

Studying Religion-Associated Variations in Physicians' Clinical Decisions: Theoretical Rationale and Methodological Roadmap

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Two Views of Medical Practice

1. Medicine as a strict science (biomedical view)
 - Assumption that practitioners can separate public from private interests, professional practice from personal preferences, facts from values
 - Even if medicine is construed as “patient centered” physicians are seen as generic representatives of the current state of the science
 - This view has focused research on patients and patient outcomes. Research on physicians practices has been less.

Two Views of Medical Practice

2. Medical practice as intrinsically bound up in morality

- Considers the cultural, moral, religious, ethical influences on physician decision-making
- Reflected in Curlin's work showing that **physicians' religious affiliation and religiosity** are related to their clinical judgments about ethically/morally complex issues
- This view has many implications, but among them are that the physician is an appropriate unit of investigation. Ultimately the physician/patient dyad will need to be studied (not today, though)

Our Working Model

Physician religion-based decision making affected by three aspects of religion:

(1) Religious Group Affiliation

(2) Degree of Orthodoxy

(3) Degree of Religious Commitment

1. Religious Group Affiliation

Provides **content** for religious based medical decision-making

I.E. Affiliation determines which medical **issues** will be seen as candidates for application of religious beliefs and **how** those **beliefs affect the physician decision making on the issue**

Religious Group Affiliation

- Examples:
 - Catholics: famous for religious opposition to birth control and abortion
 - Jews: Some groups see extending life at any cost as a religious obligation

2. Degree of Orthodoxy

- Provides a basis by which to interpret the religious belief as applied to the clinical issue
 - Roughly bi-polar
 - Orthodoxy vs. Heterodoxy, or
 - Orthodoxy vs. Openness

3. Degree of Religious Commitment

May affect willingness to apply religious beliefs about a clinical issue as interpreted within degree of orthodoxy to groups of patients (e.g. none, only those within the tradition, all)

– Intrinsic Religious Motivation (much work has been done on this)

Includes:

- Importance of religion to one's life
- Relevance of religion to domains in which one operates

The (Potential) Problem: Distribution of patients vs. physicians to religious groups in the U.S. makes it unlikely that there will be a match

	Physician Survey (weighted) Without Oversamples		Baylor Population Survey
	Estimates	95% CI	Estimates
Roman Catholic	33.0%	(27.4%-39.3%)	21.3%
Protestant	25.5%	(20.4%-31.4%)	50.8%
None	14.2%	(10.4%-19.2%)	11.3%
Other Christian	8.2%	(5.4%-12.3%)	9.1%
Jewish	5.6%	(3.3%-9.3%)	2.8%
Hindu	4.9%	(2.8%-8.4%)	0.1%
Muslim	3.8%	(2.0%-7.2%)	0.2%
Eastern Orthodox	2.0%	(0.8%-4.8%)	0.4%
Buddhist	1.6%	(0.6%-4.3%)	0.6%
Other	1.2%	(0.4%-3.5%)	3.4%

For most medical issues this may not matter

But, Curlin shows that physician religion can matter when medical issues concern:

- 1) The margins of life (birth/death)
- 2) Overt moral controversy (organ or tissue transplant)
- 3) Psychological and spiritual suffering (addiction/mental illness)
- 4) Relative medical uncertainty (use of experimental treatments)

Our Goal

Immediate: To illustrate ways of measuring these three constructs in physicians so that we can test implications of the working model

Our Goal

Longer Term: Suggest efficient and optimal methods of including these constructs on surveys of physicians and other health providers to other researchers interested in relationship between religiosity and clinical decision making

Method

- Mail Survey
- Sample Frame: AMA Physician Masterfile
- Sample design:
 - Restricted to internal medicine, general practice, and family medicine physicians age 60 or younger.
 - Base sample 1: 500 physicians selected at random
 - Over-sample 1: 250 with South Asian surnames*
 - Over-sample 2: 250 with Arabic surnames*

*Lauderdale DS, Kestenbaum B. Asian American ethnic identification by surname. *Population Research and Policy Review*. 2000;19:283-300.

Targeted and obtained sample sizes and response rates

	General	East Indian Names	Arabic Names	Total
Target Sample n	500	250	250	1,000
Ineligibility Rate	10.0%	15.2%	13.2%	12.1%
Response Rate	54.7%	49.5%	44.2%	50.9%
Obtained Sample n	246	105	96	447

MEASURING RELIGIOUS AFFILIATION

May seem simple and straightforward, but...

Two problems:

1. How to insure adequate representation in study sample?
2. How best to distinguish among religious groups?

ASSURING ADEQUATE REPRESENTATION

SAMPLE TYPE				
	General	East Indian Names	Arabic Names	Total
None	35	6	9	50
Buddhist	4	0	1	5
Hindu	12	82	0	94
Jewish	14	0	2	16
Muslim	9	3	64	76
Roman Catholic	81	2	6	89
Eastern Orthodox	5	0	6	11
Protestant	62	3	2	67
Other Christian	21	0	3	24
Other	3	8	3	14
Total	246	104	96	446

Final Distribution of Affiliation

Religious Group Affiliation	Estimated Population Percent	SE	Sample Frequencies		
			A	B	C
No Affiliation	14.6%	2.3%	35	50	145
Hindu	5.0%	1.4%	12	94	50
Muslim	3.9%	1.3%	9	76	37
Roman Catholic/Eastern Orthodox	33.6%	3.1%	80	94	324
Protestant Other Christian Evangelical	12.2%	2.1%	29	31	120
Protestant Other Christian not Evangelical	22.5%	2.7%	54	59	224
Other	8.2%	1.8%	20	34	83
Total	100.0%		239	438	983

Sample A: Distribution without oversampling Asian, Mid-eastern names

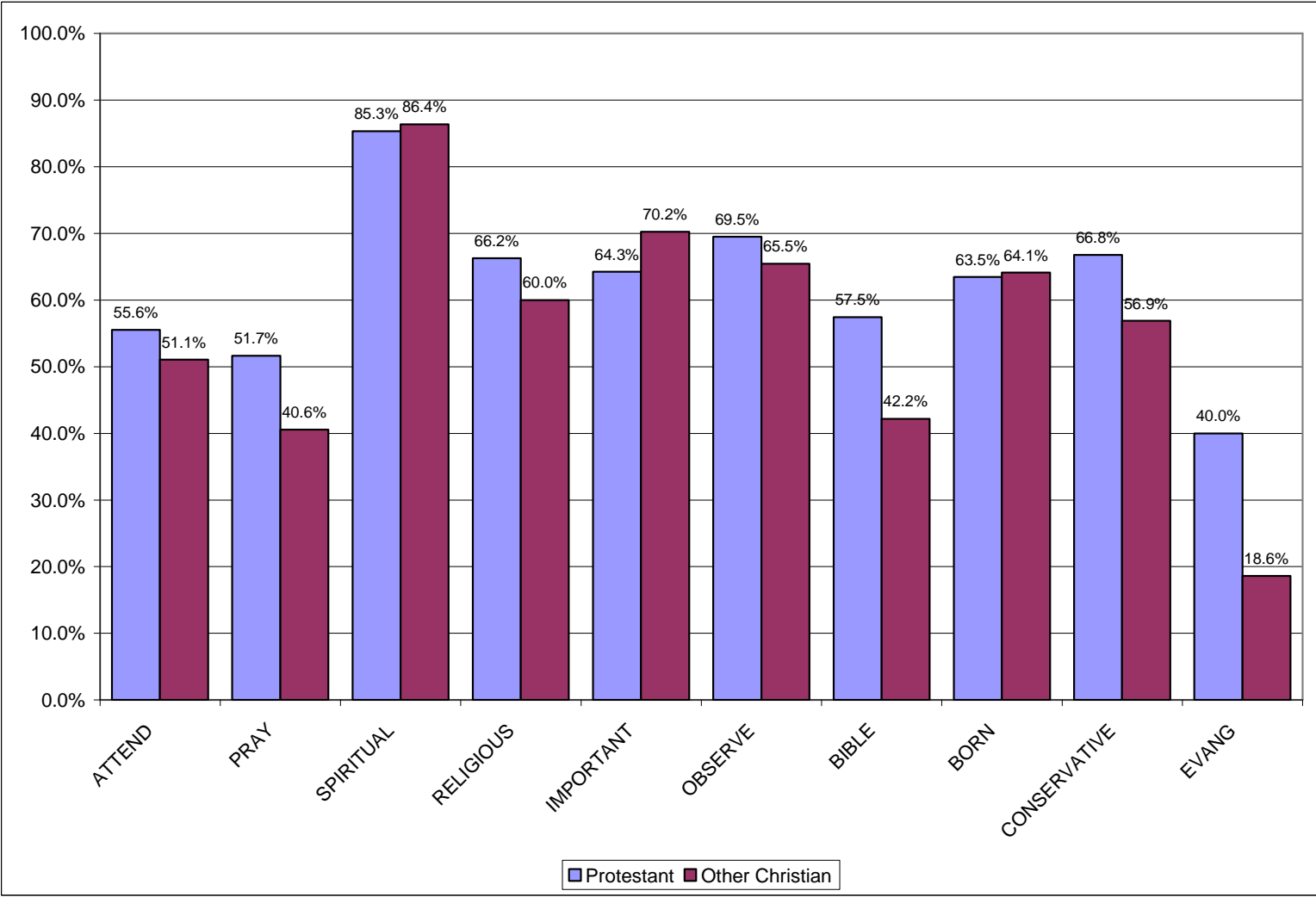
Sample B: Distribution with oversampling names

Sample C: Projected distribution of obtained sample starting with 2,000 targeted names

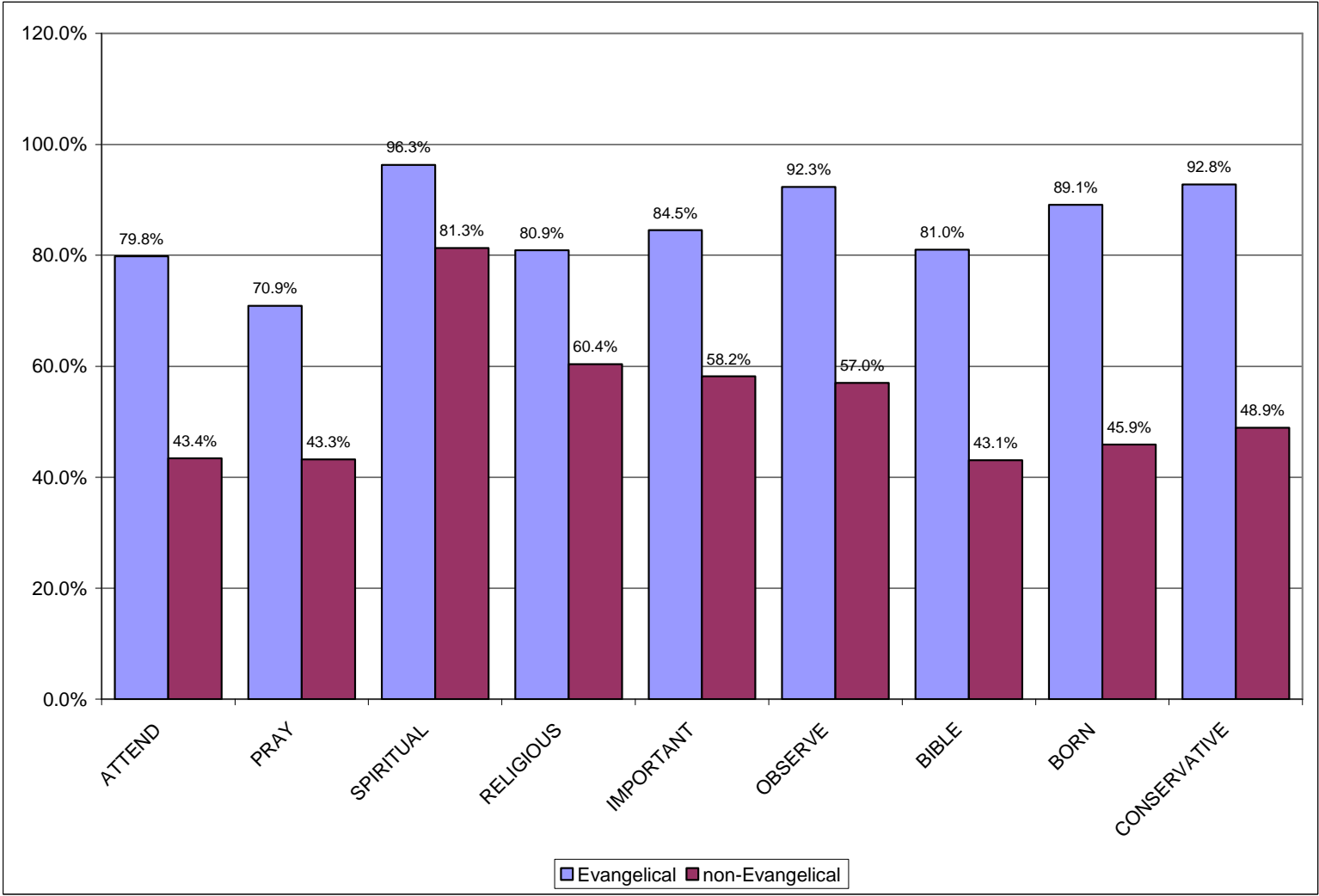
Questions used to compare religious groups on commitment

QUESTION TEXT	RESPONSE CATEGORIES	RECODING SCHEME
ATTENDANCE: How often do you attend religious services?	1. Never, 2. Less than once a year, 3. About once or twice a year, 4 Several times a year, 5. About once a month, 6. Two to three times a month, 7. Nearly every week, 8. Every week, 9. Several times a week	6 through 9=1 (> 1/mo.); 1 through 5 =0 (1/mo. or less)
PRAYER: How often do you spend time in prayer, meditation in your spiritual tradition, or study of scriptures?	1. More than once a day, 2. Once a day, 3. Several times a week, 4 Once a week, 5. Less than once a week, 6. Never	1 through 4=1 (1/wk.+); 5, 6, missing=0 (<1/wk.)
SPIRITUAL: To what extent do you consider yourself a spiritual person?	1. Very spiritual, 2. Moderately spiritual, 3. Slightly spiritual, 4 Not spiritual at all	1,2=1 (Very, Moderately); 3,4, missing =0 (Slightly, NAA)
RELIGIOUS: To what extent do you consider yourself a religious person?	1. Very religious, 2. Moderately religious, 3. Slightly religious, 4 Not religious at all	1,2=1 (Very, Moderately); 3,4, missing =0 (Slightly, NAA)
IMPORTANCE: How important would you say your religion is in your own life?	1. The most important, 2. Very important, 3. Fairly important, 4 Not very important, 9. Not applicable. I have no religion	1,2=1 (Most, Very Important); 3,4,9, missing=0 (Fairly, Not important, NA)
OBSERVANCE: How observant would you say you are of your religion's practices and rituals?	1. Very observant, 2. Moderately observant, 3. Slightly observant, 4 Not observant at all	1,2=(Very, Moderately Observant); 3,4, missing=0 (Slightly, Not observant)
BIBLE: Which of these statements comes closest to your own views about the Bible?	1. The Bible is inspired by God and is without error in its original form. 2. The Bible is inspired by God but has many errors even in the original form. 3. The Bible is a human creation	1=1 (Bible inspired/inerrant); 2, 3=0 (Other)
BORN: Would you say you have been "born again" or have had a turning point in your life when you committed yourself to Christ?	1. Yes, 2. No, 3. Not sure	1=1(Yes); 2,3, missing =0 (Other)
CONSERVATIVE: Would you say your theological orientation is ...?	1. Very conservative, 2. Somewhat conservative, 3. Somewhat liberal, 4 Very liberal, 9. The terms "liberal" and "conservative" does not apply to my religion.	1,2=1 (Somewhat, Very Conservative); 3,4, 9 missing =0 (Somewhat, Very Liberal, DNA)
EVANG: Do you consider yourself evangelical?	1 Yes, 2. No	1=1 (Yes); 2, missing=0 (Other)

DISTINGUISHING RELIGIOUS GROUPS – Protestants vs. Other Christians



DISTINGUISHING RELIGIOUS GROUPS – Evangelical vs. Non-Evangelical Protestants/Other Christians



Group-Specific Religious Commitment

Goal: To assess within-group validity for general survey questions about intensity of religious behavior

Group-Specific Religious Commitment Questions

Hindus: (How often do you pray? What dietary restrictions do you observe?)

Muslims: (About how often do you pray? To what extent do you keep the Ramadan fast?).

Roman Catholic/Eastern Orthodox: (In the past year, how many times have you been to confession (or “The Sacrament of Reconciliation”?).

HINDU		
<i>Frequency of Prayer</i>	Frequency	Percent
Daily or more often (1)	43	45.7
Two or more times a week (1)	11	11.7
About once a week (0)	13	13.8
Less than once a week (0)	24	25.5
Never (0)	3	3.2
Total	94	100.0
<i>Dietary Restrictions</i>		
Vegetarian (1)	42	45.7
Eat some meats (0)	24	26.1
None (0)	26	28.3
Total	92	100.0

MUSLIM

<i>Frequency of Prayer</i>	Frequency	Percent
5 times a day or more (1)	31	41.3
At least once a day (1)	15	20.0
At least once a week (0)	12	16.0
Rarely or never (0)	17	22.7
Total (0)	75	100.0
<i>Keep Ramadan Fast</i>		
Not at all (0)	14	19.4
Somewhat (1)	18	25.0
Strictly (1)	40	55.6
Total	72	100.0

ROMAN CATHOLIC/EASTERN ORTHODOX

<i>Confession Last Year</i>	Frequency	Percent
None (0)	60	64.5
Once or twice (1)	27	29.0
Three to six times (1)	2	2.2
More than six times (1)	4	4.3
Total	93	100.0

Group-Specific Religious Commitment

Used ATTEND, PRAY, SPIRITUAL, RELIGIOUS, IMPORTANCE, OBSERVANCE and questions from the Hoge scale of IRM in stepwise logistic regression to determine the best predictors of within-group religious commitment.

	Hindu		Muslim	
	Pray	Diet	Pray	Ramadan
	Forward	Forward	Forward	Forward
ATTEND		10.43	7.98	20.96
IRM	0.33			
PRAY				4.86
SPIRITUAL				
RELIGIOUS				
IMPORTANT	5.06			56.44
OBSERVE		2.67		
CONSERVATIVE				

NOTE: Entries are odds ratios.

	Roman Catholic/Eastern Orthodox			
	Confession			
	Forward	Backward	Simul. 4	Simul. 8
ATTEND		3.23	1.98	1.83
IRM		0.25	0.43	0.52
PRAY				1.11
SPIRITUAL				1.17
RELIGIOUS				1.77
IMPORTANT	4.54		2.33	2.14
OBSERVE	5.12		2.57	1.68
CONSERVATIVE				1.87

NOTE: Entries are odds ratios.

- **Conclusion: The following two variables seem to capture religious intensity across Hindus, Muslims, and Christians**
- **ATTENDANCE:** How often do you attend religious services?
 - 1. Never, 2. Less than once a year, 3. About once or twice a year, 4. Several times a year, 5. About once a month, 6. Two to three times a month, 7. Nearly every week, 8. Every week, 9. Several times a week
- **IMPORTANCE:** How important would you say your religion is in your own life?
 - 1. The most important, 2. Very important, 3. Fairly important, 4. Not very important, 9. Not applicable. I have no religion

MEASURING ORTHODOXY

We examined possible measures of religious orthodoxy/religious openness

- Three were derived from a forced choice item used on the General Social Survey:
 - (1) There is very little truth in any religion
 - (2) There are basic truths in many religions
 - (3) There is truth in one religion

MEASURING ORTHODOXY

Two original items were considered:

- (4) Different religions have different version of the truth, and each may be equally right in its own way
- (5) There is no one, true, right, religion

Responses to all five items ranged from agree strongly to disagree strongly

The highest correlations were found among items 3 (reverse coded) 4 and 5, respectively, $r(3,4)=.51$, $r(3,5)=.50$, $r(4,5)=.49$. $(\alpha) = .74$

Religious Affiliation	3) There is truth in one religion¹	4) Different religions have different versions of the truth¹	5) There is no one, true religion²	ORTHODOXY SCALE³
None	96.9%	81.9%	90.9%	1.62
Hindu	90.0%	94.4%	74.0%	1.80
Muslim	63.5%	76.6%	42.8%	2.40
RC/EO	69.0%	86.7%	65.7%	2.08
Pr/OC_Ev	12.8%	15.3%	22.9%	3.26
Pr/OC_no	67.2%	74.6%	75.0%	2.19
Other	85.3%	99.2%	81.9%	1.92
Overall	69.4%	77.2%	66.5%	2.14

1 Values indicate the percentage that disagree or disagree strongly with this statement
2 Values indicate the percentage that agree or agree strongly with this statement
3 Values are group averages across the 3 items. Higher values indicate greater orthodoxy

MEASURING ORTHODOXY

Conclusion: The following items make a reasonable Religious Orthodoxy vs. Openness scale (4 or 5-point disagree strongly to agree strongly response scale)

- (3) There is truth in one religion
- (4) Different religions have a different version of the truth, and each may be equally right in its own way
- (5) There is no one, true, right, religion

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