Spiritual/Religious Change and Reduced Drinking in Alcoholics: Are They Related?

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- Or what I've been doing since I left UB-SSW....
- Post-doc at UM in addiction research ('98-01), which led to this line of research; as part of the post-doc, I was able to do some clinical work (25%).
- 1999 NIAAA Conference on "Studying Spirituality and Alcohol."
- Pilot work with treatment staff and a cross-sectional survey of people in recovery.
- NIAAA and foundation funding for grants to study change in spirituality/religion among alcoholics and its relationship to drinking outcomes.

## Overview

- Why spiritual/religious change might matter in recovery from substance use disorders
- Empirical evidence prior to this work
- Methodology of the 2 longitudinal surveys
- Findings on drinking outcomes
- Findings on the role of SR events
- Findings on SR change and drinking outcomes
- Perceptions of AA's helpfulness & drinking
- Analyses we plan to do next a subtext throughout...
- Conclusions

## Why might spiritual or religious (SR) change be important in recovery?

- Most people in the US (GSS, 1998) have an active spiritual life and care about God, spirituality, and/or religion:
  - 93% believe in God.
  - Almost 90% believe God watches over them.
  - Only 14% have no religious preference.
  - Over 50% pray at least once a day.
  - Over 80% state they look to God for strength and work with God.
- Alcoholics Anonymous, an effective intervention, encourages connection with a higher power and the use of prayer and meditation. Within this context, recovering alcoholics are urged to work on such issues as forgiveness, service, gratitude, and connection.
- Most individuals in recovery and many treatment professionals consider change in one's spirituality/religiousness to be important, if not crucial.

## One theory... Carl Jung

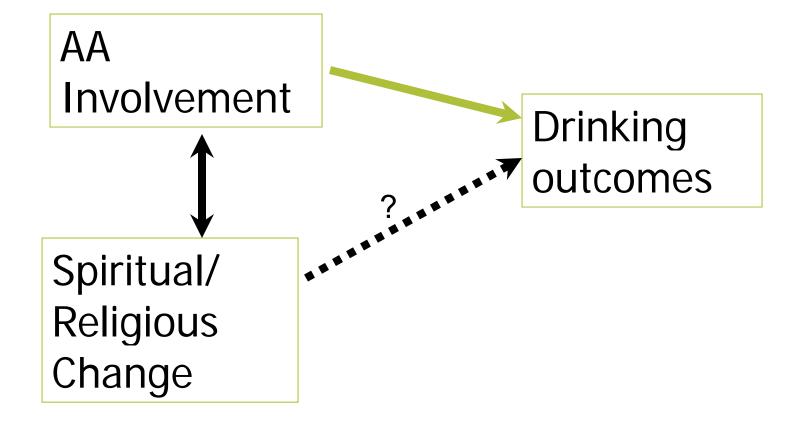
- "Spiritus contra spiritum" literally "spirits against spirit."
- Jung commenting on the importance/necessity of a spiritual experience in conquering alcoholism
- In correspondence with Bill Wilson, Carl Jung remarked that it may be no accident that we refer to alcoholic drinks as "spirits." Perhaps, suggested Jung, alcoholics have a greater thirst for the spirit than other people, but it is all too often misdirected.
- "Craving for the spirits in the bottle is a lower manifestation of an alcoholic's thirst for union with the Higher Spirit or God; hence his (Jung's) dictum spiritus contra spiritum. The Latin term spiritus connotes both a poison and the divine Spirit! Hence the treatment for addiction to the spirit in a bottle is engaging the Spirit in one's own nature and engaging the Spirit in the Universe."

Note many possible meanings of spiritus (breath, spirit, alcohol).

#### Is there empirical evidence?

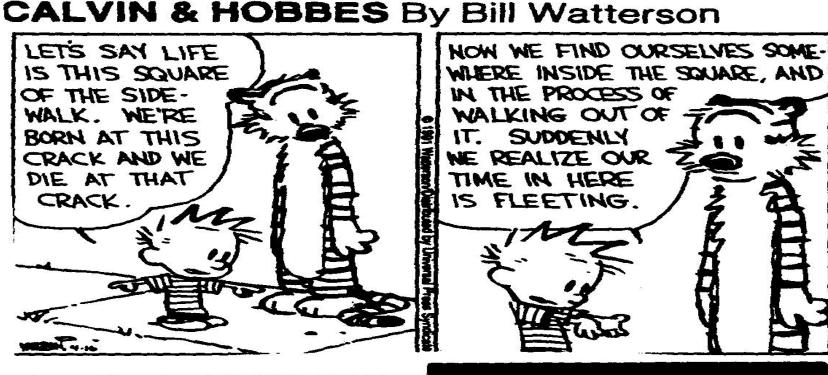
- Lower levels of alcohol & drug use among those with religious affiliation/participation.
- Some evidence that alcoholics and drug addicts are religiously/spiritually alienated.
- Significant evidence that Alcoholics Anonymous (a spiritual program) works (Kaskutas, Tonigan, Connors, others).
- Qualitative and anecdotal evidence that spiritual/religious change has been important in individuals' recovery.
  - □ The experience of Bill W., founder of Alcoholics Anonymous
  - Stories from the recovery community
  - Quantum Change (Miller & C'deBaca, 2002)
- Evidence that spiritual awakenings (or life-changing spiritual/religious experiences) play a role in recovery (Zemore & Kaskutas).
- Quantitative evidence of change in existential sense of meaning/ purpose in alcoholics from pre-treatment to post-treatment.





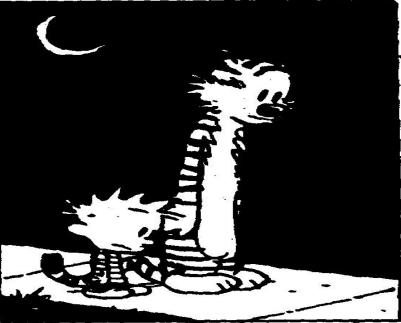
## Definition of terms

- Spirituality: an individual's feelings, thoughts, experiences, and behaviors that arise from a search for the sacred (i.e., a divine being, ultimate reality, transcendent truth, or existential meaning) and for a connection to those phenomena.
- Religion: the social context of that search and connection (i.e., social institutions, rituals and prescribed behaviors), usually tied to a particular cultural context.



IS OUR QUICK EXPERIENCE HERE POINTLESS? DOES ANYTHING WE SAY OR DO IN HERE REALLY MATTER? HAVE WE DONE ANYTHING IMPORTANT? HAVE WE BEEN HAPPY? HAVE NE MADE THE MOST OF THESE PRECIOUS FEW FOOTSTEPS ??





### Pilot Study #1: Survey of Treatment Staff

- Qualitative and quantitative survey of 22 staff on SR definitions, importance in recovery and their own S/R.
- All or almost all staff:

a) defined spirituality as connection, meaning/purpose, belief in a higher being, or ethical guidance.

- b) distinguished sharply between spirituality and religion.
- c) believe spiritual change is crucial to the recovery process.
- d) felt that prayer and meditation were more essential to recovery than involvement in a religious organization. e) did not advocate a particular S/R path for people in recovery.
- Compared to the GSS national sample, they were more spiritual, but less religious.
- Over three-quarters (vs. 39% of a national sample) had an S/R experience that changed their lives.

Pilot Study #2: Cross-sectional survey of current and former clients

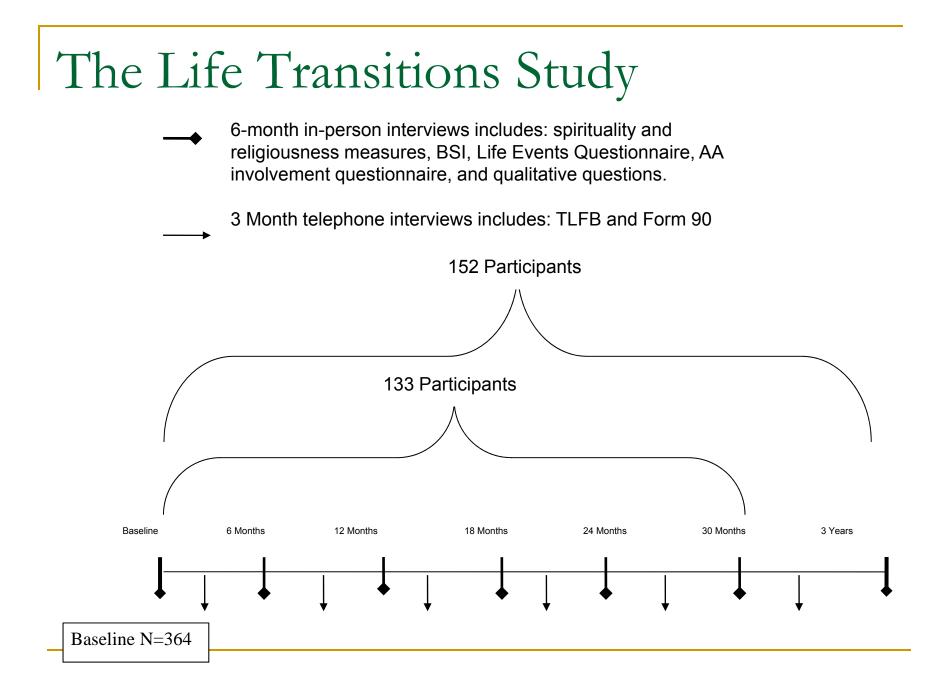
- Sample: 47 current and former clients
- Aims: Is their S/R more "negative, restrictive, punitive" than the general population and does that negativity vary as a function of length of recovery?
- Measure of S/R: Brief Fetzer/National Institute on Aging Multidimensional Measure of Religiousness/Spirituality
- Current clients (less than 6 mo. sober) gave consistently lower endorsement to a wide range of S/R items, compared to those further in recovery (6 months +), to treatment staff, and to the general population. This was particularly clear for self-ratings of how religious & spiritual one is, religious coping, and beliefs.

# Self-rating of one's religiousness and spirituality

To what extent do you consider yourself:	Clients less than 6 mo. sober	Clients more than 6 mo. sober	Staff	National sample
A religious person?	2.15	2.41	2.06	2.65
A spiritual person?	2.55*	3.59*	3.67	2.72

Rated on a 4-point scale: *1. Not at all* to *4. Very.* \*Differences between two groups of clients is significant at p<.05. Two projects investigating spiritual/ religious change among alcoholics and its relationship to drinking outcomes

- Both are longitudinal quantitative and qualitative studies.
  - Fetzer study following 157 individuals with alcohol abuse or dependence recruited from a treatment agency; interviewed at baseline and 6 months later (final n=123).
  - The Life Transitions Study following 364 individuals with alcohol dependence recruited from 4 sites, interviewed every 6 months for 2 ½ to 3 years (final n=285).
- Both studies documenting SR change and its relationship to AA involvement and drinking



## Life Transition Study Sample

- Respondents (N=364) were recruited from:
  - a university hospital-affiliated outpatient treatment program (UTP; n=157), the source for the Fetzer study's respondents
  - the Ann Arbor VA outpatient substance abuse treatment clinic (VA; n=80)
  - □ a moderation-based program (Mod; n=34)
  - the local community through advertisements; these respondents were not in treatment at baseline (CS: n=93)
- Study recruitment criteria
  - SCID-verified diagnosis of lifetime alcohol dependence
  - Use of alcohol in the last 90 days
  - Over 18 years of age
  - Not suicidal, homicidal, or psychotic
  - Literate in English
  - Those in treatment had to have 1 week of treatment, but less than 4 weeks.

### Major S/R Dimensions and Measures

- <u>Perceptions of God</u>: Loving & Controlling God Scales (Benson & Spilka, 1973)
- <u>Beliefs & Behaviors</u>: single item from Religious Background & Behaviors (RBB; Connors, Tonigan, & Miller, 1996); SR practices from Fetzer/NIA (1999).
- <u>Current spiritual/religious experiences</u>: Daily Spiritual Experiences (DSE; Underwood & Teresi, 2002; also in Fetzer/NIA, 1999)
- *Values and beliefs:* Meaning, Values & Beliefs (Fetzer/NIA, 1999)
- <u>Forgiveness</u> (3-items from Fetzer/NIA, 1999); Mauger's Behavioral Assessment System (Forgiveness of self & Forgiveness of Others; Mauger et al, 1992)
- <u>Religious coping strategies</u>: Positive and Negative Religious Coping (from Brief RCOPE; Pargament et al, 1998; also in Fetzer/NIA, 1999)
- <u>Existential meaning/purpose</u>: Purpose in Life (Crumbaugh & Maholick, 1964)

## Life Transitions Study – retention and attrition analysis

- 285 respondents remained in the study until at least 2  $\frac{1}{2}$  years.
- Drops outs: n=64
- Deaths: n=15
- Excluding deaths, % followed to either  $2\frac{1}{2}$  or 3 years = 81.7%.
- Attrition analysis: Only 3 statistically significant differences were found. Those who remained in the study had:
  - □ higher levels of education (14.5 yrs. versus 13.7 yrs., p = .006)
  - □ fewer drinks per drinking day (8.9 versus 11.8, p = .005)
  - less experience with Alcoholics Anonymous (71.6% versus 84.8%, p = .017).
  - Marginal trends: dropouts had more severe dependence, more previous treatment, and higher SIP scores, and were more likely to have attended an AA meeting.
  - On all other demographic and clinical indicators at baseline, those who did not complete the study were essentially similar to those who did.

## Sample Demographics at Baseline

	Total	UTP	VA	Mod	CS
	N=364	N=157	N=80	N=34	N=93
Gender, % male	65.7%				
Age, years	44.0				
Education, years	14.3				
Marital status:					
Never married	28.8%				
Married/cohab.	38.2%				
Sep/Div/Wid	32.9%				
Ethnicity:					
White	81.9%				
Black	10.4%				
Other, incl multi	7.6%				
Not employed	44.0%				
Income					
<\$15,000/yr	29.5%				
>\$85,001	22.0%				

## Sample Demographics at Baseline

	Total	UTP	VA	Mod	CS
	N=364	N=157	N=80	N=34	N=93
Gender, % male	65.7%	59.2%	98.8%	41.2%	57.0%
Age, years	44.0	42.5	48.7	45.2	42.1
Education, years	14.3	14.6	13.2	16.2	14.3
Marital status:					
Never married	28.8%	26.8%	25.0%	14.7%	40.9%
Married/cohab.	38.2%	42.7%	20.1%	76.5%	32.3%
Sep/Div/Wid	32.9%	30.6%	55.1%	8.8%	26.9%
Ethnicity:					
White	81.9%	93.0%	75.0%	97.1%	63.4%
Black	10.4%	3.8%	15.0%	0.0%	21.5%
Other, incl multi	7.6%	3.2%	10.0%	2.9%	15.1%
Not employed	44.0%	32.5%	75.0%	23.5%	43.0%
Income					
<\$15,000/yr	29.5%	9.1%	67.5%	9.4%	37.6%
>\$85,001	22.0%	28.6%	0.0%	62.5%	16.1%

Differences across sites are statistically significant for all demographic variables.

## Clinical Characteristics at Baseline

	Total	UTP	VA	Mod	CS
	N=364	n=157	n=80	n=34	n=93
Prior alcohol tx?	52.7%				
Age at 1 <sup>st</sup> alcohol problems	25.8				
Family hx alcohol problems	86.5%				
SIP score	21.0				
Want to be abstinent?	72.0%				
Ever attend AA?	68.1%				

### Clinical Characteristics at Baseline

	Total	UTP	VA	Mod	CS
	N=364	n=157	n=80	n=34	n=93
Prior alcohol tx?	52.7%	51.6%	82.5%	11.8%	44.1%
Age at 1 <sup>st</sup> alcohol problems	25.8	27.7	23.7	30.1	22.8
Family hx alcohol problems	86.5%	85.4%	92.5%	82.4%	84.9%
SIP score	21.0	21.5	22.9	15.7	20.2
Want to be abstinent?	72.0%	83.4%	91.3%	38.2%	48.4%
Ever attend AA?	68.1%	63.7%	88.8%	29.4%	72.0%

Differences between sites are statistically significant on all clinical variables.

Outcome data collected – Daily drinking & drug use and consequences of use

- Time-Line Follow-Back (Sobell & Sobell,) 1992
  - Percent Days Abstinent (in last 90 days) -- PDA
  - Percent Heavy Drinking Days (ditto) HDD (HDD: men =<5 standard drinks; women =<4 drinks</li>
  - Mean Drinks per Drinking Day (ditto) DDD
  - Days Since Last Drink DSLD
  - □ # Days used MJ, cocaine, other drugs
- Short Inventory of Problems a measure of the consequences of alcohol use (Miller, Tonigan, & Longabaugh, 1995)

### Drinking data in last 90 days at baseline from Time-Line Follow Back (Means & SD)

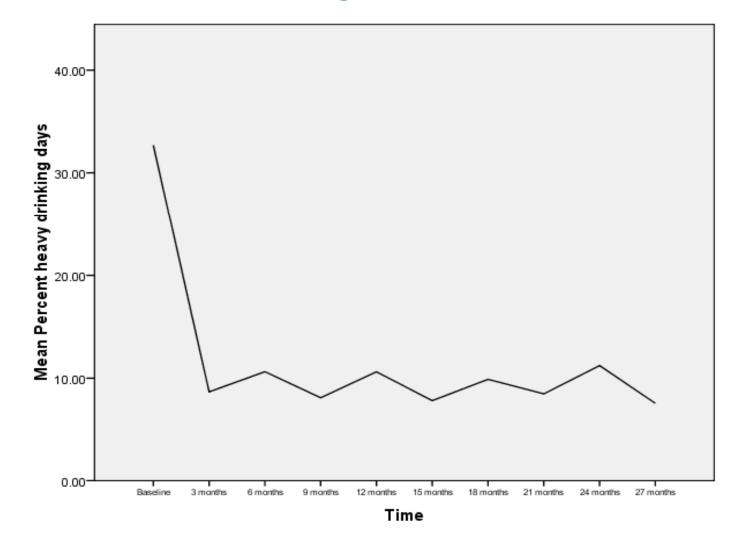
TLFB	Total	UTP	VA	Mod	CS
Variable	Sample				
Percent days abstinent (PDA)	56.1% (31.3)				
Percent heavy drinking days (HDD)	32.7% (29.8)				
Drinks/drinking day (DDD)	9.5 (8.2)				
Days since last drink (DSLD)	25.4 (27.1)				

### Drinking data in last 90 days at baseline from Time-Line Follow Back (Means & SD)

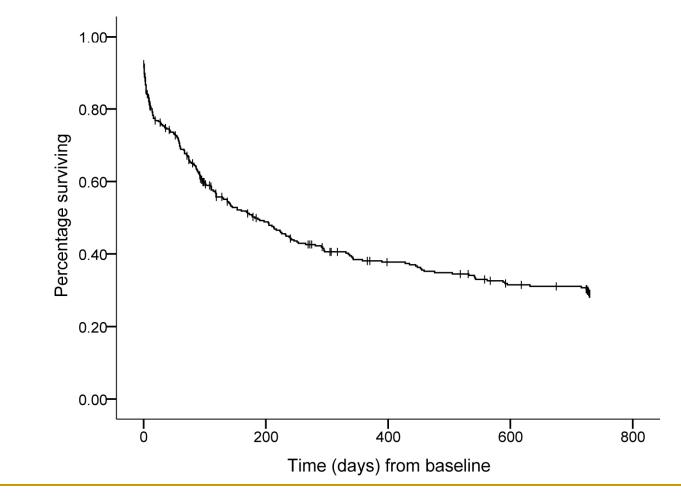
TLFB	Total	UTP	VA	Mod	CS
Variable	Sample				
Percent days	56.1%	59.8%	71.2%	35.5%	44.6%
abstinent (PDA)	(31.3)	(26.8)	(27.8)	(32.3)	(33.0)
Percent heavy drinking days (HDD)	32.7% (29.8)	33.6% (26.7)	24.2% (26.3)	34.9% (32.6)	37.6% (35.2)
Drinks/drinking	9.5	9.3	12.6	4.6	9.2
day (DDD)	(8.2)	(6.7)	(10.0)	(14.0)	(9.0)
Days since last	25.4	33.3	40.7	6.9	5.7
drink (DSLD)	(27.1)	(24.5)	(30.0)	(36.1)	(92.8)

Differences between sites are significant.

#### Percent Heavy Drinking Days over Time

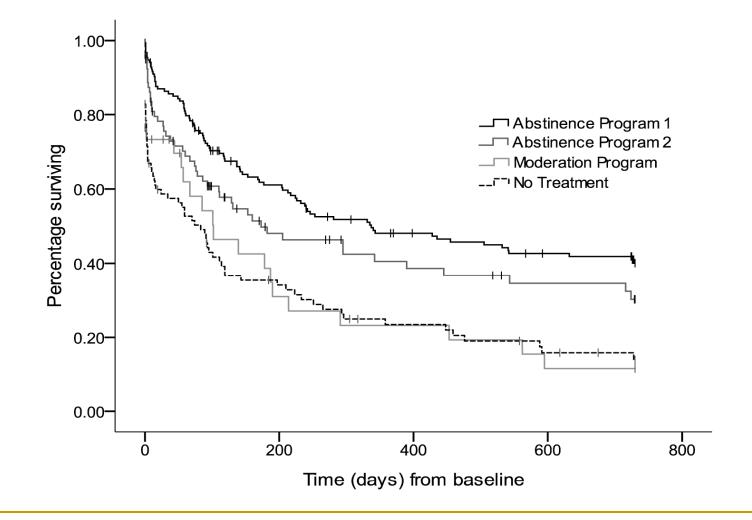


Drinking outcomes: A survival analysis of time to 1<sup>st</sup> heavy drinking episode



Finn & Robinson, 2009

Survival analysis by site:



Finn & Robinson, 2009

Other predictors of time to 1<sup>st</sup> heavy drinking episode

- Marital status (those who had never married relapsed sooner than those who were married/cohabiting or were once married)
- Age (older respondents relapsed at a slower rate than younger respondents)
- Age of onset (those with earlier age of onset relapsed sooner)
- AA exposure prior to baseline (those with prior AA experience were slower to relapse)

### But the 1<sup>st</sup> HDD isn't the whole story.

	Study #	Baseline	3 months	6 months	9 months	1 year	3 months	6 months	9 months	2 years	3 months	6 months
Pattern 1 (n = 99)	37 115 153 173 187 280	8 14.97 5.44 12 4.93 4.45	6 5.67 6.22 7.82 11.85 4.11	13.33 2.29 1.13 4.31 2.1 4.91	7.6 10.19 3 4.52 2 3.39	6 9.46 7.22 6.09 4.62 4.83	6 3.95 2 4.87 3 4.29	12 10.2 4.08 6.05 3.96 4.59	12.52 1 3.92 5.09 2.31 4.05	4.35 5.63 3.88 3.51 5.93 5	4.64 6.58 2.18 5.5 1.63 4.07	16.86 4.62 12.63 5.44 3.63 4.87
Pattern 2 (n = 60)	17 92 174 202 414 144	4.29 2.68 14.92 10.9 6.47 11.26	0 0 5.5 1 2.63 12	1.75 0 11 3.3 2.27 0	2 0 2 7.33 0	0 4 0 2.67 18.29	0 0 0 0 0	0 0 2.67 2.5 0	0 0 7.58 0 0	1.5 0 4.05 3.13 0	1.5 2 5.5 2.67 0 0	2 2.86 5.5 0 0 11.6
Pattern 3 (n = 36)	35 53 79 264 271 282	4.52 1.95 11.36 1.74 1.8 4.52	2 3.79 1.75 2.41 1.44 2.44	2 1.61 1.38 2.19 1.4 3.14	1.8 1.94 2 2.15 1.33 3.62	1.33 3.03 2 1.93 2.15 1.94	1.06 2.48 2.83 2.13 1.68 2.03	1.63 2.86 2.67 1.21 1.9 1.53	2 2.83 3 2.02 1.67 1.87	2 2.05 2 1.98 1.67 1.07	2 1 2.02 1.08 1.52	2 1.86 1.5 1.62 1.53 1.54
Pattern 4 (n = 90)	10 12 18 31 38 86	8.58 12.24 11.43 4.17 9 12.22	5 0 5.13 0 0	5.29 0 0 0 0 0	11 0 0 0 0	0 13.75 0 0 0 0	0 10.43 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0 0 0 0 0

#### Heat Map of Drinking Patterns in the Life Transition Study (N = 285)

### Some Baseline Spiritual/Religious (S/R) Characteristics

	Life Transition total sample (N=363)
Believe in God Do not believe in God Agnostic; don't know/can't know	73.8% 7.7% 18.4%
% without a current religious preference*	35.1%
% brought up in a religious tradition	69.7%
% currently practice that religion	23.4%
% involved in a religious congregation	25.1%

\*In a national sample, 13.8% of the US population have no religious preference.

Spiritual/religious events: Life-changing SR experiences and loss of faith

- At each time point, we asked respondents if they had ever had a "life-changing spiritual or religious experience," a gain in faith, or a loss in faith.
- At baseline,
  - 47.4% had a life-changing SR experience (vs. a national sample in which 39.1% did so).
  - 41.8% reported having experienced a loss of faith (no national data).

Do those who report at baseline that they have had an life-changing SR experience use less alcohol?

Had ST ever?	Percent Days Abstinent	Percent Heavy Drinking Days	Drinks/ Drinking Day	Days since last drink
Yes (n=172)	<b>60.6%</b>	27.6%	9.6	27.7
No (n=191)	51.9%	37.4%	9.5	23.3
Total (N=363)	56.1%**	32.7%**	9.5	25.4

\*\* Indicates difference between "yes" and "no" is statistically significant at .01 level.

Do those who report having a life changing SR experience between baseline & 6 months use less alcohol at 6 months?

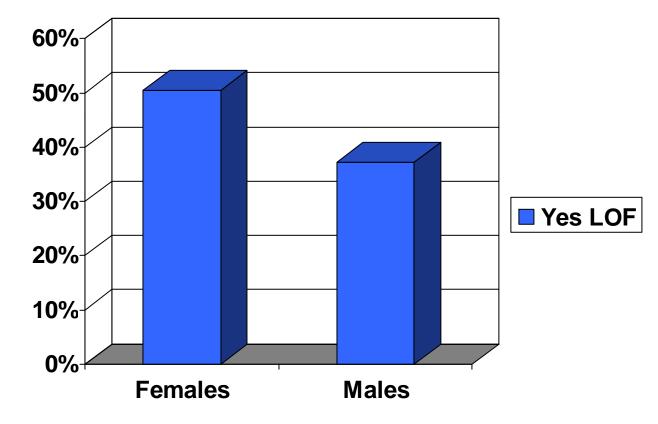
Had ST since base- line?	Percent Days Abstinent	Percent Heavy Drinking Days	Drinks/ Drinking Day	Days since last drink
Yes (n=56)	87.4%	7.0%	3.39	110.8
No (n=209)	77.4%	10.9%	5.68	91.0
Total (N=265)	79.5%*	10.1%	5.19	95.1

\* Difference between "yes" and "no" is statistically significant at .05 level.

## Qualitative analyses of life-changing SR experiences

- Danger: "I should/could have died"
- Deliberate efforts to connect with God/Spirit/the Transcendent
- Other experiences, ranging from the mundane to going to AA, talking with someone, being in nature, creative work.
- Experiences were generally positive (at peace, consoled, felt a presence, connected, accepting, physical sensations)
- Some experiences were negative (scared, judged, alienated, questioned God, angry at God)

Gender differences in baseline reports of Loss of Faith



\* The difference between groups is significant (p<.05)

Price, Robinson, & Brower, 2009

Age of onset of alcoholism and age at LOF

- For men, no significant correlation between age of onset of alcoholism and age at LOF (r<sup>2</sup>=.07, ns).
- For women, significant and strong correlation between age of onset and age of LOF (r<sup>2</sup>=.54, p<.001)</li>
- Exploring the data more closely indicated that for women, the LOF occurred shortly before the onset of alcoholism; for men, LOF occurred after.

#### Types of loss experience

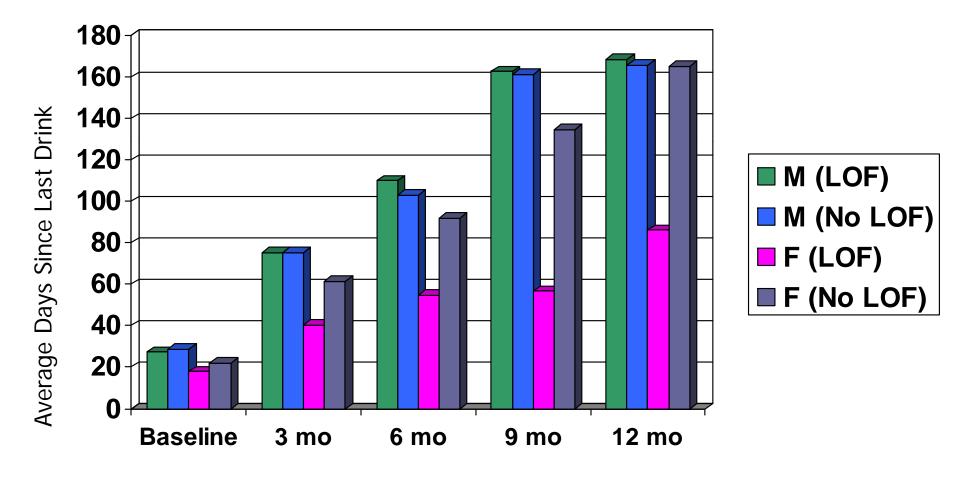
- Content analysis of LOF descriptions -> 6 broad types
  - Disillusionment: gradual loss of interest in faith/religion (27.6%)
  - Alienation/Rejection from religious congregation, doctrine, priest, or God (11.8%)\*
  - Death of family member or close friend (23.7%)
  - Other negative events (ex. divorce, abuse, affairs, natural disasters, war, accidents, mental illness) (22.4%)\*
  - □ Using alcohol or drugs (10.5%)
  - Other/vague responses (3.9%)
  - \* significantly more common among women

#### Predicting relapse from gender, baseline LOF, and their interaction

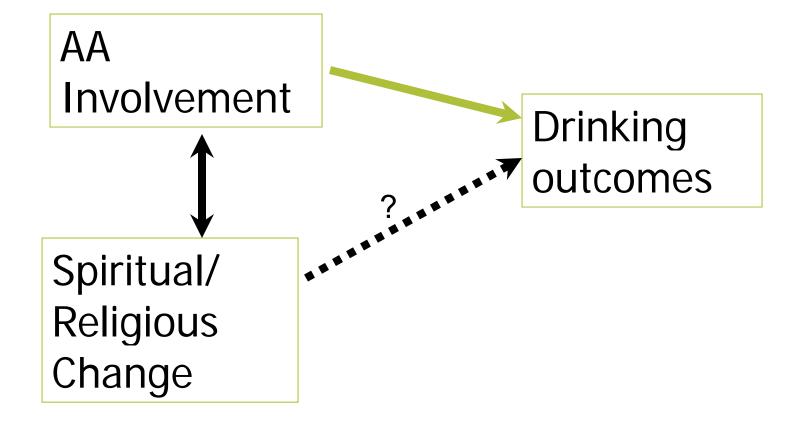
	Gender	LOF	With interaction added:
At 3 months, significant predictors are:	β <b>= 2.07</b> ( <i>p</i> =.004)	NS	NS
At 6 months, significant predictors are:	β <b>= 1.78</b> ( <i>p</i> =.023)	NS	Marginally significant ( <i>p</i> =.070)
At 9 months, significant predictors are:	β <b>= 2.08</b> ( <i>p</i> =.007)	NS	β <b>= 4.38</b> ( <i>p</i> =.001)
At 12 months, significant predictors are:	NS	NS	β <b>=3.47</b> ( <i>p</i> =.018)

Logistic regression predicting relapse to heavy drinking.

Days since last drink by gender, LOF, over one year







Examining the relationship between change in SR and subsequent drinking

- Which SR dimensions change from baseline to 12 months?
- Does significant change in a SR dimension predict drinking at 15 months, controlling for AA involvement?

### Analysis

- Paired sample t-tests used to determine significance of change in SR variables from baseline to 12 month follow-up; from the t and df, eta<sup>2</sup> calculated to determine effect size.
- Multiple regression used to investigate relationship between change in SR and continous drinking variables (PDA, DSLD).
- As HDD and DDD were highly skewed, they were converted to dichotomous variables and logistic regression was used to determine their relationship to change in SR Drinking.
- With both types of regression analyses, we controlled for AA involvement (using Tonigan et al's AAI scale).

# Are there 12-month changes in spirituality and religiousness? Yes.

Measure	Baseline	12-month	Eta <sup>2</sup>	р
Loving God	25.13	25.40		.292
Controlling God	10.89	10.42		.109
Belief scale (RBB #1)	3.81	3.89		.074
Private Religious Practices	16.11	16.77	.02	.013
Daily Spiritual Experiences	54.29	56.64	.04	.000
Meaning, Values, Beliefs	17.33	17.44		.491
Fetzer forgiveness (3 items)	9.02	9.34	.03	.002
Mauger forgiveness of self	7.42	8.81	.16	.000
Mauger forgiveness of others	10.34	10.84	.03	.002
Positive Religious Coping	23.07	23.58		.109
Negative Religious Coping	12.64	11.69	.08	.000
Purpose in Life	93.17	97.12	.06	.000

Paired sample t-tests on total sample. Effect sizes of Eta<sup>2</sup>: .01 small, .06 moderate, .14 large.

## Multiple regression predicting 15-month PDA and DSLD: unstandardized $\beta$ , R<sup>2</sup> change, p

Measures	Percent Days Abstinent (PDA)			Days Since Last Drink (DSLD)		
	β	$R^2\Delta$	р	β	$R^2\Delta$	р
Private Religious Practices	-	-	-	7.53	.027	.003
Daily Spiritual Experiences	-	-	-	4.11	.043	.000
Fetzer Forgiveness	-	-	-	-	-	-
Mauger Forgiveness Self	-	-	-	14.59	.052	.000
Mauger Forgiveness Others	-	-	-	-	-	-
Neg. Religious Coping	-	-	-	-	-	-
Purpose in Life	.21	.011	.072*	-	-	-

Model controls for T1 drinking and change in AAI (AA involvement). Analyses carried out on SR variables that changed significantly. \* = approaches significance.

#### Logistic regression predicting 15-month dichotomized HDD and DDD: Significant odds ratios

Measures	Heavy Drinking Days (HDD)	Drinks per Drinking Day (DDD)
Private Religious Practices	-	-
Daily Spiritual Experiences	.976*	.962
Fetzer Forgiveness	-	-
Mauger Forgiveness of Self	.913	.875
Mauger Forgiveness of Others	-	-
Negative Religious Coping	-	-
Purpose in Life	-	-

Model included T1 drinking variable and change in AAI. \* = approaches significance

Perceptions of AA's helpfulness: Research Questions

- What proportion of alcoholics in a mixed sample of treatment seekers and non-seekers perceive AA as helpful or unhelpful?
- Which respondents found AA helpful or not helpful?
- Do perception's of AA's helpfulness or unhelpfulness relate to drinking outcomes?
- What elements of AA are perceived to be helpful or not helpful in managing drinking problems?

Qualitative analysis

- Examined transcripts of responses at 18 months to the question: "What do you think helps people deal with alcohol problems?"
- We only used responses that indicated how useful/not useful AA was to this respondent.
- Based on the first 40 responses, categories of AA's helpfulness and not helpfulness were developed. The first three helpful and first three not helpful comments were coded into one of these categories, with additional code categories developed as needed. These categories were transformed into 6 nominal SPSS variables.

AA-related responses to the question: "What do you think helps people with alcohol problems?"

- Of the 286 respondents interviewed at 18 months:
  - 42.3% (121) had found AA helpful to them
  - 18.2% (52) gave mixed comments about AA's helpfulness
  - 19.2% (55) had found AA unhelpful to them
  - 20.3% (58) made no mention of AA

#### Demographics by AA Helpfulness

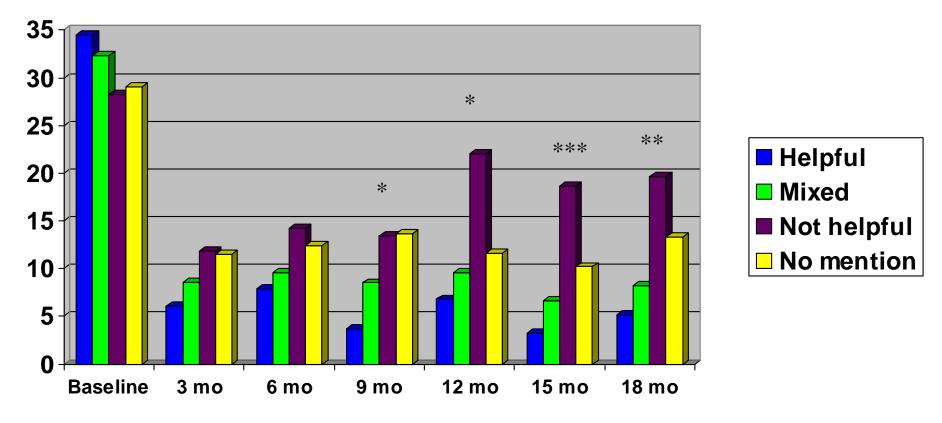
Baseline Demographic	AA Helpful	AA Mixed	AA Not Helpful	No mention
Characteristics	N=121	N=52	N=55	N=58
Gender, % male	67.8%	76.9%	67.3%	53.4%
Age, years**	46.6	43.3	46.8	39.9
Education, years	14.3	14.8	14.2	15.2
Marital status:				
Never married	23.1%	34.6%	34.5%	29.3%
Married/cohab.	40.5%	32.7%	29.1%	58.6%
Sep/Div/Wid	36.4%	32.7%	36.4%	12.1%
Ethnicity: White	82.6%	84.6%	85.5%	70.7%
Black	14.0%	7.7%	5.5%	12.1%
Other	3.3%	7.7%	9.1%	17.2%
Not employed	41.3%	48.1%	45.5%	43.1%
Income <\$15,000/yr	28.1%	32.7%	29.6%	20.7%
>\$85,001	20.7%	19.2%	13.0%	37.9%

#### Clinical Characteristics by AA Helpfulness

Baseline Clinical	AA Helpful	AA Mixed	AA Not Helpful	No mention
Characteristics	n=121	n=52	n=55	n=58
Prior alcohol treatment?***	66.1%	59.6%	50.9%	17.2%
Age at 1 <sup>st</sup> alcohol problems	29.3	27.4	29.9	28.0
Family history of alcohol problems*	89.3%	96.1%	83.6%	79.3%
SIP score***	25.2	19.1	18.1	14.4
Severity ***				
Mild (3-4sx)	14.0%	23.1%	38.2%	41.4%
Moderate (5 sx)	12.4%	23.1%	12.7%	22.4%
Severe (6-7 sx)	73.6%	53.8%	49.1%	36.2%
Want to be abstinent?**	82.6%	71.2%	67.3%	43.1%
Ever attended AA?***	80.2%	71.2%	74.5%	<b>29.3%</b>

Differences between groups significant at: \* p =<.05; \*\* p =<.01; \*\*\* p =<.000

Percent Heavy Drinking Days in last 90 days by AA helpfulness



\*\*\* Significance: p<.001

\* Significance: p<.01

\* Significance: p<.05

Note: Heavy drinking days for men =<5 standard drinks, for women =<4 standard drinks.

Qualitative Analysis of what is helpful about AA

- The fellowship sharing, talking, listening, having someone to talk to, being around others who've been there, sober people to be with.
- The program -- steps, meetings, sponsors, admitting the problem, Big Book.
- Other mentions -- spirituality, advice, guidance, "it helps you not to drink."

#### What's not helpful?

- Can't relate to others in AA groups/meetings (19)
- Looks too much at negative, too much complaining (16)
- Thought I could handle it on my own (16)
- Vague: "waste of time" (15)
- Dislike model, structure, language of AA (12)
- Too religious (11)
- Court-ordered people (9)
- I'm not "that" bad, not like "those" people (9)
- People talk too much about drinking (8)
- Too depressing (8)
- Don't like groups in general (8)
- Don't believe in God/Higher Power (7)
- People are hypocritical/phony (7)
- Needed more than AA (7)
- Other comments (34): makes people want to drink, don't want to admit being out of control, people with non-alcohol issues, stories are repetitive, too male, too cult-like, dogmatic, never wanted to stop drinking, court ordered, looks too much at the past

#### Conclusions

- SR-related events (e.g., life-changing SR experiences, loss of faith) appear to play a significant role in reductions in drinking.
- Loss of faith seems to be particularly toxic for women alcoholics.
- Many spiritual and religious (SR) dimensions change over time among alcoholics, irregardless of treatment status, AA involvement, and desire to be abstinent.
- Over 12 months, changes occurred in 7 of 12 measures of SR, specifically private religious practices, daily spiritual experiences, all 3 measures of forgiveness, negative religious coping, and sense of meaning/purpose in life.
- The most consistent SR predictors of 15-month drinking in our 4 outcome variables are Daily Spiritual Experiences and Forgiveness of one's Self.
- Perceptions of AA's helpfulness is associated with decreased drinking.

#### Speculations and questions

- Unlike the findings from the Fetzer study, change in forgiveness of self was a significant predictor of outcome across sites and drinking outcomes.
- Increases in a sense of purpose or meaning in life are not found to be associated with decreased drinking at 15 months, although they were at 6 months. This raises questions about whether the SR dimensions that is associated with decreased drinking changes over time.
- At 6 months, private religious practices and daily spiritual experiences were not associated with changes in drinking, but they were at 12 months.
- Samples of alcoholics vary significantly in the degree of SR change and its influence on outcomes, reminding us that caution must be used in extrapolating from any single sample.
- AA involvement is associated with SR change (and with better outcomes), but what is the nature type of AA involvement leads to SR change?
- Subsequent analyses will investigate whether these results hold when we control for other predictors of relapse to heavy drinking, i.e., marital status, age, and age of onset.

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