

Clayton Ulm,^{1,2} Jamie M. Gajos,³ Jessica Becerra,^{1,4} Adam E. Barry,⁵ Dingjing Shi,⁴ Emily T. Hébert,⁶ Chaelin K. Ra,⁸ & Michael S. Businelle^{1,7}

¹TSET Health Promotion Research Center, Stephenson Cancer Center, Oklahoma City, OK, USA; ²Department of Health Behavior, Gillings School of Global Public Health, University of North Carolina at Chapel Hill, Chapel Hill, NC, USA; ³Department of Family and Community Medicine, University of Alabama at Birmingham, Birmingham, AL, USA; ⁴Department of Psychology, University of Oklahoma, Norman, OK, USA; ⁵Department of Health and Kinesiology, Texas A&M University, College Station, TX, USA; ⁶Department of Health Promotion and Behavioral Sciences, UT Health School of Public Health, Austin, TX, USA; ⁷Department of Family and Preventive Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, USA ⁸Rutgers Cancer Institute of New Jersey, New Brunswick, NJ, USA

Background

- Higher religiosity is often associated with improved health behavior and outcomes.¹⁻³
- Both intrinsic and extrinsic religiosity are inversely related to hazardous drinking.⁴⁻⁵
- Few studies have directly compared these effects in a general sample of U.S. adults.

Objective

- Examine associations between intrinsic and extrinsic religiosity on hazardous drinking.

Study Design

- U.S. adults completed baseline (N = 485) and 28-day follow-up (N = 458) surveys.

Baseline

- Participants completed the AUDIT-C to assess hazardous drinking.

Table 1: The Alcohol Use Disorders Identification Test-Concise (AUDIT-C)

How often do you have a drink containing alcohol?	How many drinks containing alcohol do you have on a typical day when you are drinking?	How often do you have six or more drinks on one occasion?
0=Never, 4=4 or more times a week	0=1 or 2 drinks, 4=10 or more drinks	0=Never, 4=4 or more times a week

- Measures of intrinsic and extrinsic religiosity.

Table 2: Measure of Religiosity

Extrinsic Religiosity		Intrinsic Religiosity
Past Year	Past Week	
Apart from special occasions such as weddings and funerals, how often do you attend religious services?	During the past week, how often did you attend religious services?	Religion or spirituality is important to me.
0=Everyday, 9=Never	0=0, 9=9 or more	

28-Day Follow-Up

- Participants reported weekly alcohol intake:
 - On average, how many standard drinks containing alcohol do you consume in a WEEK? (0-21 or more).

Analyses

- Negative binomial regression.
 - Model 1** - Intrinsic Religiosity.
 - Model 2** - Past Year Religious Attendance.
 - Model 3** - Past Week Religious Attendance.
- Controlling for demographic covariates (age, gender, race/ethnicity, educational status).

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Results

Table 3: Participant Demographics (N = 485)

Variable	n (%) or M±SD	Variable	M±SD
Female	396 (76.1%)	Age (years)	48.2±12.4
White	341 (70.3%)	Education (years)	14.5±2.2
Extrinsic Religiosity		Intrinsic Religiosity*	3.7±1.3
Past Year*	6.9±2.3		
Past Week*	0.3±0.8		

*Range: Past Year & Past Week (0-9), Intrinsic Religiosity (1-5)

Table 4: Correlations Between Measures of Religiosity

Variable	Extrinsic Religiosity		Intrinsic Religiosity
	Past Year	Past Week	
Past Year	1		
Past Week	0.56*	1	
Intrinsic Religiosity	0.52*	0.32*	1

*p ≤ 0.05

Table 5: Association Between Total AUDIT-C Scores and Religiosity (N = 485)

	Model 1	Model 2	Model 3
	IRR (95% CI)	IRR (95% CI)	IRR (95% CI)
Intrinsic Religiosity	0.90** (0.83, 0.98)	--	--
Extrinsic Religiosity	--	--	--
Past Year	--	0.95* (0.90, 1.00)	--
Past Week	--	--	0.88 (0.75, 1.02)
Gender	1.43** (1.11, 1.84)	1.49** (1.16, 1.91)	1.50** (1.17, 1.92)
Race/ethnicity	1.14 (0.89, 1.46)	1.09 (0.86, 1.40)	1.09 (0.86, 1.40)
Age	0.99 (0.98, 1.00)	0.99* (0.98, 1.00)	0.99* (0.98, 1.00)
Education	1.04 (0.76, 1.44)	1.06 (0.77, 1.46)	1.04 (0.75, 1.44)

Note: IRR=Incident risk ratio; Gender (female=0), Race (White=0), Education (HS or less=0); **p≤0.01, *p≤0.05; bold=significant.

Table 6: Association Between Follow Up Weekly Alcohol Intake and Religiosity (N = 458)

	Model 1	Model 2	Model 3
	IRR (95% CI)	IRR (95% CI)	IRR (95% CI)
Intrinsic Religiosity	0.84* (0.71, 0.98)	--	--
Extrinsic Religiosity	--	--	--
Past Year	--	0.87** (0.79, 0.96)	--
Past Week	--	--	0.83 (0.63, 1.11)
Gender	2.00** (1.23, 3.26)	2.39** (1.45, 3.93)	2.17** (1.32, 3.58)
Race/ethnicity	1.06 (0.66, 1.71)	0.95 (0.60, 1.52)	0.98 (0.61, 1.56)
Age	1.01 (0.99, 1.03)	1.01 (0.99, 1.03)	1.01 (0.99, 1.03)
Education	0.90 (0.49, 1.64)	0.85 (0.46, 1.56)	0.92 (0.48, 1.73)

Note: IRR=Incident risk ratio; Gender (female=0), Race (White=0), Education (HS or less=0); **p≤0.01, *p≤0.05; bold=significant.

Conclusions

- Findings indicate that both intrinsic religiosity and past year religious attendance are related to lower hazardous drinking, with males demonstrating a stronger likelihood of hazardous drinking.
- Different aspects of religiosity may contribute to alcohol consumption and alcohol-related problems, which may call for a more nuanced approach to conceptualizing and operationalizing religiosity in future studies.

Considerations for Future Research

- Self-report biases: Religiosity and alcohol consumption measures may be influenced by social desirability or retrospective recall biases.
 - Intensive longitudinal interventions could examine mechanisms linking religiosity and alcohol consumption and alcohol problems over time.
- Interventions: Future interventions may tailor content to individual religiosity and spirituality preferences to mitigate hazardous drinking and promote healthier lifestyles.

Figure 1. Distribution of Baseline AUDIT-C Scores

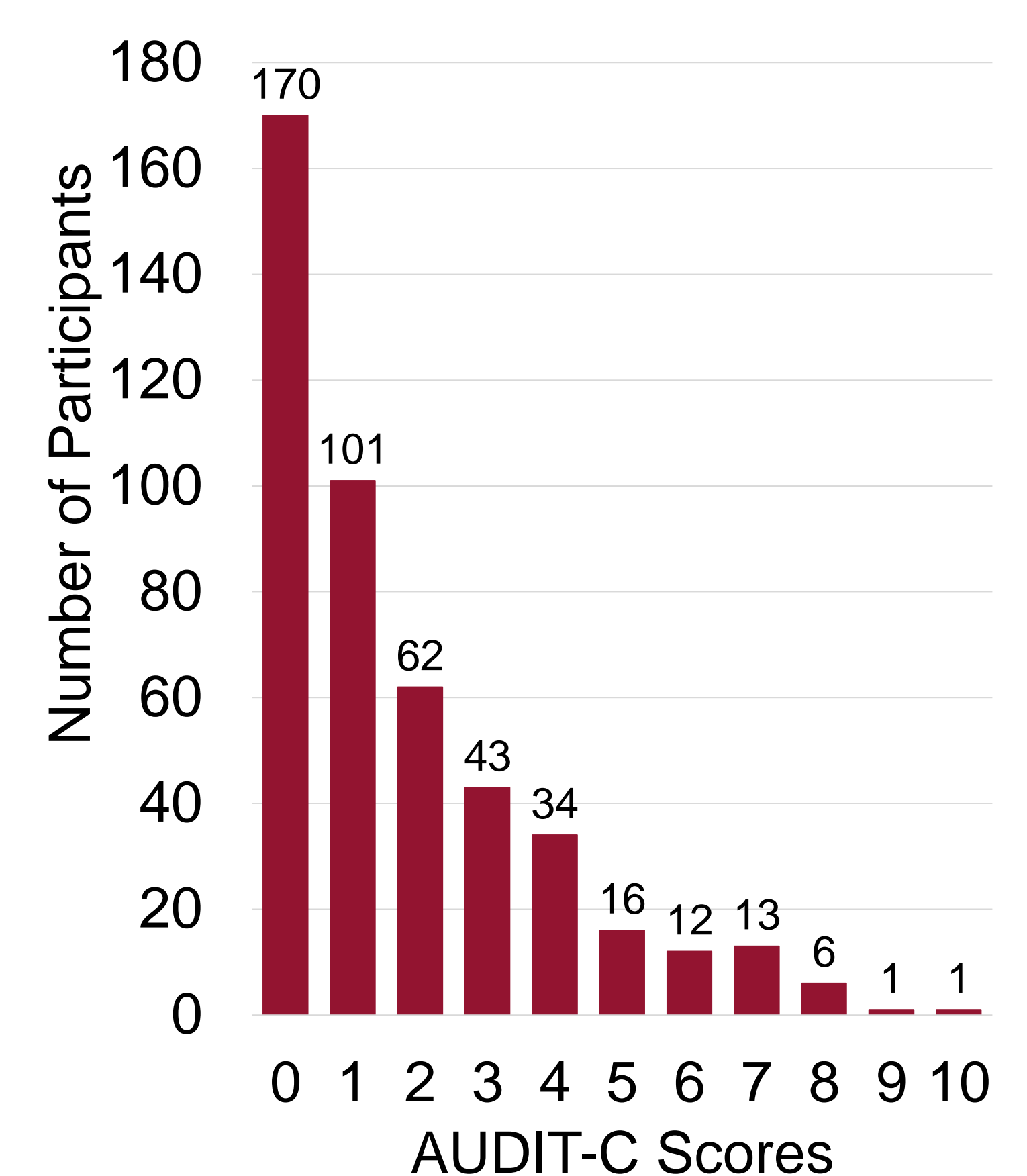
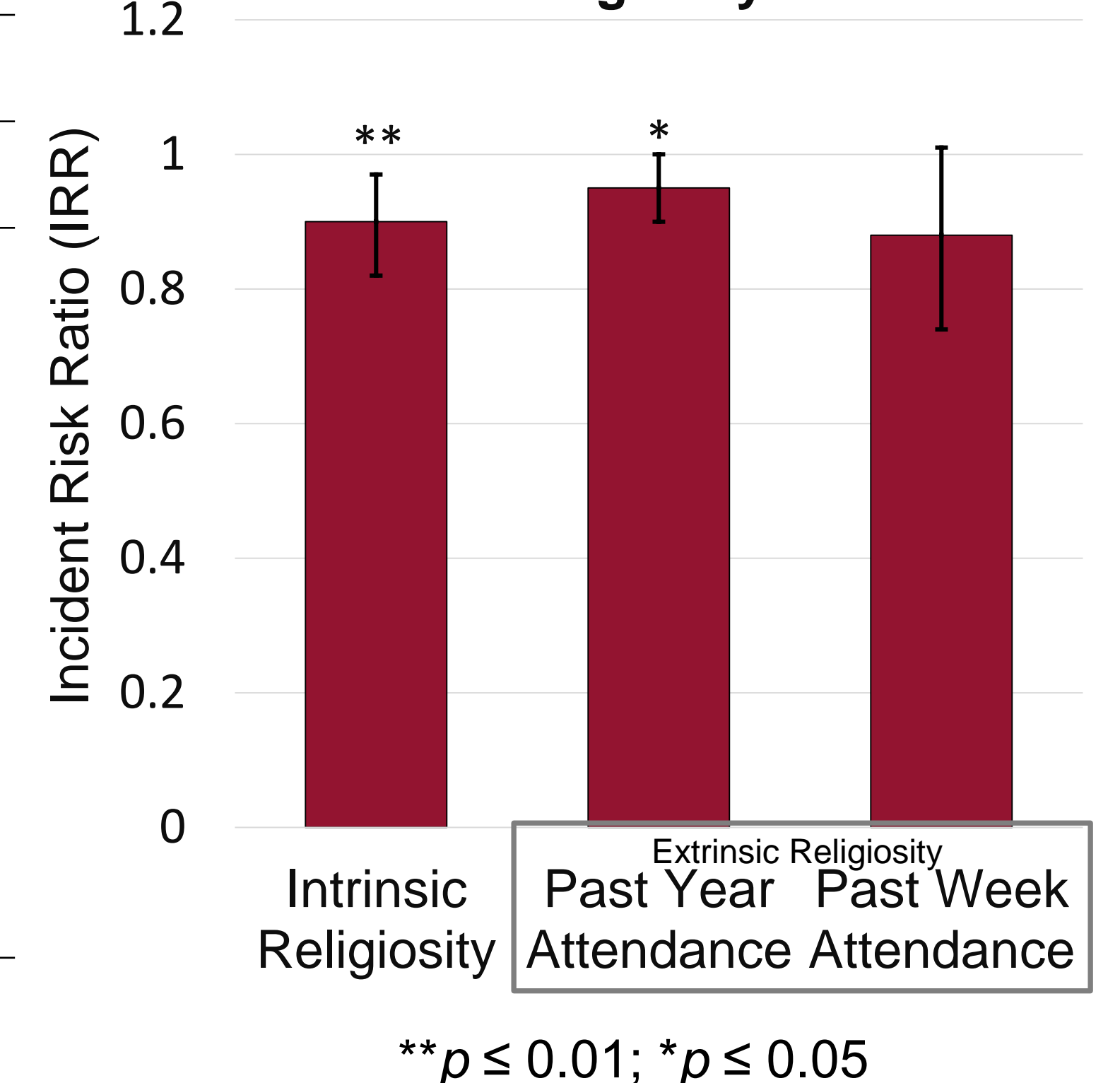
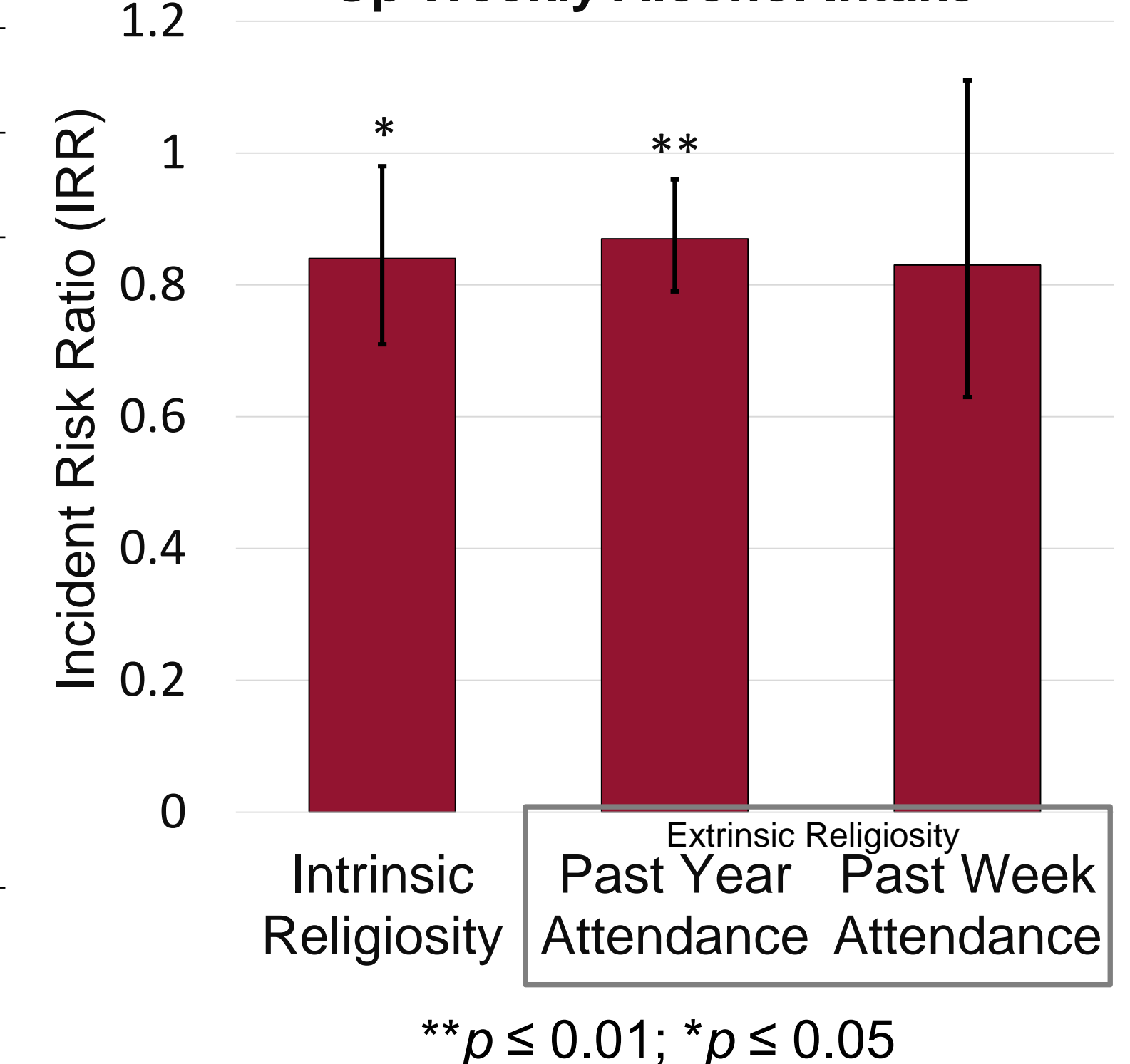


Figure 2. Associations Between Baseline AUDIT-C Scores and Religiosity



**p ≤ 0.01; *p ≤ 0.05

Figure 3. Associations Between Baseline Religiosity and Follow-Up Weekly Alcohol Intake



**p ≤ 0.01; *p ≤ 0.05



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Email: Clayton-Ulm@ouhsc.edu or rulm@unc.edu