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The Relationship between Religiosity and Health-Promoting Behaviors in Pregnant Women at Pregnancy Resource Centers

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The Relationship between Religiosity and Health-Promoting Behaviors in Pregnant Women at Pregnancy Resource Centers

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The Relationship between Religiosity and Health-Promoting Behaviors in Pregnant Women at Pregnancy Resource Centers

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Introduction

The health decisions made during pregnancy can have lifelong consequences for a woman and her child.

(Centers for Disease Control and Prevention [CDC], 2013a)



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Unintended Pregnancies

Women with unintended pregnancies were more likely to use alcohol

(Cheng et al., 2009; Kitsantas, Gaffney, & Wu, 2015),

illicit drugs

(Dott et al., 2010; Than et al., 2005),

or tobacco

(Chisolm et al., 2014; Dott et al., 2010; Terplan et al., 2014),

and less likely to take vitamins (Dott et al., 2010)

than women with intended pregnancies.



<http://www.freetobacco.info/world-tobacco-news/smoking-during-pregnancy-ups-sids-risk/>

Religiosity

Increased religiosity has been associated with decreased likelihood of smoking

(Burdette, Weeks, Hill, & Eberstein, 2012)

decreased alcohol use and marijuana use

(Page, Ellison, & Lee, 2009), and

greater likelihood of better maternal nutrition

(Burdette et al., 2012)

during pregnancy



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Pregnant Women at Pregnancy Resource Centers



Picture of Care Net of Carbon County, used with permission

Fifty-one percent of all pregnancies in the United States were unintended in 2008. (Finer & Zolna, 2014)

Some women with unintended pregnancy seek services at Pregnancy Resource Centers, community centers offering Christian faith-based support to pregnant women.



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The purpose of this study was to explore the relationship between religiosity and health-promoting behaviors of pregnant women at Pregnancy Resource Centers.

Specific Aims

The aims of this descriptive correlational study were to:

- 1) Describe the health-promoting behaviors of pregnant women at Pregnancy Resource Centers.
- 2) Explore the relationship between each of the following sets of variables (religiosity, demographics, pregnancy-related, or services obtained at the Pregnancy Resource Center) and health-promoting behaviors of pregnant women at Pregnancy Resource Centers
- 3) Determine the percentage of variance that religiosity explains in the health-promoting behaviors, above and beyond what the other variables explain, in pregnant women at Pregnancy Resource Centers.

Sample

- 86 Pregnant women at Pregnancy Resource Centers
 - Known pregnant at least 2 months
 - 18 years of age or over
 - Able to read and write English



Methodology: Pender's Revised Health-Promotion Model

Individual Characteristics and Experiences

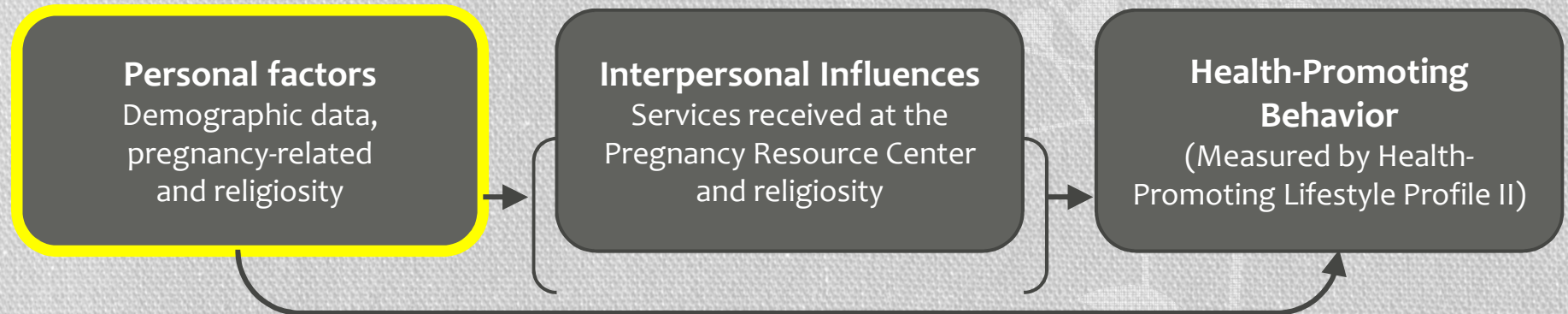
Personal factors
Demographic data,
pregnancy-related
and religiosity

Behavior Specific Cognitions and Affect

Interpersonal Influences
Services received at the
Pregnancy Resource Center
and religiosity

Behavioral Outcomes

**Health-Promoting
Behavior**
(Measured by Health-
Promoting Lifestyle Profile II)



(Pender, Murdaugh, & Parsons, 2002)

Methodology: Instruments

Pregnancy intention - PRAMS (CDC, 2009)

“In this current pregnancy, how do you feel about being pregnant?”

The responses included:

- Intended Pregnancies
 - “I wanted to be pregnant sooner” (intended or wanted pregnancy)
 - “I wanted to be pregnant now” (intended or wanted pregnancy)
- Unintended Pregnancies
 - “I wanted to be pregnant later” (mistimed pregnancy)
 - “I did not want to be pregnant now or at any time in the future” (unwanted pregnancy)
 - “I am unsure how I feel” [unsure about intendedness]
 - “I did not want to be pregnant, but now I’m glad I am” [initially unintended]

Methodology: Instruments

Religiosity

- Duke University Religion Index (Koenig & Büssing, 2010)
 - Organized religiosity, nonorganized religiosity, intrinsic religiosity
 - Duke University Religion Index has high test-retest reliability (intra-class correlation = 0.91), high internal consistency (Cronbach's alpha's = 0.78–0.91), high convergent validity with other measures of religiosity (r 's = 0.71–0.86) (Koenig & Büssing, 2010, p.78).

Methodology: Instruments

Religiosity

- Religious Surrender and Attendance Satisfaction Scale (Cyphers & Clements, 2015)
 - Religious commitment and satisfaction with religious commitment
 - Religious Commitment component of the scale – strong internal consistency ($\alpha = .85$) and was strongly associated with intrinsic religiosity ($r = .65$, $p = <.005$). The Satisfaction items from the RSASS were found to be moderately internally consistent [$\alpha = .68$] (Cyphers & Clements, 2015)
- Religious Affiliation

Methodology: Pender's Revised Health-Promotion Model

Individual Characteristics and Experiences



Behavior Specific Cognitions and Affect



Behavioral Outcomes



(Pender, Murdaugh, & Parsons, 2002)

Methodology: Instruments

Health-Promoting Behaviors

- Health-Promoting Lifestyle Profile II (Walker & Hill-Polerecky, 1996)
 - Health responsibility
 - Interpersonal relations
 - Spiritual growth
 - Physical activity
 - Nutrition
 - Stress management

Health Promoting Lifestyle Profile II - Reliability of the total scale's internal consistency- alpha coefficient of .94; alpha coefficients for the subscales ranged from .79 to .87, and the 3-week test-retest stability coefficient for the total scale was .89. (Walker, & Hill-Polerecky, 1996)

Data Collection

- Participants completed survey at the Pregnancy Resource Centers
- Pilot Study
 - 10 participants
 - Determined paper surveys would be used by volunteers at the centers
- Consecutive sampling over 10 months
- Data were analyzed using descriptive statistics, univariate analyses, and multiple linear regressions.

Results: Description of the Sample

83% (n= 71) White

17% (n= 15) Hispanic

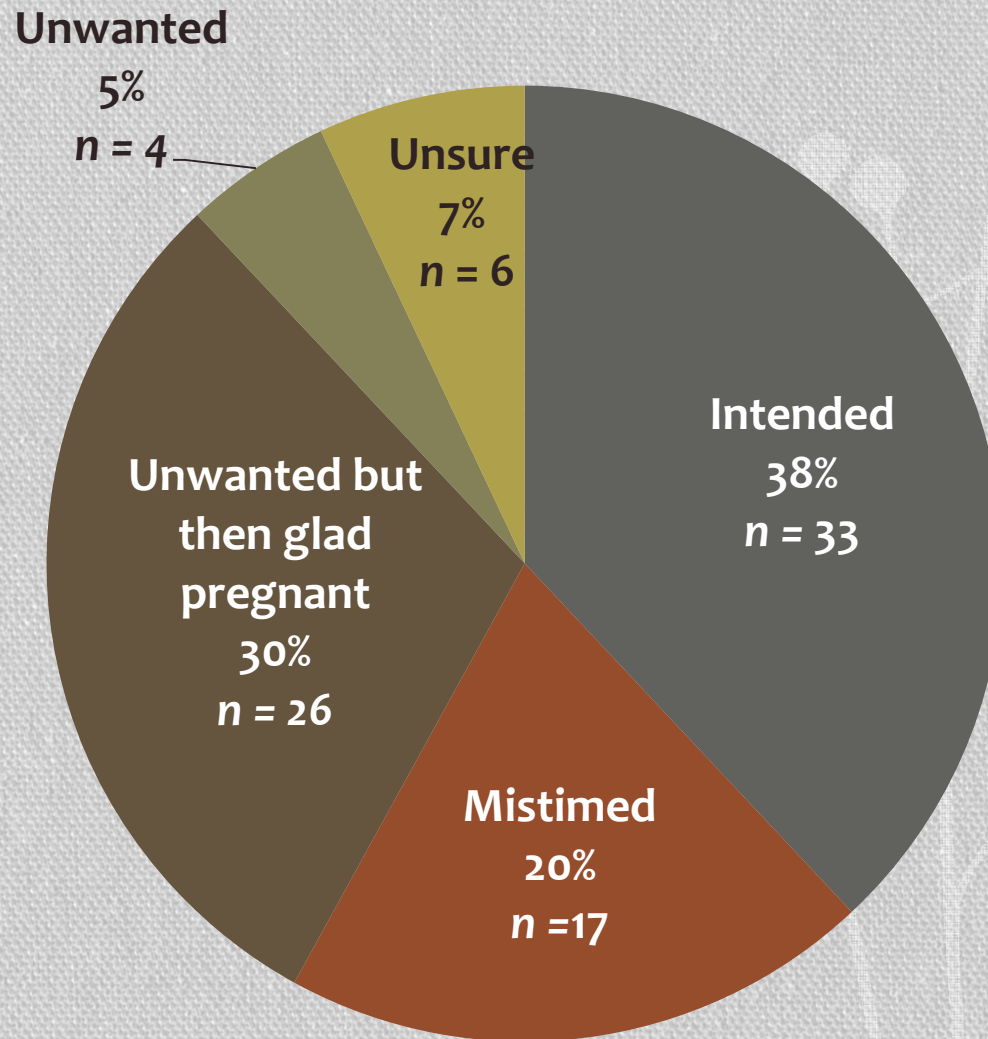
65% (n= 56) Not married

73% (n = 63) Income < \$14,999

81% (n =70) 12th grade/GED or higher

Results: Description of the Sample

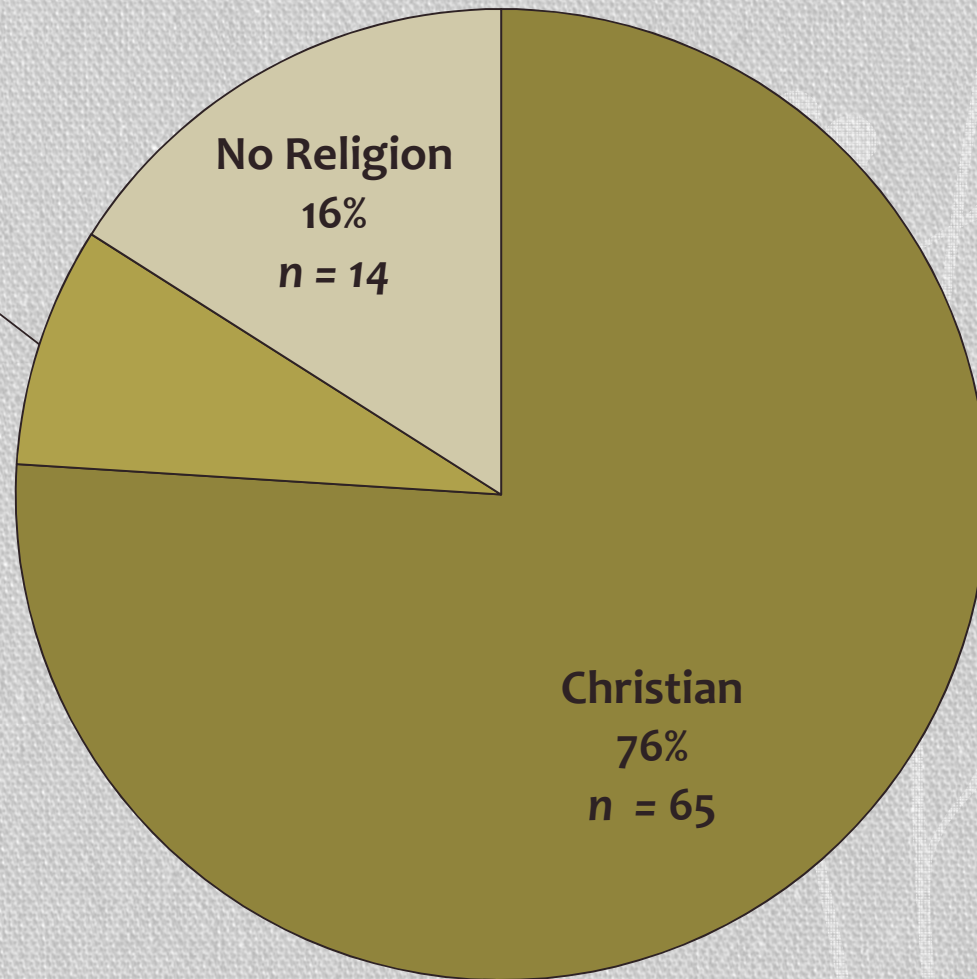
Pregnancy Intention



Results: Description of the Sample

Religious Affiliation

Other Religion
8%
n = 7

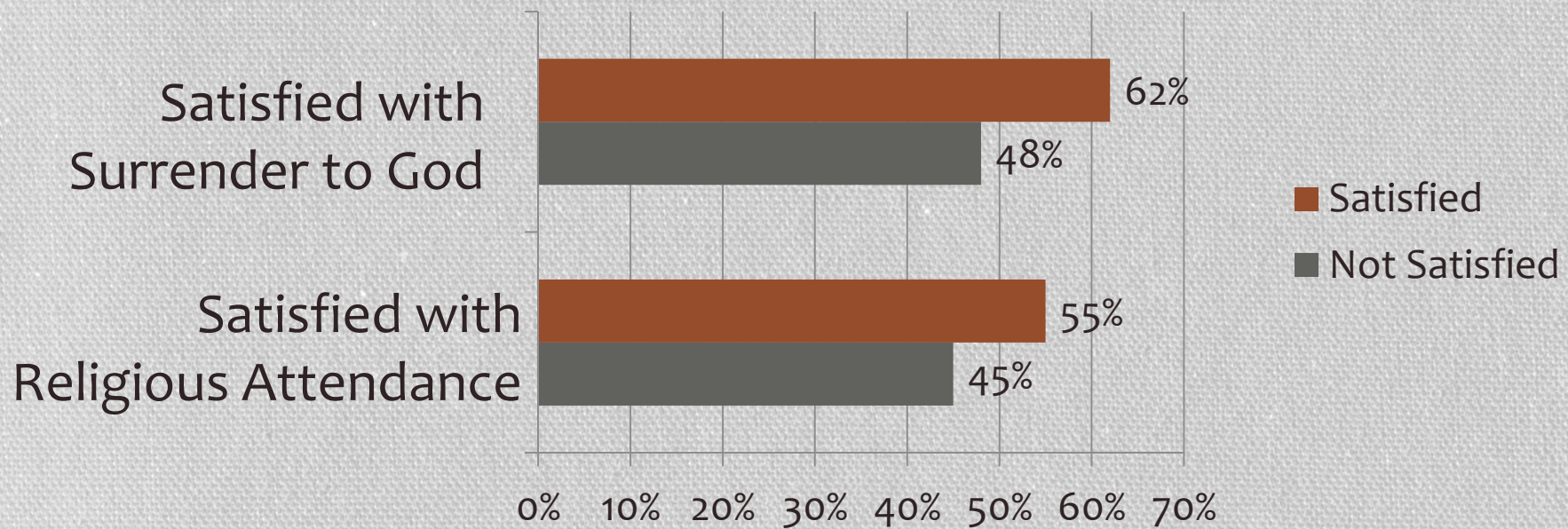
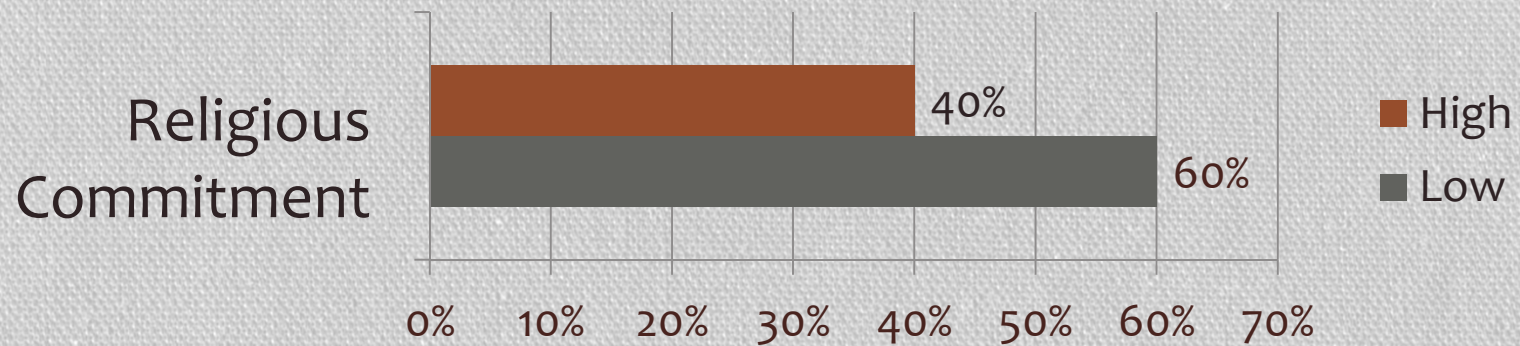


Results: Description of the Sample

Descriptive Statistics for Religiosity Variables

Characteristic	<i>n</i>	%
Duke University Religion Index		
<u>DUREL Subscale 1 – Organized Religiosity</u>		
How often do you attend church or other religious meetings?		
Less than 1 time per week	63	73
Once a week or more	23	27
<u>DUREL Subscale 2 – Non-organized Religiosity</u>		
How often do you spend time in private religious activities?		
Less than daily	62	72
Daily or more than once a day	24	28
<u>DUREL Subscale 3 - Intrinsic Religiosity</u>		
Definitely or tends <i>not</i> true of me, unsure	39	45
Definitely or tends to be true	47	55

Results: Description of the Sample



Results: Description of the Sample

Services Received at the Pregnancy Resource Centers

No services – 10% ($n = 9$)

Attended classes – 65% ($n = 56$)

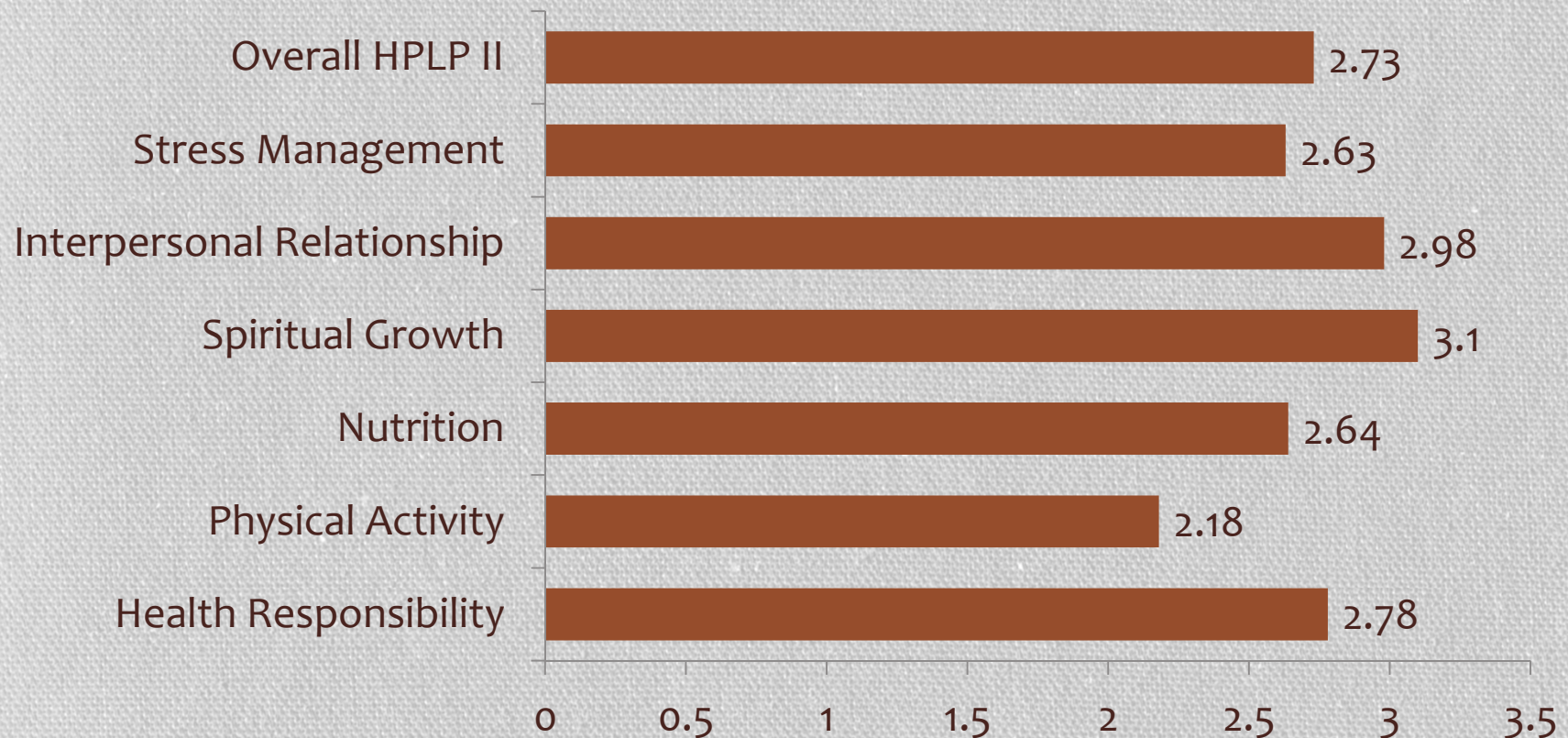
Support services – 57% ($n = 49$)

Medical Services – 30% ($n = 34$)

Bible study – 10% ($n = 9$)

Results Specific Aim # 1

Mean Scores of Health-Promoting Behaviors



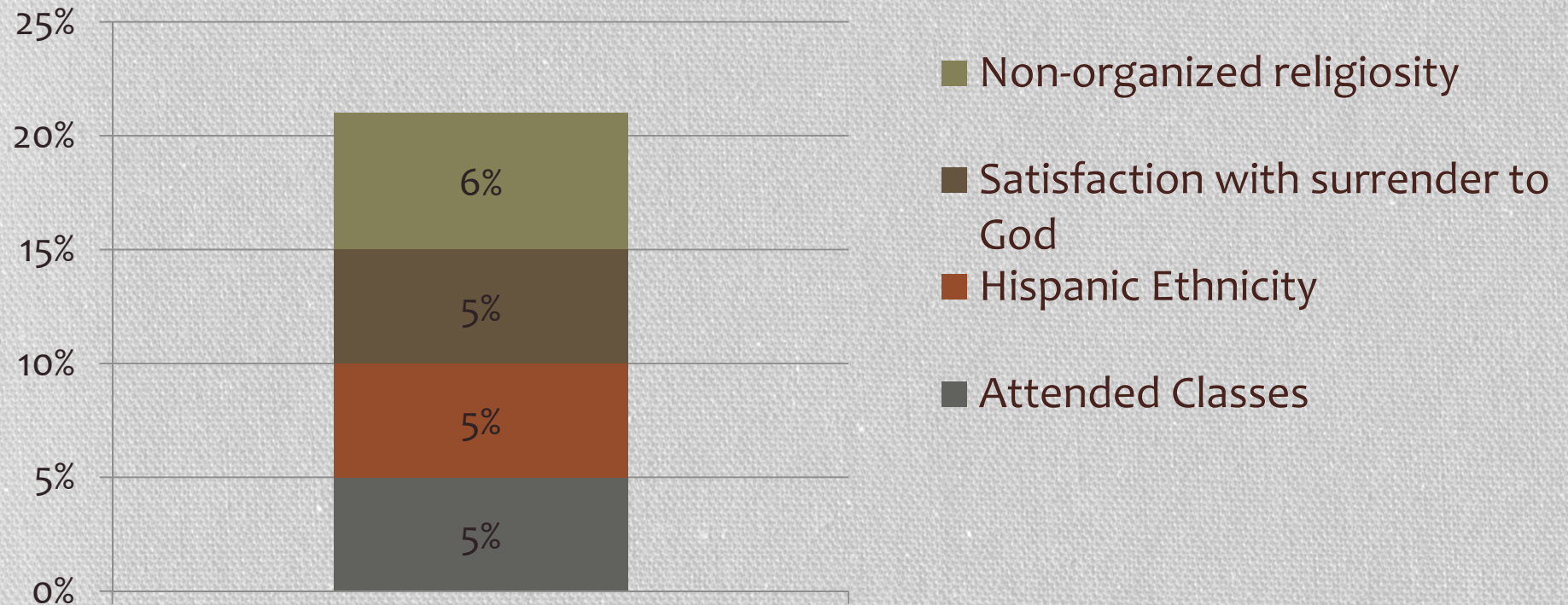
Results Specific Aim # 2

Category	Significant Variable	Overall HPLP II
Demographic	Hispanic/Not Hispanic ($t(84) = 2.13^*$)	Not Hispanic = lower HPLP II
Pregnancy Intention	Unsure/Other Intentions ($t(84) = 2.32^*$)	Unsure = lower HPLP II
Services Obtained	Attended classes ($t(84) = -2.14^*$)	Yes = higher HPLP II
Religiosity	Intrinsic Religiosity (IR) ($t(84) = 1.49^*$)	High IR = higher HPLP II
	Religious Commitment(RC) ($t(84) = 2.10^*$)	High RC = higher HPLP II
	Satisfaction with Surrender to God ($t(84) = 2.51^*$)	Satisfied = higher HPLP II

* $p < .05$

Results Specific Aim # 3

Percentage of Variance in Health-Promoting Accounted for in Multiple Linear Regression Model with all Religiosity Variables Entered



Step 1: $R^2 = .05$; R^2 change = .05; ($F(1, 84) = 4.58, p = .035$)

Step 2: $R^2 = .10$; R^2 change = .05; ($F(1, 83) = 4.14, p = .045$)

Step 3: $R^2 = .15$; R^2 change = .05; ($F(1, 82) = 4.93, p = .029$)

Step 4: $R^2 = .21$; R^2 change = .06; ($F(1, 81) = 5.89, p = .017$)

Results Specific Aim # 3: Individual Religiosity Models

Additional Variance in Health-Promoting Behaviors – Religiosity Variables



- Organized religiosity – ($R^2 = .14$; R^2 change = .04 ($F(1, 82) = 4.186, p = .044$)
- Non-organized religiosity – ($R^2 = .15$; R^2 change = .05 ($F(1, 82) = 4.85, p = .030$)
- Intrinsic religiosity – ($R^2 = .14$; R^2 change = .04 ($F(1, 82) = 4.14, p = .045$)
- Satisfaction with surrender to God ($R^2 = .15$; R^2 change = .05 ($F(1, 82) = 4.93, p = .029$)²⁶

Discussion

Hispanic ethnicity
= less frequent health-promoting behaviors

Attended classes at the Pregnancy Resource Centers
= more frequent health-promoting behaviors

Discussion

**Higher levels of religiosity
– explained additional
variance
in health-promoting
behaviors**

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Recommendations

- Public and private organizations, including Pregnancy Resource Centers, should consider ethnicity, programming, and religious characteristics of their clients as they provide care for a diverse population of pregnant women.

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Limitations

- Selection bias
 - Recruitment
 - Refusal Rate
- Social desirability responding
- Homogeneous population

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- **Dr. Maher-El-Masri** for sharing his statistical knowledge with me and guiding me through this learning process.
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 - Dr. Elizabeth Tyree
 - Dr. Glenda Lindseth
 - Dr. Jody Ralph
 - Dr. Andrea Clements
 - Dr. Jan Goodwin

Any Questions?



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All Religiosity

Independent Variables	<i>B</i>	SE	β	<i>t</i>	<i>p</i>
Block 1					
<u>Step 1</u>					
Constant	2.59	.08		32.08	.000
Attending Classes	.21	.10	.23	2.14	.035*
<u>Step 2</u>					
Constant	2.65	.08		31.54	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	-.24	.12	-.21	-2.04	.045*
Block 2					
<u>Step 3</u>					
Constant	2.55	.10		27.51	.000
Attending Classes	.19	.10	.20	1.96	.053
Hispanic Ethnicity	-.21	.12	-.19	-1.80	.075
RSASS					
Satisfaction with Surrender to God	.21	.10	.23	2.22	.029*
<u>Step 4</u>					
Constant	2.49	.10		26.40	.000
Attending Classes	.18	.10	.19	1.95	.055
Hispanic Ethnicity	-.23	.11	-.20	-2.03	.045*
RSASS					
Satisfaction with Surrender to God	.22	.09	.25	2.44	.017*
DUREL Subscale 2	.24	.10	.24	2.43	.017*

Multiple Linear Regression with Organized Religiosity Variable.

Independent Variables	<i>B</i>	SE	β	<i>t</i>	<i>p</i>
Block 1					
<u>Step 1</u>					
Constant	2.59	.08		32.08	.000
Attending Classes	.21	.10	.23	2.14	.035*
<u>Step 2</u>					
Constant	2.65	.08		31.54	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	-.24	.12	.21	-2.04	.045*
Block 2					
<u>Step 3</u>					
Constant	2.59	.09		29.87	.000
Attending Classes	.21	.10	.22	2.17	.033*
Hispanic Ethnicity	-.28	.12	.25	-2.87	.020*
DUREL Subscale 1	.22	.11	.21	2.05	.044*

Note: Organized religiosity is measured by DUREL subscale 1

Step 1: $R^2 = .05$; Adjusted $R^2 = .04$; R^2 change = .05 ($F(1, 84) = 4.58, p = .035$)

Step 2: $R^2 = .10$; Adjusted $R^2 = .08$; R^2 change = .05 ($F(1, 83) = 4.14, p = .045$)

Step 3: $R^2 = .14$; Adjusted $R^2 = .11$; R^2 change = .04 ($F(1, 82) = 4.186, p = .044$)

* $p < .05$

Multiple Linear Regression with Non-Organized Religiosity Variable

Independent Variables	<i>B</i>	SE	β	<i>t</i>	<i>P</i>
Block 1					
<u>Step 1</u>					
Constant	2.59	.08		32.08	.000
Attending Classes	.21	.10	.23	2.14	.035*
<u>Step 2</u>					
Constant	2.65	.08		31.54	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	-.24	.12	-.21	-2.04	.045*
Block 2					
<u>Step 3</u>					
Constant	2.59	.09		30.21	.000
Attending Classes	.20	.10	.21	2.03	.045*
Hispanic Ethnicity	-.26	.12	-.23	-2.26	.027*
DUREL Subscale 2	.23	.10	.23	2.20	.030*

Note: Non-organized religiosity is measured by DUREL subscale 2

Step 1: $R^2 = .05$; Adjusted $R^2 = .04$; R^2 change = .05 ($F(1, 84) = 4.58, p = .035$)

Step 2: $R^2 = .10$; Adjusted $R^2 = .08$; R^2 change = .05 ($F(1, 83) = 4.14, p = .045$)

Step 3: $R^2 = .15$; Adjusted $R^2 = .12$; R^2 change = .05 ($F(1, 82) = 4.85, p = .030$)

* $p < .05$

Multiple Linear Regression with Intrinsic Religiosity Variable.

Independent Variables	<i>B</i>	SE	β	<i>t</i>	<i>p</i>
Block 1					
<u>Step 1</u>					
Constant	2.59	.08		32.08	.000
Attending Classes	.21	.10	.23	2.14	.035*
<u>Step 2</u>					
Constant	2.65	.08		31.54	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	- .24	.12	- .21	- 2.04	.045*
Block 2					
<u>Step 3</u>					
Constant	2.55	.10		26.46	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	- .24	.12	- .21	- 2.04	.044*
DUREL Subscale 3	.19	.10	.21	2.04	.045*

Note: Intrinsic religiosity is measured by DUREL subscale 3

Step 1: $R^2 = .05$; Adjusted $R^2 = .04$; R^2 change = .05 ($F(1, 84) = 4.58, p = .035$)

Step 2: $R^2 = .10$; Adjusted $R^2 = .08$; R^2 change = .05 ($F(1, 83) = 4.14, p = .045$)

Step 3: $R^2 = .14$; Adjusted $R^2 = .11$; R^2 change = .04 ($F(1, 82) = 4.14, p = .045$)

* $p < .05$

Multiple Linear Regression Satisfaction With Surrender to God.

Independent Variables	<i>B</i>	SE	β	<i>t</i>	<i>p</i>
Block 1					
<u>Step 1</u>					
Constant	2.59	.08		32.08	.000
Attending Classes	.21	.10	.23	2.14	.035*
<u>Step 2</u>					
Constant	2.65	.08		31.54	.000
Attending Classes	.20	.10	.21	2.04	.044*
Hispanic Ethnicity	- .24	.12	- .21	- 2.04	.045*
Block 2					
<u>Step 3</u>					
Constant	2.55	.09		27.51	.000
Attending Classes	.19	.10	.20	1.96	.053
Hispanic Ethnicity	- .21	.12	- .19	- 1.80	.075
RSASS					
Satisfaction with Surrender to God	.21	.09	.23	2.22	.029*

Note: Satisfaction with Religious Commitment is measured in RSASS
 Step 1: $R^2 = .05$; Adjusted $R^2 = .04$; R^2 change = .05 ($F(1, 84) = 4.58, p = .035$)
 Step 2: $R^2 = .10$; Adjusted $R^2 = .08$; R^2 change = .05 ($F(1, 83) = 4.14, p = .045$)
 Step 3: $R^2 = .15$; Adjusted $R^2 = .12$; R^2 change = .05 ($F(1, 82) = 4.93, p = .029$)
 * $p < .05$