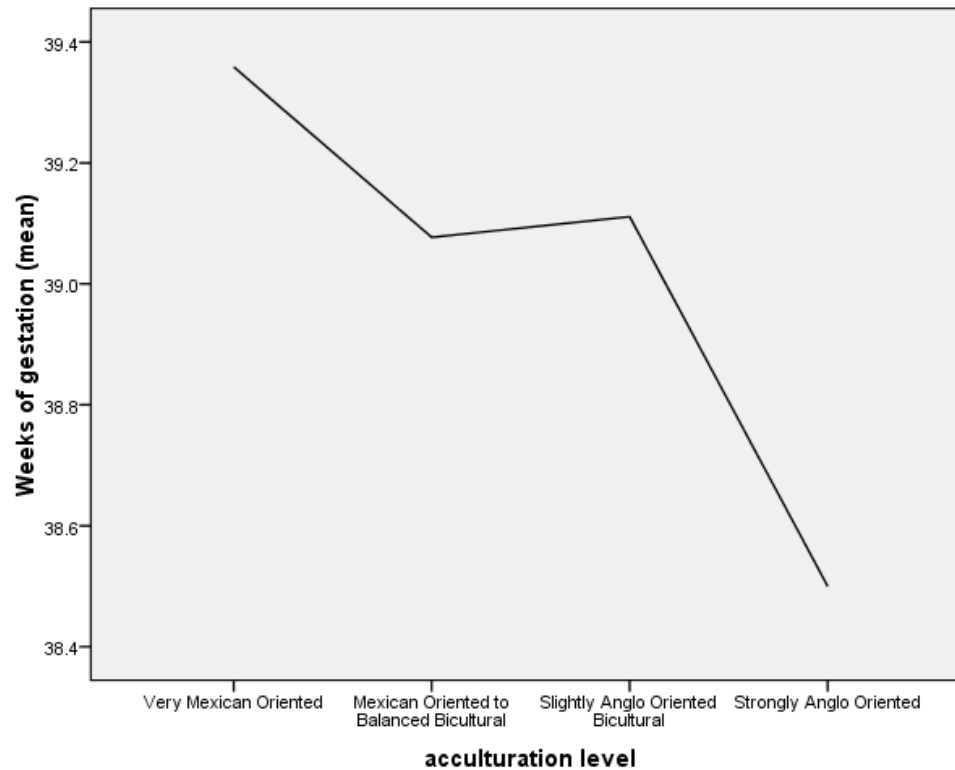
Infant Weight in total ounces by Mother's Acculturation Category

Though no significant correlations were found, certain trends emerged:

• Women who were bicultural had the highest mean birth weight.

• There was a drop in birth weight when the women became more acculturated.

Length of gestation by Mother's Acculturation Category

The same trend emerged for length of gestation Women who were Very Mexican Oriented had the longest gestation.

Multiple Regression

- Significant predictors of birth weight:
  - Current diabetes ($\beta = -.518$, $p < .0001$)
  - Spiritual/positive coping ($\beta = .278$, $p = .017$)
  - Age ($\beta = .227$, $p = .05$)
- Significant predictors of length of gestation:
  - Prior early labor ($\beta = 1.459$, $p = .013$)
  - Pregnancy distress ($\beta = -.237$, $p = .047$)
  - A sense of belonging ($\beta = .258$, $p = .039$)

Paired t-Tests

For the women interviewed twice (n = 54):

- Stress during the previous month was lower in the 3rd trimester than the 2nd: 2nd trimester (mean = 17.65; SD = 7.17), 3rd trimester (mean = 14.70; SD = 5.75); t = 3.14; p = .003
- Pregnancy-related stress was higher in the 3rd trimester: 2nd trimester (M = 6.92, SD 4.20), 3rd trimester (M = 8.90, SD = 5.20); t (51) = - 3.20, p = .002
- Coping – one subcategory (planning and preparation) was higher in the 3rd trimester: 2nd trimester (M = 29.61, SD = 10.92), 3rd trimester (M = 33.01, SD = 11.60); t (53) = - 2.72; p = .009),
- Social support was lower in the 3rd trimester for all subcategories.

The 3rd trimester of pregnancy was significantly different from the 2nd trimester for stress and stress buffers.

Spiritual coping thru prayer

- Unexpected finding as a strong buffer – had hypothesized that optimism would be the buffer.

- Only 5 items of 42 included in spiritual coping

- Religiosity vs. spirituality
  - A question of identity vs. well-being
  - Common spiritual coping interventions: prayer, meditation, fasting

Conclusions

- Prayer and a sense of belonging strengthened the lines of defense and protected women from stress. This resulted in healthy birth outcomes.

- Pregnancy-related stress and acculturation penetrated lines of defense resulting in poorer birth outcomes.

- Stress and stress buffers have the most impact during the 3rd trimester of pregnancy.

Limitations

- Convenience sample

- Results cannot be generalized to all immigrant women, in particular Mexicans

- Undocumented immigrants may not have come forward due to Immigration and Naturalization Service deportation policies

Delimitations

- Women's health
- Mexican and Mexican-Americans
- Number of independent variables
- Choice of instruments
- Referrals only from agencies providing in-home prenatal care

Implications

■ Further studies with a larger and more diverse sample are needed.

■ Nursing interventions focusing on social support and coping during the third trimester of pregnancy may help Mexican-American women have better birth outcomes.

- Thank you.
- Questions?

References

■ Bryant, F. B., & Cvengros, J. A. (2004). Distinguishing hope and optimism: Two sides of a coin or two separate coins? *Journal of Social and Clinical Psychology, 23*(2), 273-302. Retrieved from http://proquest.com/docview/224677707

■ Campos, B., Dunkel-Schetter, C., Walsh, J. A., & Schenker, M. (2007). Sharpening the focus on acculturative change: ARSMA-II, stress, pregnancy anxiety, and infant birth weight in recently immigrated Latinas. *Hispanic Journal of Behavioral Sciences, 29*, 209-224. doi: 10.1177/0739986307300841

■ Chaponniere, P. (2009) Acculturation, Pregnancy-Related Stress and Birth Outcomes in Mexican and Mexican American Women*. ProQuest Dissertations Publishing*, 3405768.

■ Cotton, S., Zebracki, K., Rosenthal, S. L., Tsevat, J., & Drotar, D. (2006) Religion/spirituality and adolescent health outcomes: A review. *Journal of Adolescent Health, 38*, 472-480. doi: 10.1016/j.adohealth.2005.10.005

References (cont.)

- Lobel, M., DeVincent, C. J., Kaminer, A., & Meyer B. A. (2000). The impact of prenatal maternal stress and optimistic disposition on birth outcomes in medically high-risk women. *Health Psychology*, *19*(6), 544-553. Retrieved from http://proquest.com

- Neuman, B. (1995) *The Neuman Systems Model* (3rd ed.). Norwalk, Conn: Appleton & Lange.

- Schwartz, S. J., Unger, J. B., Zamboanga, B. L., and Szapocznik, J. (2010). Rethinking the concept of acculturation: Implications for theory and research. *The American Psychologist, 65*(4), 237-251. doi:http://dx.doi.org/10.1037/a0019330

- Yali, A.M., & Lobel, M. (1999). Coping and distress in pregnancy: An investigation of medically high risk women. *Journal of Psychosomatical Obstetrics and Gynecology, 20*, 39-52.