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2006

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Recommended Citation
Haber, Jon Randolph; Jacob, Theodore; and Heath, Andrew C., "Religion as a protective sociocultural factor in adolescent alcoholism" (2006). *Posters*. Paper 20 Samuel B. Guze Symposium on Alcoholism.
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Religion as a Protective Sociocultural Factor in Adolescent Alcoholism

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Abstract

Leading researchers (Miller, Kendler, Heath) have concluded that religion is a significant and inverse predictor of alcohol behavior. However, the specific R/S dimensions and underlying mechanisms of this effect remain unclear. One explanation originally proposed by Weber and others is based in the socio-cultural characteristics of religious affiliation. To test this theory, church affiliations were categorized as culturally accommodating or differentiating on the basis of previously devised criteria. Offspring of alcoholic parents were examined according to their mother's report of childhood religious affiliation (including 'none') and subsequent alcohol behavior during adolescence, specifically, the number of self-reported offspring alcohol abuse and dependence symptoms in a sample of 1331 female twin pairs aged 13 to 19 years.

Results indicated that high-risk offspring (by virtue of parental alcoholism history) having <u>any</u> religious affiliation were significantly lower in alcohol symptom counts compared to similarly high-risk offspring having no religious affiliation, thus supporting the general protective influence of religious affiliation. More important, offspring raised in <u>differentiating</u> churches accounted for this effect. That is, offspring raised in accommodating churches were not significantly different from the 'no religion' group and their mean symptom count exceeded those with 'no religion'; in contrast, offspring raised in differentiating churches had significantly fewer symptoms than those in the 'no religion' group, and means approximated normal control levels, thus indicating a protective influence. Other 'individual difference' religious variables (entered as covariates) did not account for this effect.

These results may reflect a socio-cultural interaction between a culture where adolescent alcohol use is normative and church affiliation that proposes differentiation from certain cultural influences. For instance, church affiliation may encourage offspring to be "different" and may promote values that discourage alcohol use. It is noteworthy that simple church rules against alcohol use did not account for this effect. In contrast, 'accommodating' church affiliation does not even trend in the protective direction, but mean scores exceed symptom counts of the non-religious group. These results are limited, however, in only narrowly examining alcohol symptoms in female Midwest adolescents; other measures may respond differently to 'differentiation' influences. Further characterization is needed, and upcoming consideration of the role of genetic influences in these effects may modify interpretation of these findings.

Introduction

- Kendler (1997, p.326) concluded that: "Both population surveys and clinical studies have noted that religiosity is significantly and inversely related to alcohol and drug use.
- Miller (2002, p.3) stated that: "[Religiousness] appears to be one of the most consistent risk/protective factors in the literature…".
- Heath et al. (2001, p.536) reported that "Other Protestant" religious affiliation was one of six significant (inverse) predictors of alcohol dependence symptoms (Australian twin panel, 1981 cohort).
- Heath et al. (1999) demonstrated that the religious affiliation of adolescent African-American girls accounted for differences in the age of onset of alcohol use (MOAFTS sample).

- Although religious affiliation appears to be a 'protective' influence with regard to various alcohol indicators, this effect is not clearly understood.

- One explanation that appears to account for observed effects was first proposed by Max Weber (1922), revised by Reinhold Niebuhr (1929), and operationalized by Johnson (1963) and Stark (1985) which differentiates religious groups according to their acceptance or rejection of the social environment in which they exist.
- Religious groups that **accommodate** to their host culture may differentially influence their members compared to those that **differentiate** themselves from their host culture.

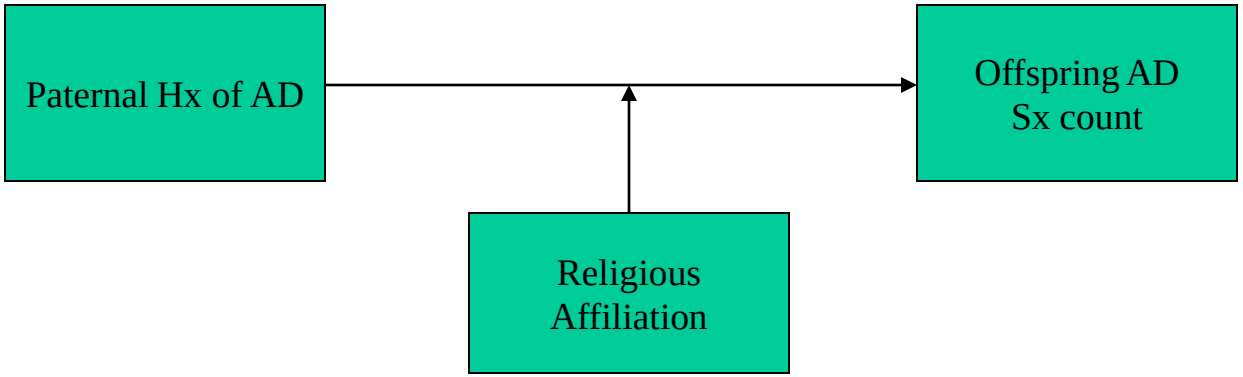
- **In a culture that is tolerant of alcohol use, does alcohol risk vary according to the accommodating or differentiating nature of a person's religious affiliation as compared to having no religious affiliation?**
- **Is this effect accounted for by other measures of religiousness?**

Methods

- Sample: 1331 female twin pairs and their parents who were interviewed and answered questionnaires in the Missouri Adolescent Female Twins Study (MOAFTS).
- Assessment variables:
  - DV: twin offspring Alcohol Dependence (AD) symptom count reported in each twin's interview.
  - IV: history of paternal alcohol dependence diagnosis as reported in Father's (or Mother's) interviews.
  - Moderator: Religious Affiliation: From a list of 20 religious affiliations, Mother reported the primary religion in which the twins were raised (age 6-13). Sample denominations (=>50 endorsements) were classified according to models developed by Bainbridge & Stark (1980) and Kelley (1972) into four affiliation groups: **Accommodating** (Presbyterian, Methodist, Lutheran, etc.), **Differentiating** (Church of Christ, Assemblies of God, 'Other Protestant", etc.), Roman **Catholic** (large size would skew other categories), and **None** (no religious affiliation).
  - Covariates: paternal and maternal education level, family income, twin age, maternal history of alcohol dependence diagnosis.
  - Other religious variables: Religious Involvement (attendance reported in Twin's questionnaire); Religious Values ('importance' of religious behaviors per Jessor & Jessor, 1977); Religious Rules (Mother's report of whether their affiliation had rules against all alcohol use).
- Data Analysis: Linear Regression

Model

- Predictor: Paternal History of Alcohol Dependence Diagnosis (AD)
- DV: Offspring AD symptom count
- Interaction:
  - (a) Any religious affiliation (vs. no religious affiliation)
  - (b) Religious affiliation type: Accommodating; Differentiating; Historical (Catholic); or None (no affiliation)
- Covariates:
  - (a) all analyses: paternal and maternal education, family income, and twin age
  - (b) other religious variables: religious attendance (=> 1x/week); religious values; religious rules



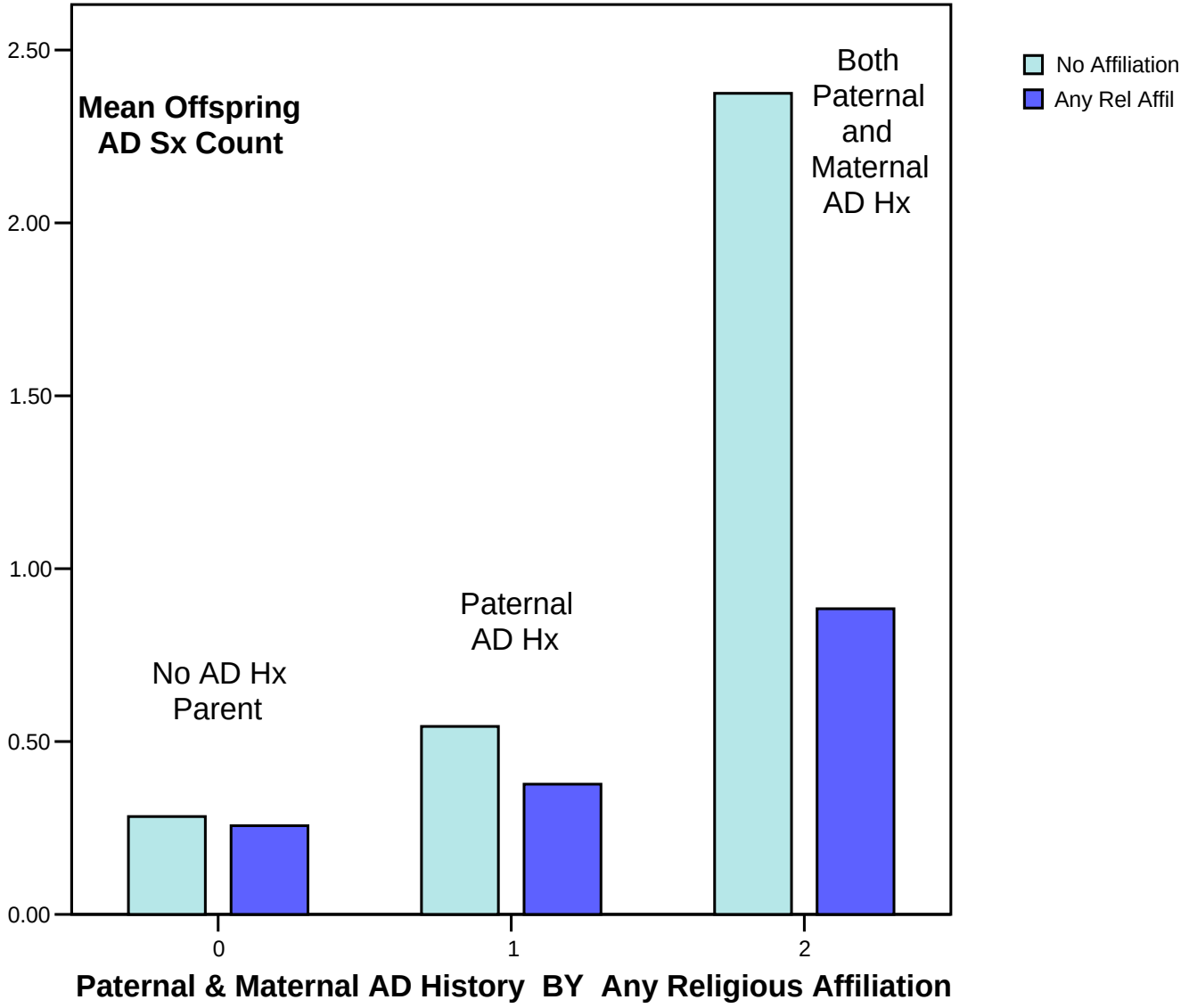
Three Models of Religious Moderation of Offspring Alcoholism Risk:

(a) Moderation by Any Religious Affiliation
(b) Moderation by any of the hypothesized Affiliation Types
(c) Moderation by Affiliation Type when including Other Religious Covariates

Results

Affiliation Type	Twin age	Family Income	M's education	F's education	Alc Dep Sx
Type A- Accommodating	**15.7 (2.3)**	**$60,000**	**14.0 (2.0)**	**14.1 (2.3)**	.43 (1.06)
Type C- Roman Catholic	15.3 (2.3)	**$62,000**	**13.7 (2.0)**	**13.9 (2.2)**	**.31 (.85)**
Type D- Differentiating	**15.6 (2.3)**	**$41,000**	**12.9 (2.0)**	**12.7 (2.2)**	**.24 (.79)**
NR- No Religion	15.5 (2.3)	$49,000	**12.0 (2.3)**	13.0 (2.4)	.41 (1.15)
Total	15.5 (2.3)	$50,000	13.3 (2.1)	13.3 (2.3)	0.30 (.88)
Total "n"	2523	3447	3543	3453	3451
ANOVA	.005	.000	.000	.000	.000

Figure 1: Model 1 MEANS : Any Religious Affiliation (and Gender of the Alcoholic Parent)



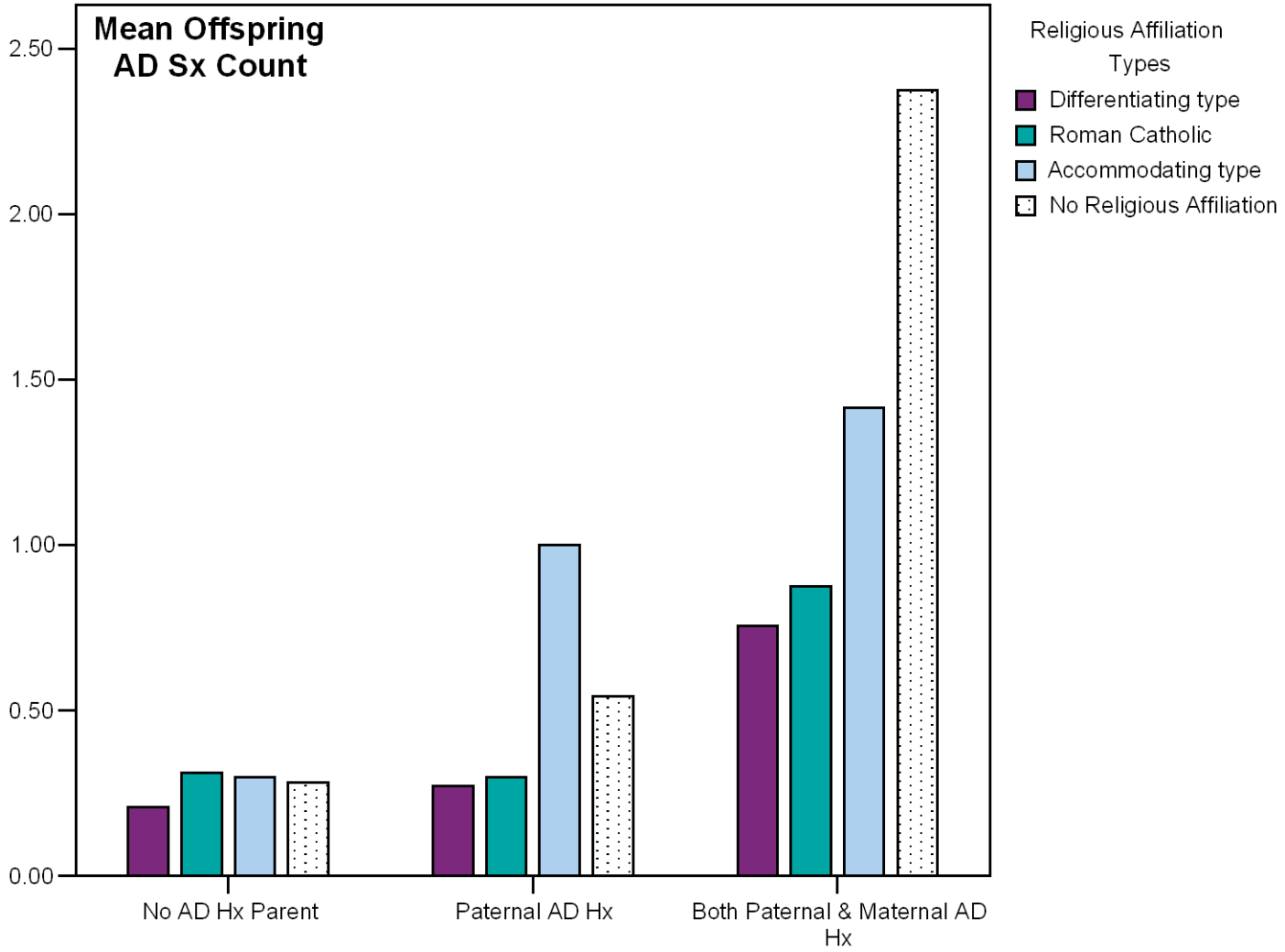
Model 1: Results

Table 1. Regression of Offspring AD Sx count on Paternal & Maternal AD Hx and Any Religious Affiliation and their Interactions.[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.979	.213		-9.271	.000
	paed	-.009	.010	-.020	-.840	.401
	maed	-.009	.011	-.019	-.844	.399
	faminc	.000	.000	.087	4.102	.000
	twinage	.160	.008	.365	19.451	.000
	paalchst	.509	.187	.204	2.725	**.006**
	maalchst	-.663	.540	-.135	-1.227	.220
	r_affil2	-.036	.098	-.008	-.370	.711
	paXmaHst	2.503	.662	.383	3.784	**.000**
	paXaff2	-.350	.194	-.136	-1.805	.071
	maXaff2	.923	.558	.179	1.653	.098
	paXma Xaff2	-2.311	.690	-.332	-3.348	**.001**

a. Dependent Variable: alcdepsx

Figure 2: Model 2 MEANS : Types of Religious Affiliation (and Gender of the Alcoholic Parent)



Paternal & Maternal AD History BY Type of Religious Affiliation

Moderator Effects of Affiliation Type on the Association between Paternal AD Hx Risk and Offspring AD Sx Count.

Table 3

DV	p: Paternal Alc Hx	Affiliation Type	p: Affiliation effect	p: Palc x Aff Interaction	Explanatory Religion Covariate	p: Religion Covariate
alcdepsx	**.000**	Differentiating	**.000**	**.000**		
alcdepsx	**.000**	Differentiating	**.000**	**.000**	r_katt2.	**.008**
alcdepsx	**.000**	Differentiating	**.000**	**.000**	rvalues2	**.05**
alcdepsx	**.000**	Differentiating	**.000**	**.000**	rrules	.95
alcdepsx	**.000**	Accommodating	.71	**.035**		
alcdepsx	**.000**	Accommodating	.43	**.01**	r_katt2.	.11
alcdepsx	**.000**	Accommodating	.57	**.02**	rvalues2	.25
alcdepsx	**.000**	Accommodating	.98	.36	rrules	.52
alcdepsx	**.000**	Catholic	**.007**	**.000**		
alcdepsx	**.000**	Catholic	**.005**	**.000**	r_katt2.	.13
alcdepsx	**.000**	Catholic	**.01**	**.000**	rvalues2	**.01**
alcdepsx	**.000**	Catholic	**.01**	**.000**	rrules	.16

Note: Shaded lines represent the first analysis of affiliation types without the explanatory religious covariate. The white lines are secondary analyses including an additional explanatory religious covariate.

Bold indicates p =< .05 .

Summary of Results

- Evidence of significantly lower AD symptom rates for those offspring whose mother's report a religious affiliation when their offspring were 6 to 13 years of age is consistent with the generally reported finding that Religious Affiliation is inversely associated with subsequent development of alcohol behavior in adolescence.

- These results suggest that the degree of moderation by Religious Affiliation increases as Offspring risk increases; that is, high-risk offspring having only one parent (father) with a lifetime history of AD exhibit significantly elevated rates of AD symptoms if they were **not** religiously affiliated during childhood. (Those raised with a religious affiliation were not significantly different from normal control levels.) However, those offspring with two parents having lifetime AD diagnoses exhibit further elevated AD symptoms if raised without religious affiliation and a greater protective effect if raised with a religious affiliation.

- Concerning religion as a sociocultural factor, hypotheses predicting differentiation of offspring on the basis of cultural accommodation or cultural differentiation as reflected in different types of religious affiliations were supported.

Summary of Results

- Differentiating Religious Affiliations: (Analyses reported in part in Table 3)
  - Offspring at **low risk** by virtue of neither parent ever meeting AD diagnosis criteria are not significantly different in AD symptom rates between the religious types.
  - Offspring at **high** risk by virtue of having a father who met AD diagnostic criteria at some time in his life are significantly differentiated by Affiliation Type.
    - Offspring of both Differentiating churches and Catholic churches show significantly reduced rates of AD symptoms compared to those with no religious affiliation.
    - Offspring of Accommodating churches exhibit elevated mean AD symptom rates compared to the 'no affiliation' group; however, this is not a significant difference and may result from chance.
  - Offspring at **very high** risk by virtue of having parents who both have met AD diagnostic criteria at some time in their lives are also significantly differentiated by Affiliation Type.
    - Offspring with no religious affiliation exhibit significantly higher rates of AD symptoms compared to all other groups.
    - All religious affiliations are significantly protective when compared to those raised without religious affiliation. Although trends exist between affiliations, they are not significantly different.

Summary of Results

- Covariance between Religious Affiliation and other religious variables
  - Religious attendance, Religious values ('importance' items), or Religious rules against all alcohol use did not reduce any effect below significance, and in come cases provided additional association with the outcome variable.
    - For Offspring reared with differentiating affiliations, religious attendance and religious values remained significantly associated with Offspring outcomes even after affiliation effects were accounted for.
    - Religious rules against all alcohol use did not explain any affiliation effect and was not otherwise associated with Offspring AD symptoms.

Discussion

In brief, these results suggest that:

- Religious Affiliation is a protective influence on adolescents who are at elevated risk for excessive alcohol behavior based on having alcoholism in their family history.
- Religious Affiliation provides greater protective influence for those who are at greater family risk.
- High risk Offspring affiliated with differentiating or historical (Catholic) churches exhibit greater protective benefits compared to offspring attending accommodating affiliations.
- The influence of Religious Affiliation does not appear to be accounted for by other 'individual difference' religious variables such as religious values and attendance.
- Given that U.S. culture is tolerant of alcohol use, to the degree that affiliation with differentiating churches encourages offspring to be "different" from the dominant culture, a protective effect may result when offspring follow values that replace or discourage alcohol use.

Limitations

- This sample is entirely female. Given that the female gender participates more frequently in religious pursuits, replication on a male sample is necessary.
- Sociodemographic and sociocultural variations may limit applicability of these categories to other areas and different subcultural groups. For instance, Black Baptist churches are different from White Baptist churches and vary between communities, regions, and economic classes.
- More precise measurement of the underlying ‘accommodating’ and ‘differentiating’ constructs is required to refine this construct, determine its stability and generalizability.

Future Directions

- Future analyses will expand to other diagnostic categories such as Conduct Disorder.
- Future analyses will more precisely determine the influence of different dimensions of Religion and Spirituality in explaining observed effects.
- Future analyses will examine the genetic underpinnings of religious variables and their covariation with other explanatory variables.

We wish to acknowledge:

...the **Support of NIAAA** for

- Grant R03 AA13236 to Randy Haber for Behavioral Genetic Study of Religiosity and Alcoholism,

- Grant R01-AA11667 to Theodore Jacob for Adult Children of Alcoholism Discordant Twins, and

- Grant P50-AA11998 to Andrew Heath for the Midwest Alcoholism Research Center