

Service Learning Outcomes: A Quasi Experimental Approach Using Repeated Measures t -Test

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Presentation Overview

- Institutional Setting
- Concept of Service Learning
- Study Design
- Findings
- Implications
- Future Research

University of St. Thomas

- Private, not-for-profit Catholic institution
- Diocesan
- Nearly 11,000 students
- 6,150+ Undergraduates
- Eight colleges and schools to include Law and Divinity

Mission and Strategic Plan

Mission-Inspired by Catholic intellectual tradition, the University of St. Thomas educates students to be morally responsible leaders who think critically, act wisely, and work skillfully to advance the common good.

Strategic Plan (Three themes)

Access

Excellence

Catholic Identity

What is Service Learning?

- “Service-learning courses are complex teaching and learning environments that are designed to enhance learning through the process of connecting academic course content with service opportunities in the community (Cress, 2005).”

Terms Used to Describe Service Learning

- Active practice
- Community partnerships
- Group work
- Cultural connections
- Engagement
- Reflection

Service Learning at UST

- Service-learning Coordinator
- Approximately 700 students each semester
- 40+ courses to include:
 - Psychology
 - Statistics
 - Theology
- Primarily based in urban areas

Exploratory Study Design

- Quasi-Experimental Design
 - Pre and post assessment
- Exploratory Factor Analysis
- Reliability Analysis
- Repeated Measure *t*-test
- Independent Samples *t*-test

Sample

- Undergraduate only
- Pre-assessment
 - 788 invitations
 - 491 responses
 - 62.3% response rate
- Post-assessment
 - 724 invitations
 - 433 responses
 - 59.8% response rate
- Students completing the pre and post-assessment
 - N=351

Instrument

- Predominantly Likert-like scale with several open-ended questions
- Responses linked back to SIS data
- Pre-assessment-48 questions
- Post-assessment-51 questions
- Questions common across the two instruments-33

Quasi-Experimental Design

- Similar to experimental design
 - Lacks random sampling
 - Lacks control group
- “Queasy” experiments
- Pre-assessment and post-assessment

Exploratory Factor Analysis

- Determines whether measures for different variables are measuring something in common
- Determines which variables 'cluster' together
- The groupings of these variables are commonly referred to as factors that are measuring some common entity or construct
- Principle axis factoring with a varimax rotation.
- Factors with an Eigenvalue of 1.0 or greater were retained in the model
- 33 common questions considered in the analysis

Factor 1-Empathy (5)

- Respecting views of others even when I disagree
- Identifying social issues and concerns
- Appreciating people who are different from me
- Showing compassion to others who are like me
- Showing compassion to others who are unlike me

Factor 2-Participation (4)

- I believe it is important to give my time for the good of the community
- I think I can help make a difference in solving problems in my community
- It is important to me personally to volunteer my time to help individual people in need
- Participating in community activities

Factor 3-Outlook (3)

- Many problems that cause people to need social services are often the result of circumstances beyond their control
- If I could change one thing about society, it would be to achieve greater social justice
- It is important to me personally to have a career that involves helping people

Reliability Analysis

- Cronbach's alpha
- Measure of internal consistency
- NOT a measure of validity
- Alpha levels of .80 and above are desirable

Reliability Analysis results

- Factor 1-Empathy (.804)
- Factor 2-Participation (.808)
- Factor 3-Outlook (.632)

Repeated Measures t Test

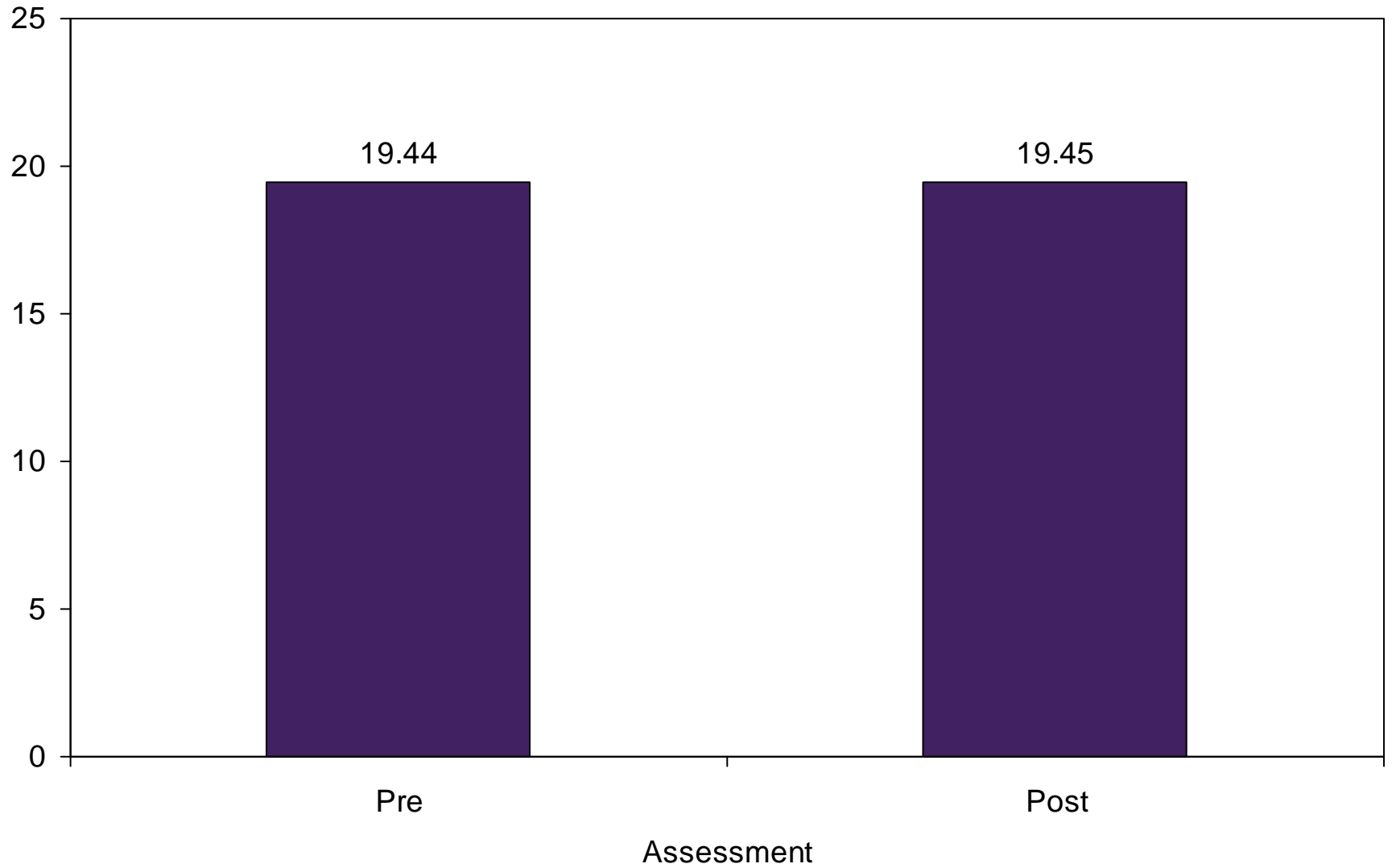
- Also known as a paired samples t test or dependent t test
- Repeated measures requires two or more measures from the same individuals
- Compares the means from the pre and post-assessment factors
- P-value set at .05

Pre and Post-Assessments Measures

Factor	Pre- Assess		Post- Assess		<i>t</i>
	Mean	<i>sd</i>	Mean	<i>sd</i>	
1. Empathy	19.44	2.838	19.45	3.329	-.075
2. Participation	15.38	2.607	15.84	2.744	-3.649*
3. Outlook	11.16	2.138	11.48	2.362	-3.063*

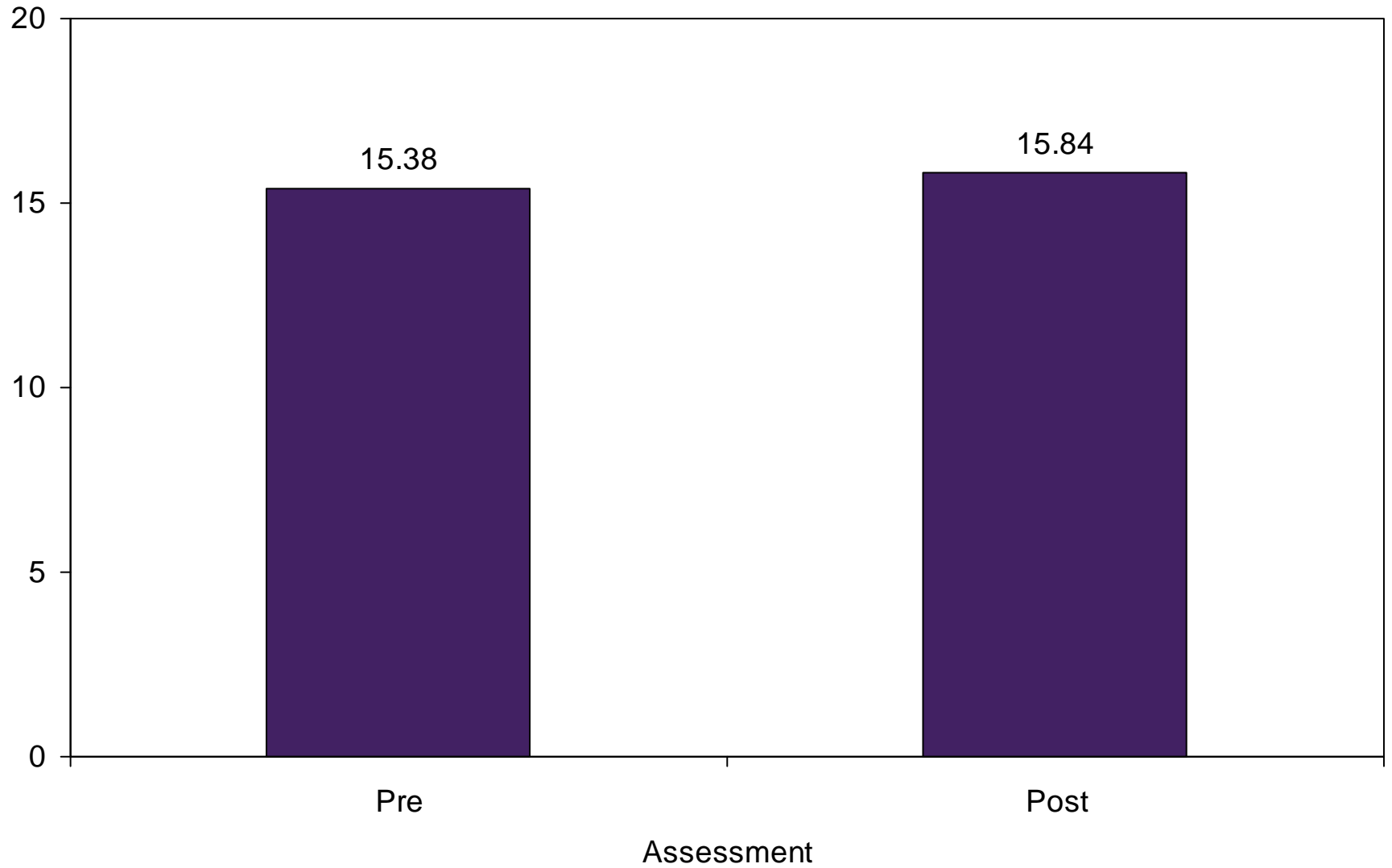
* $p < .01$

Factor 1-Empathy



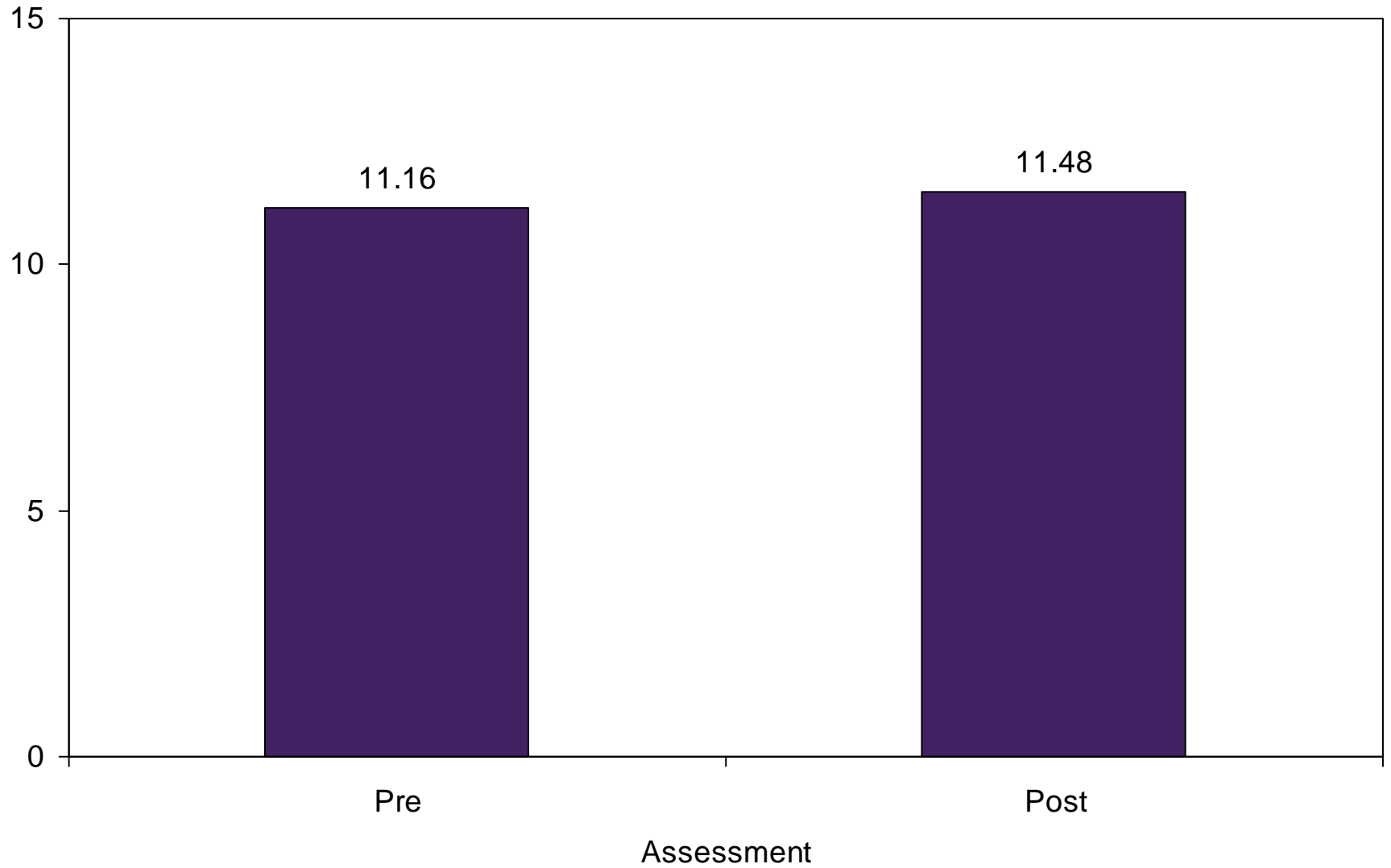
p=.940

Factor 2-Participation



$p=.001$

Factor 3-Outlook



p=.002

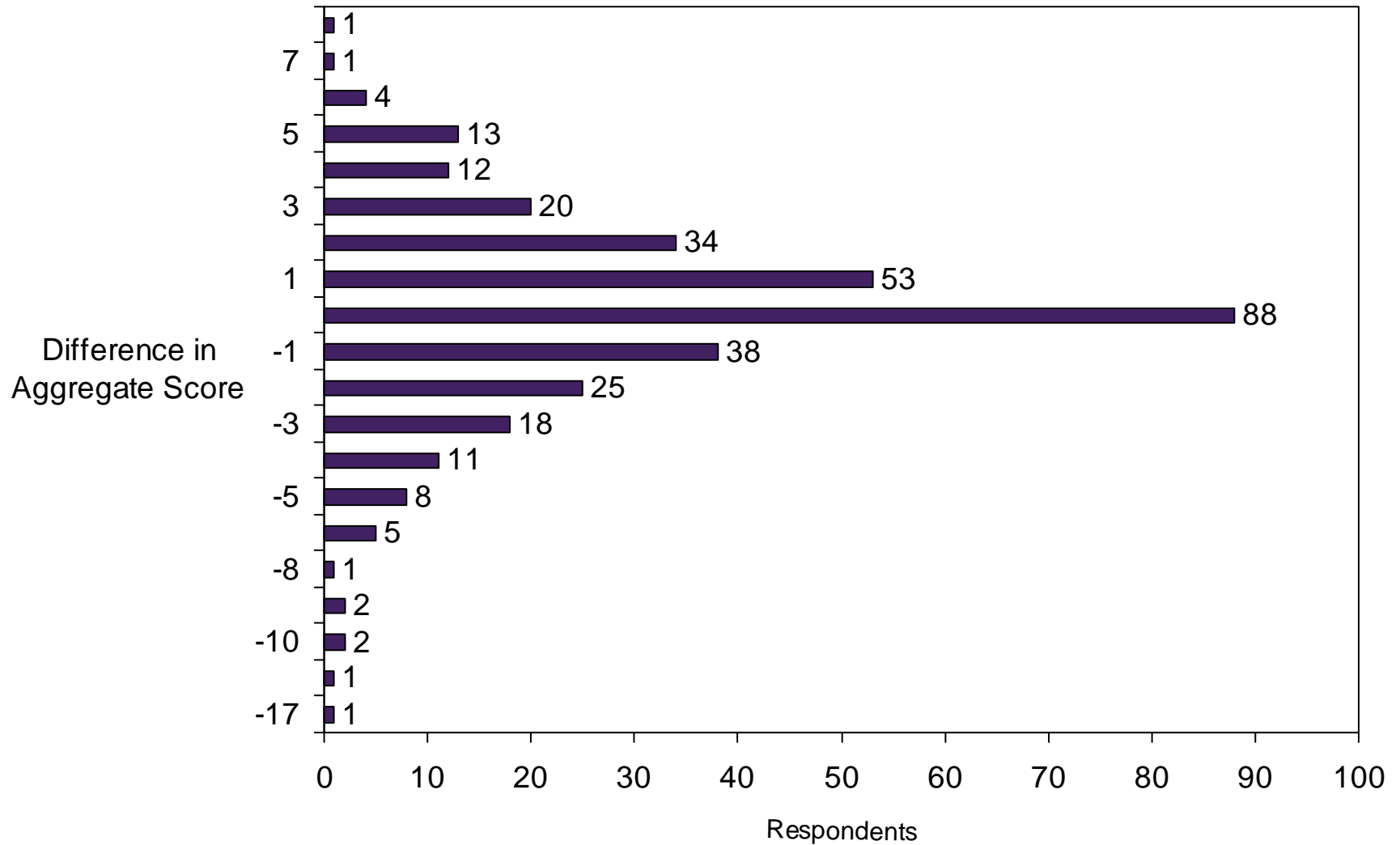
Factor Differences Between the Pre and Post-Assessments

Factor	Pre	Post	Mean Diff*	Median	<i>sd</i>	Min/Max
1. Empathy	19.44	19.45	.01	.00	2.909	-17 to 9
2. Participation	15.38	15.84	.46	.00	2.322	-10 to 8
3. Outlook	11.16	11.48	.32	.00	1.910	-7 to 6

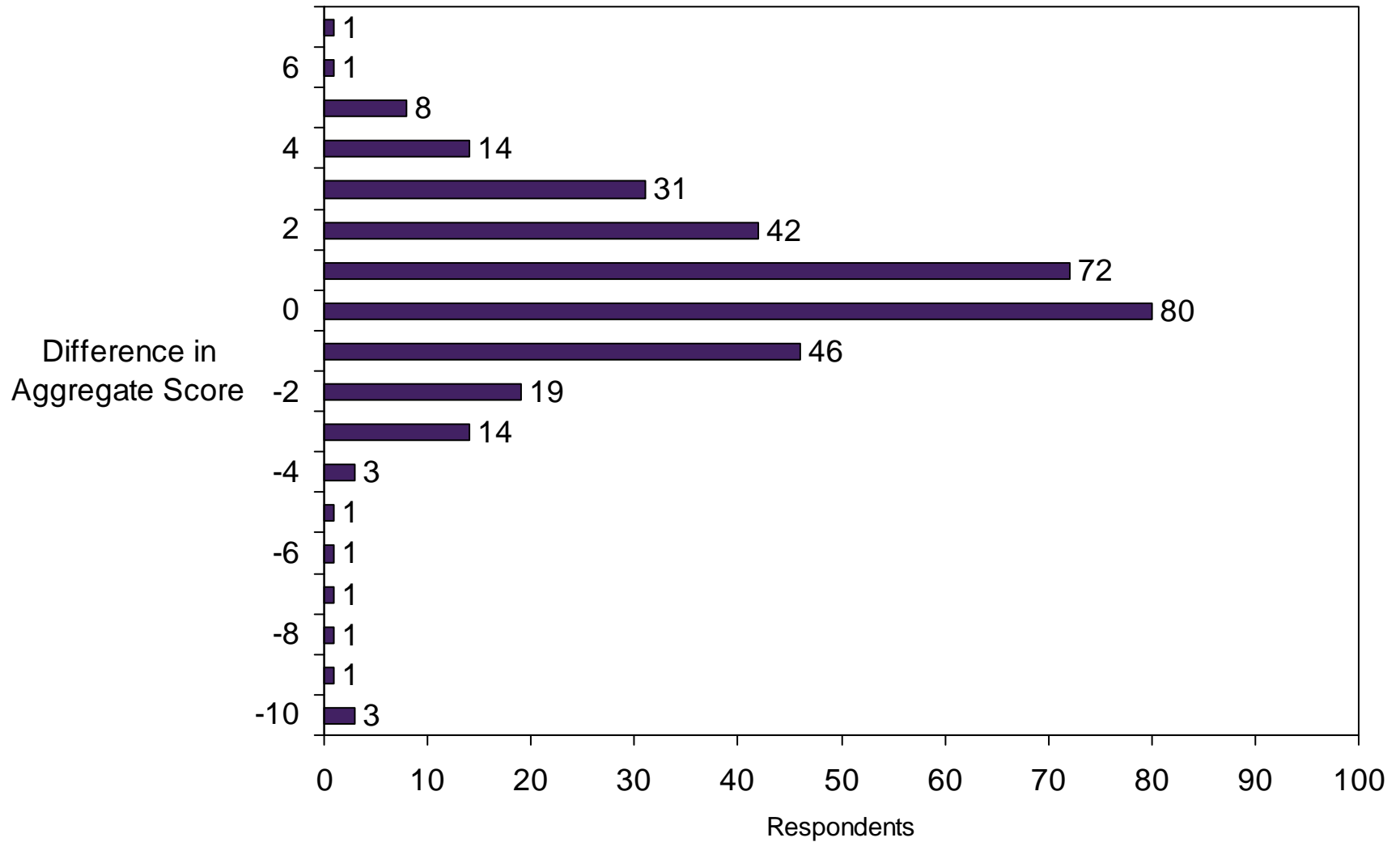
*Mean difference calculated by subtracting the pre-assessment aggregate score for each respondent from the post-assessment aggregate score for each respondent



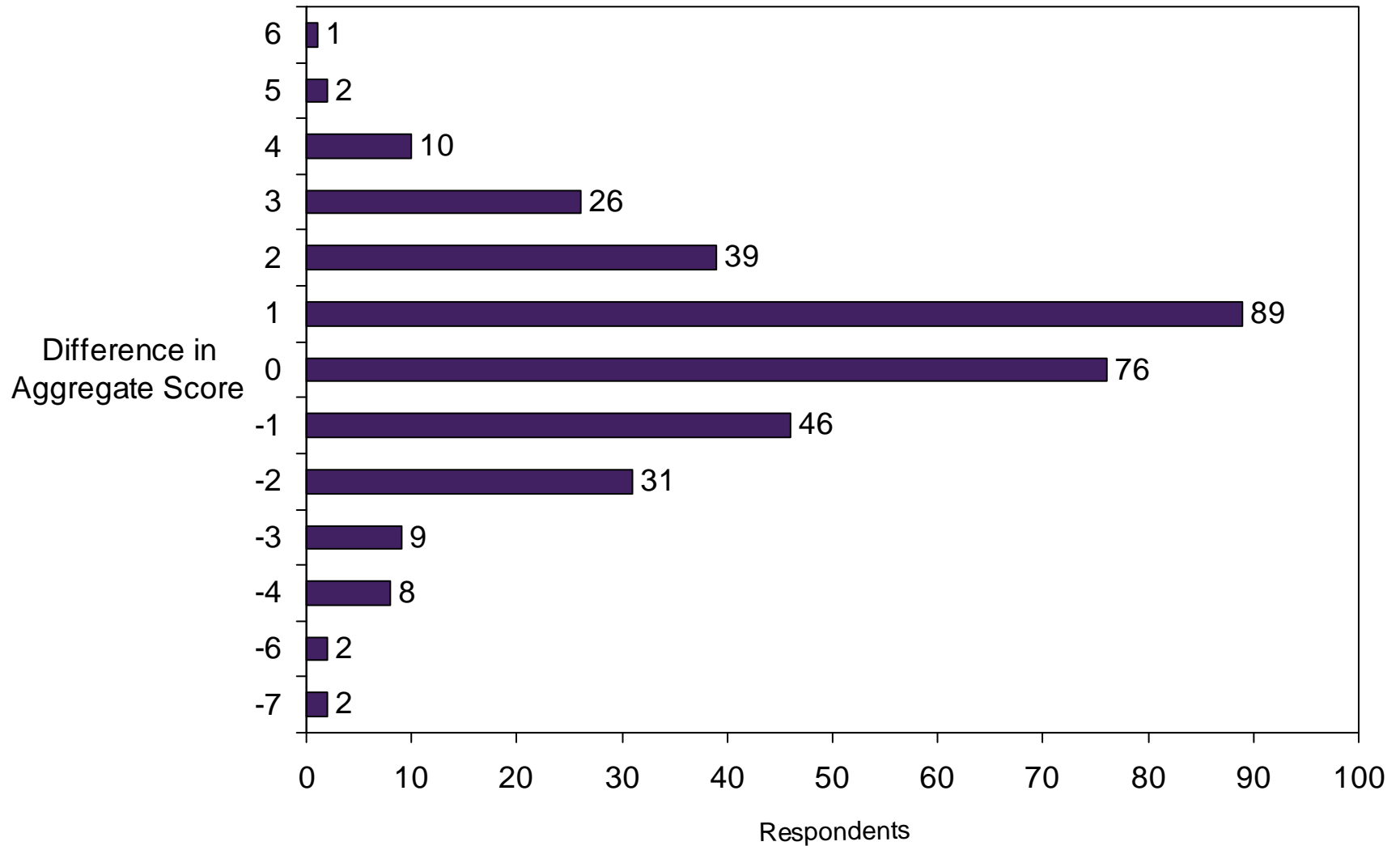
Individual Changes Between Pre and Post Factor 1-Empathy



Individual Changes Between Pre and Post Factor 2-Participation



Individual Changes Between Pre and Post Factor 3-Outlook



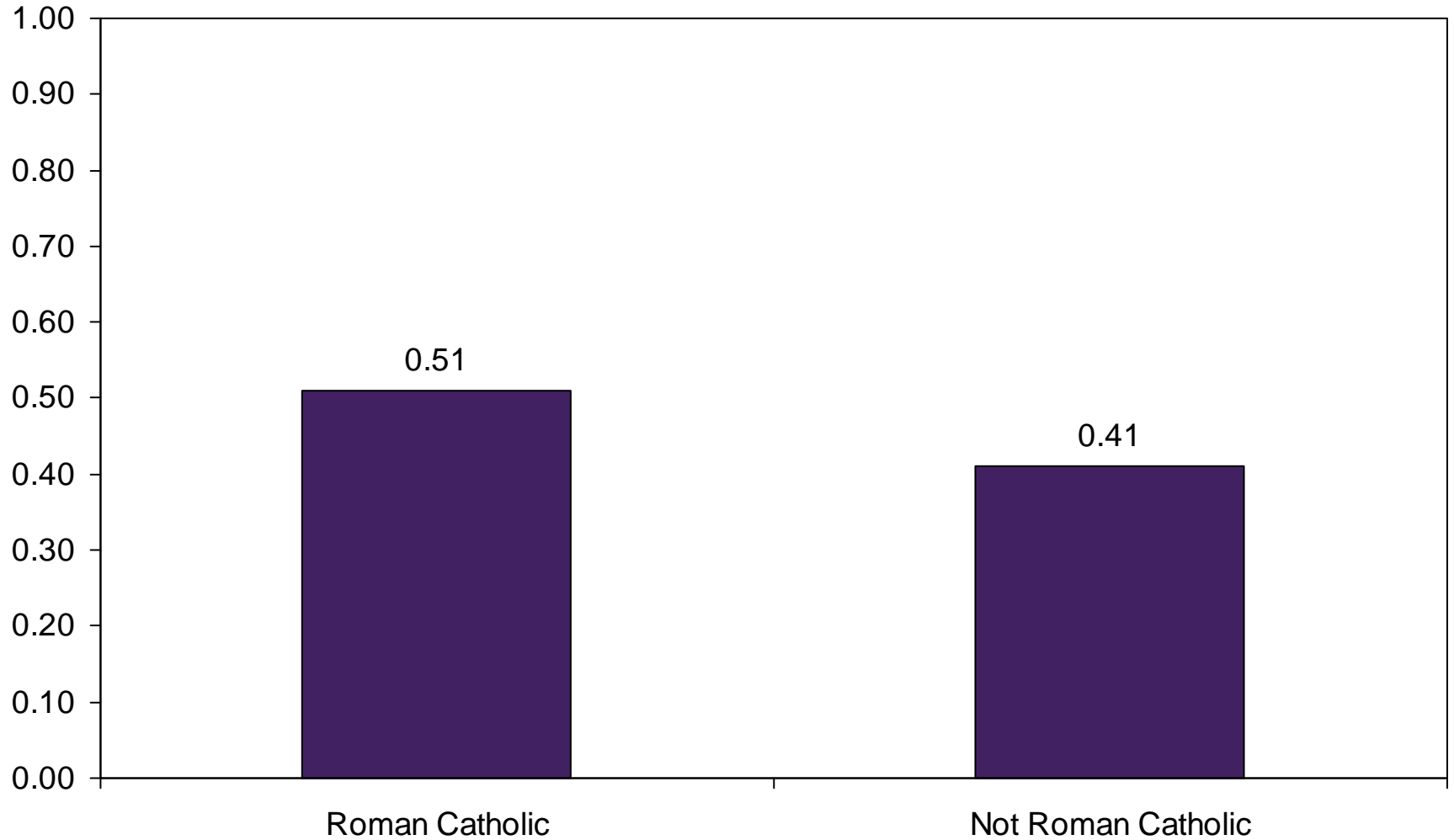
Independent Samples t -Test

- Compares the means of two samples
- Samples should be independent of each other
- Dependent variable must be interval
- Independent variable must have two discrete levels

Descriptive Statistics

Variable	Range	Mean	<i>sd</i>	Description
Gender	0-1	0.48	0.500	If male (1)
Race	0-1	0.89	0.318	If white (1)
Religion	0-1	0.52	0.500	If Roman Catholic (1)
Admission Type	0-1	0.85	.361	If first time, first-year (1)

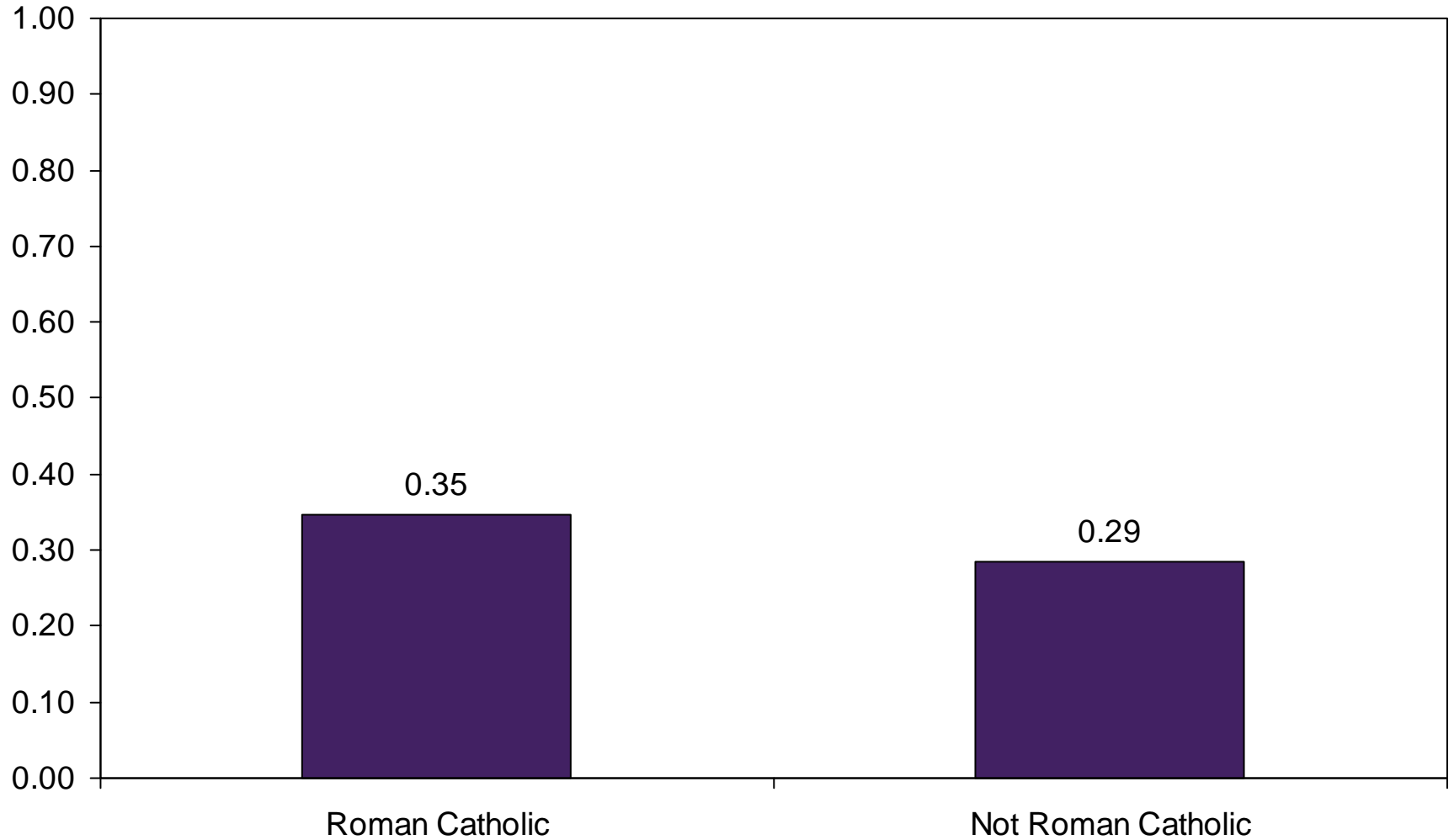
Factor 2-Participation Pre and Post Difference by Religion



N=339, p=.698

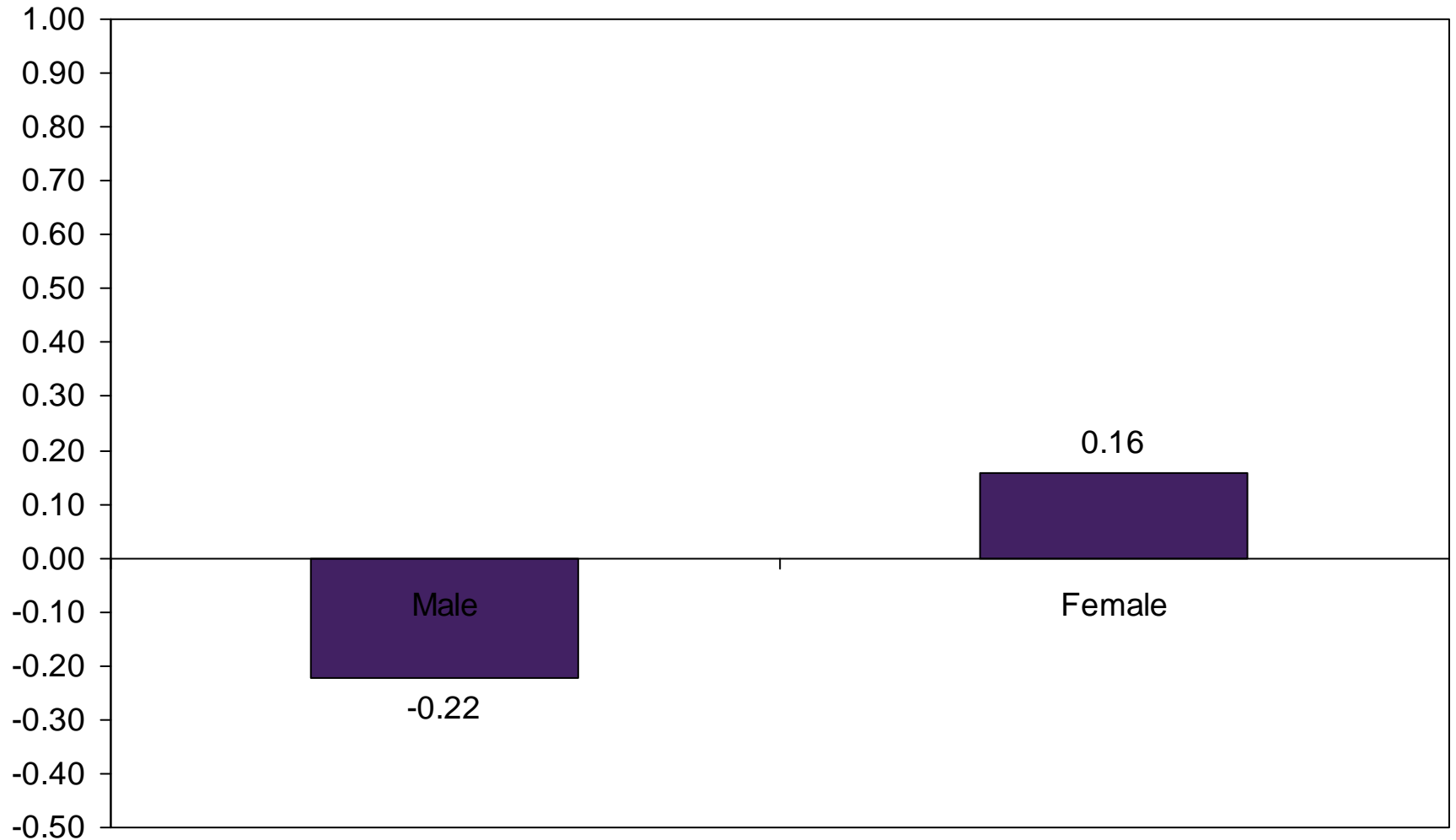
Factor 3-Outlook

Pre and Post Difference by Religion



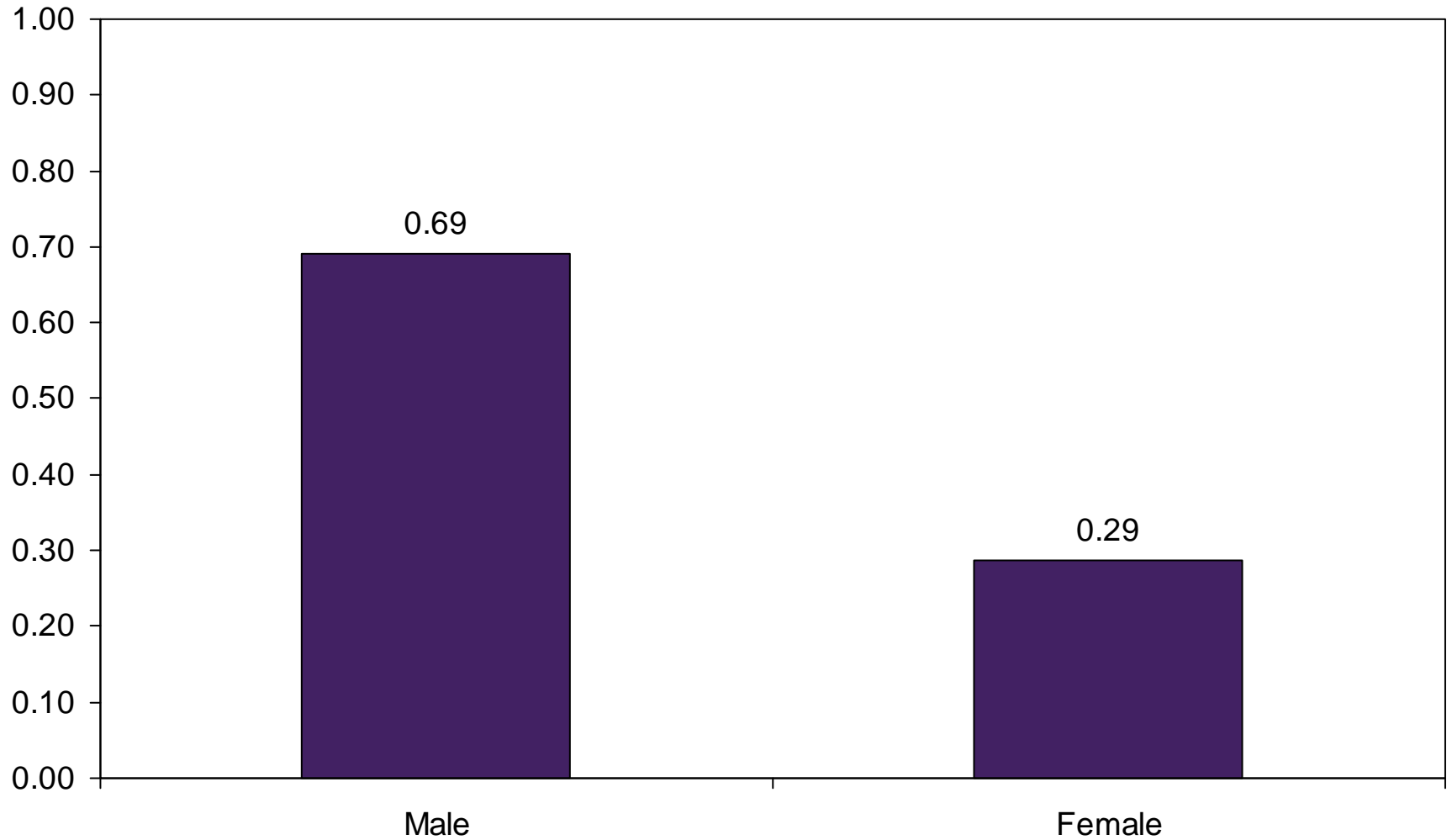
N=339, p=.768

Factor 1-Empathy Pre and Post Difference by Gender



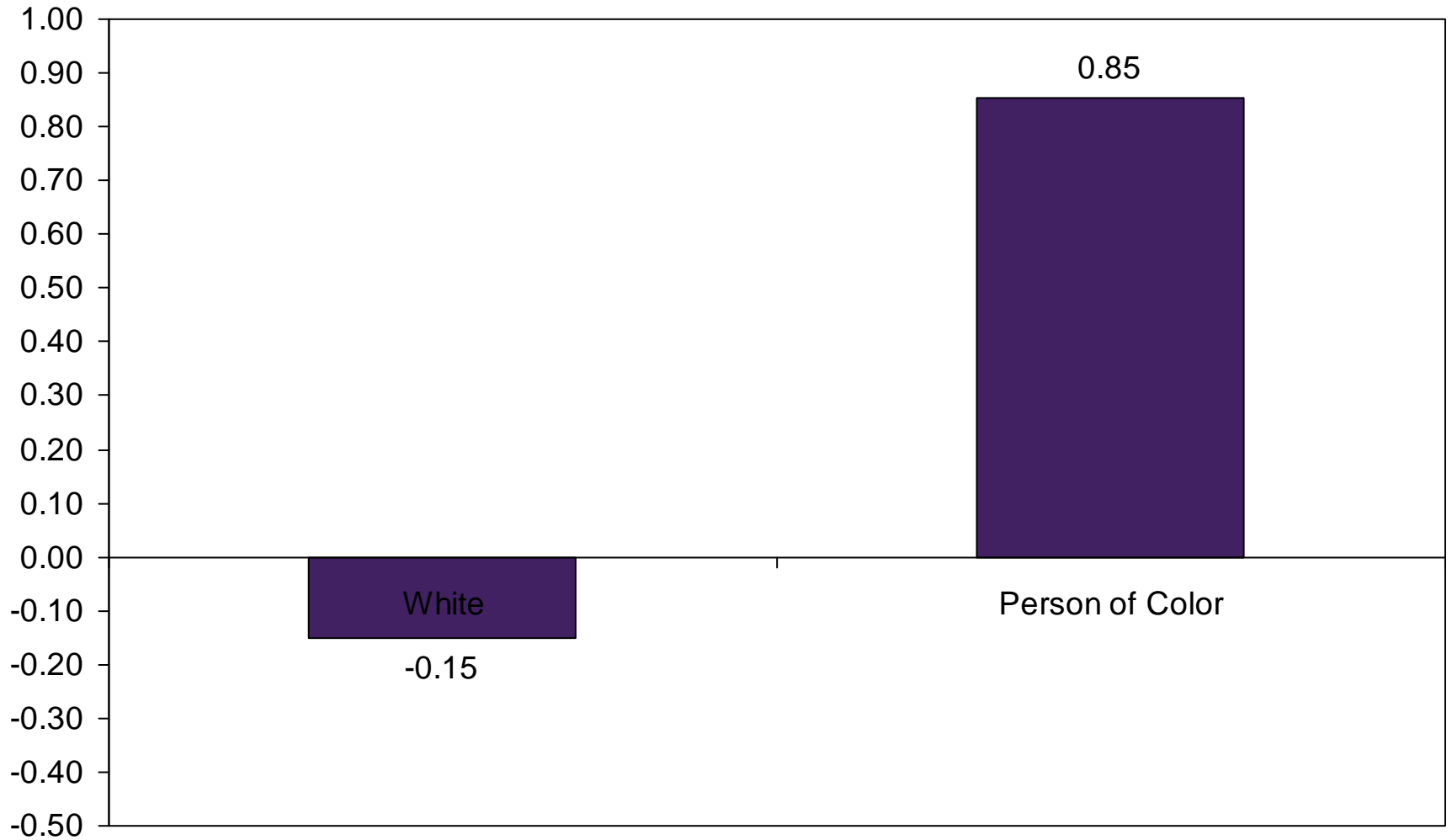
N=330, p=.244

Factor 2-Participation Pre and Post Difference by Gender



N=330, p=.121

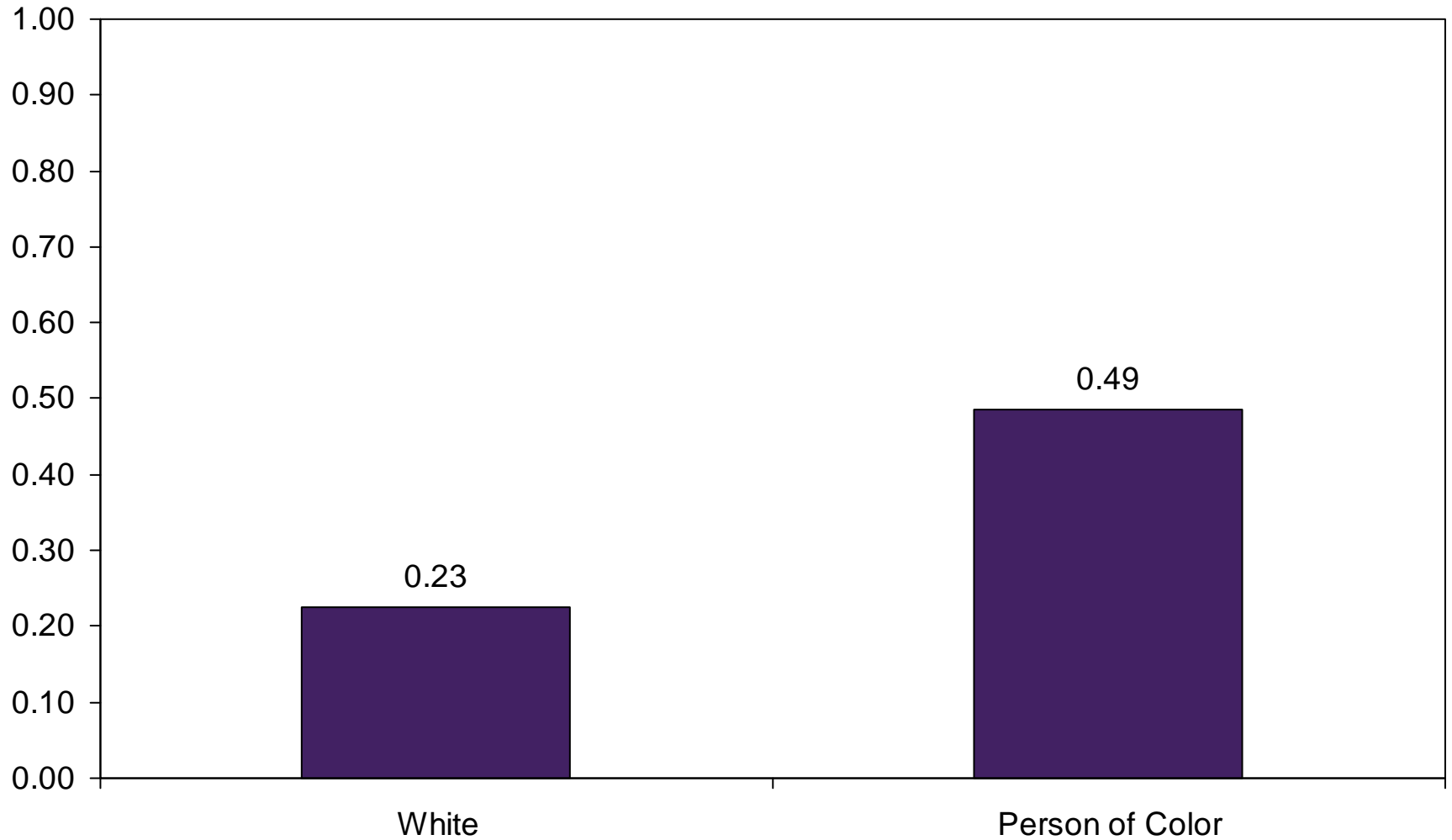
Factor 1-Empathy Pre and Post Difference by Race



N=314, p=.060

Factor 3-Outlook

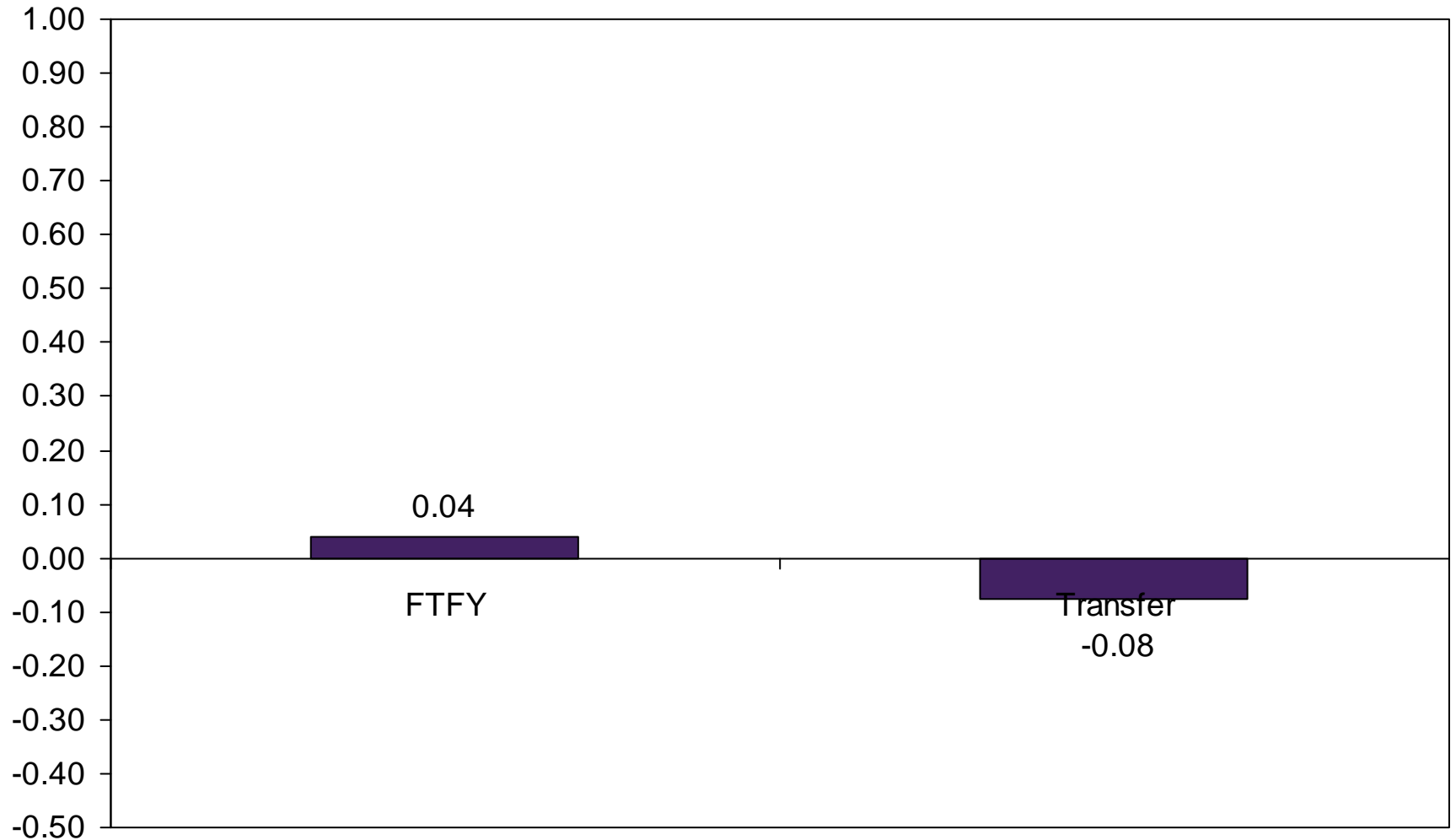
Pre and Post Difference by Race



N=314, p=.260

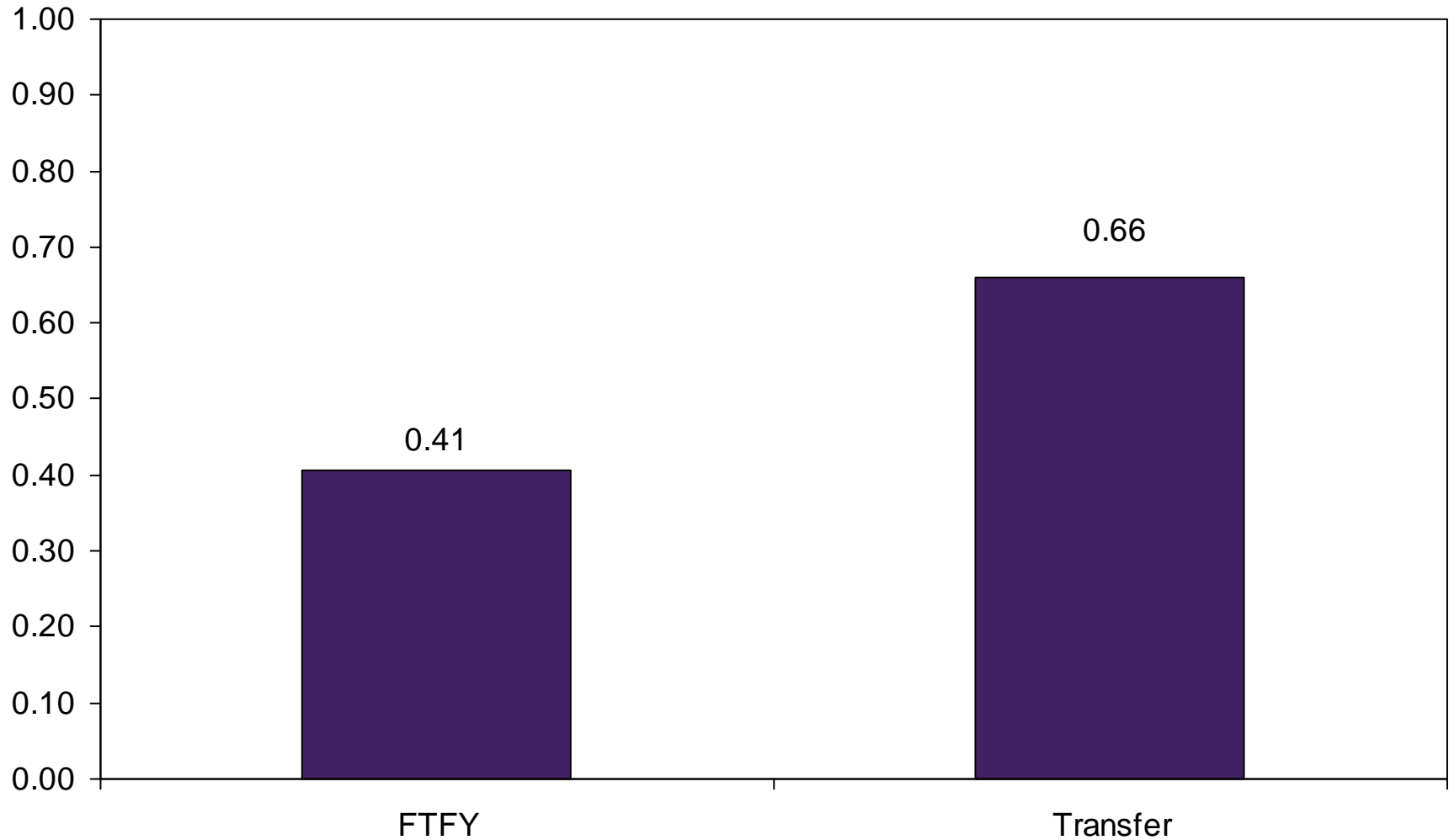
Factor 1-Empathy

Pre and Post Difference by Admission Type



N=325, p=.792

Factor 2-Participation Pre and Post Difference by Admission Type



N=325, p=.469

Implications

- Exploratory
- Institutional understanding of 'experience'
- Faculty reflection
- Need for discussion concerning intended results

Future Research

- Determine effects of service-learning types
- Continue repeated measures for fall cohort
- Service-learning program analysis

Discussion

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