The Latest Research on Spirituality and Addiction Recovery

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Agenda

• Introduction
• Idea of research on addiction recovery
• Relevance of spirituality to addiction recovery
• Dimensions of spirituality
• Spirituality and 12 step programs
• Latest research on spirituality and recovery
• Implications for practice and recovery
• Future research: how can I be of service to you?

Translational Research

Bench

Bedside
Translational Research

Orientation to the Study of Addiction Recovery

Lifespan of an Individual who has an Addiction
New Grass-Roots Advocacy Groups

Recovery Rally: “Celebrating Freedom from Addiction”

Recovery Community Centers
Implications for Research

<table>
<thead>
<tr>
<th>Pre-addiction</th>
<th>Active Addiction</th>
<th>Treatment</th>
<th>Initiation</th>
<th>Stabilization</th>
<th>Maintenance</th>
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<tbody>
<tr>
<td>Clinicians</td>
<td>Social Workers</td>
<td>Psychologists</td>
<td>Recovery Coaches</td>
<td>Recovery Community Center Staff</td>
<td>Resident Assistants in Sober Dorms</td>
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<td>Teachers in Sober High Schools</td>
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<td>People in Recovery Themselves</td>
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Spirituality and Addiction Recovery

Definitions

**Spirituality**
- Individual
- "The search for the sacred"
- Manifestations of the divine/divine-like qualities
  - Transcendence
  - Immanence
  - Boundlessness
  - Ultimacy

**Religiousness**
- Institutional
- "The search for significance that occurs within the context of established institutions that are designed to facilitate spirituality"

Pargament, et al., 2013
Spirituality and Religiousness

• A single over-arching multi-dimensional construct

• Multiple dimensions of spirituality should be studied to isolate the specific spiritual or religious mechanisms that relate to health (Fetzer Institute/National Institute on Aging working group, 1999)

Spiritual/Religious Practices

Private Religious Practices instrument; Fetzer Institute/National Institute on Aging, 1999

Frequency with which the individual engages in prayer, meditation, reading scripture, watching religious programming, saying grace before meals

“How often do you read the Bible or other religious literature?”
Positive and Negative Religious Coping

Brief RCOPE; Pargament et al., 1998

Negative Religious Coping
In times of stress: insecure and untrusting relationship with God
“I wonder whether God has abandoned me”

Positive Religious Coping
In times of stress: secure and positive relationship with God
“She seeks God’s love and care”

Forgiveness of Self and Others

Behavior Assessment System; Mauger et al., 1992

Two subscales measuring: forgiveness of self and forgiveness of others

Forgiveness of Others
“It is hard for me to forgive those who hurt me.”

Forgiveness of Self
“I find it hard to forgive myself for some things I have done.”

Daily Spiritual Experiences

Daily Spiritual Experiences Scale; Underwood and Teresi, 2002

Frequency of common, everyday spiritual experiences such as feelings of peacefulness, awe, gratitude, closeness with God

“I feel God’s love for me through others.”
“I feel deep inner peace or harmony.”
Purpose in Life

Degree of purpose and meaning in life

My personal experience is...

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<th>1</th>
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<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utterly meaning-less</td>
<td>neutral</td>
<td></td>
<td></td>
<td></td>
<td>Very purposeful</td>
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</table>

Gratitude

Gratitude Questionnaire—6 item format; McCullough et al., 2002

“A life orientation towards noticing and appreciating the positive”
(Wood et al., 2010, p. 891)

“I have so much in life to be thankful for.”
“I am grateful to a wide variety of people.”

Frequency with which a person feels God’s Presence

I feel God’s presence...

• Many times a day
• Daily
• Most days
• Some days
• Once in a while
• Never or almost never
Spirituality/Religiousness and Addiction Recovery

- Spiritual variables have an inverse relationship with drinking (e.g., Kendler et al., 1997)
- Spiritual variables increase with substance abuse treatment (e.g., Stewart & Koeske, 2005)
- Spiritually-based treatment interventions improve outcomes (e.g., Margolin, Avants, & Arnold, 2005)
- Clients express spiritual concerns at intake (e.g., Carroll, McGinley, & Mack, 2000)

Spirituality and Alcoholics Anonymous

Alcoholics Anonymous

- Voluntary, worldwide organization of individuals who meet to attain and maintain sobriety
- Only requirement: desire to stop drinking
- Free
- Total abstinence
- Meetings are run by recovering individuals
- Widespread: 114,000 groups, 2,000,000 members in 170 countries

AA General Service Office, 2012
86.7% of Countries on Earth Have AA Meetings

Research on Alcoholics Anonymous

- A challenge to study: cannot randomize individuals into AA or non-AA groups
- Longitudinal, prospective studies provide evidence of AA’s effects
- Knowledge of AA’s mechanisms of change can inform professional treatment efforts
- The odds of an AA member to achieve a year of sobriety were over 4 times larger than the odds of a non-AA member to achieve a year of sobriety (OR 4.38, 95% CI [2.25, 8.52], Krentzman et al., 2012)

Robust Relationship

- Any measure of AA
- Any measure of Drinking
- Any time lapse

Alcoholics Anonymous ➔ Drinking
AA Involvement is More Beneficial than AA Attendance

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<th>Alcoholics Anonymous Involvement</th>
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<tr>
<td>Percent Days Abstinent</td>
<td>.34</td>
<td>.45</td>
</tr>
<tr>
<td>Drinks per Drinking Day</td>
<td>-.34</td>
<td>-.40</td>
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Pearson correlations. All are significant at p<.001. AA was assessed at 6 months, Drinking at 18 months.

Spirituality is a Central Component of AA: AA’s Central Text

- The way people recover: “Spiritual awakening” or “spiritual experience” (Appendix II).
- “Whether the family goes on a spiritual basis or not, the alcoholic member has to if he would recover” (p. 135).
- “…No amount of will power … could stop his drinking…. A spiritual experience…was absolutely necessary” (p. 155)
- “We must find a spiritual basis of life—or else” (p. 44)

AA’s Definition of Spirituality is Broad

- “Open minded on spiritual matters” (p. 48)
- “Honestly ask … what [spiritual terms] mean to you” (p. 47)
- “[Give] the spiritual side of life a fair hearing” (p. 50)
- “The Realm of Spirit is broad, roomy, all inclusive” (p. 46)
Spirituality and Recovery is Complex

- Some AA members reject spirituality (aaagnostica.org)
- Some who recover outside of AA use spirituality/religiousness (Flaherty et al., 2014)

Latest Research on Spirituality and Addiction Recovery

The Effect of Spirituality on Drinking (Robinson et al., 2011)
Design of the Life Transitions Study

Sample Characteristics in the Life Transitions Study

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Measurement of Drinking

Timeline Follow-Back Instrument (Sobell & Sobell, 1992, 1996)

• Percent Days Abstinent
  • A measure of drinking frequency
  • High values represent better outcomes
• Drinks per Drinking Day
  • A measure of drinking intensity
  • Low values represent better outcomes
• Days Since Last Drink
• Any Heavy Drinking Days
  • 4 drinks per day for women, 5 drinks per day for men
### Dimensions of Spirituality Predicting Four Different Drinking Outcomes

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<tr>
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<th>Percent Days Abstinent</th>
<th>Days Since Last Drink</th>
<th>Odds ratio of a heavy drinking day</th>
<th>Odds ratio of any drinking</th>
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</thead>
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<tr>
<td>Spiritual/religious practices</td>
<td>1.223**</td>
<td>5.815***</td>
<td>.945*</td>
<td>.936*</td>
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<tr>
<td>Daily spiritual experiences</td>
<td>.382*</td>
<td>2.489***</td>
<td>--</td>
<td>.969*</td>
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<tr>
<td>Forgiveness of self</td>
<td>1.290*</td>
<td>11.232***</td>
<td>.857**</td>
<td>.858**</td>
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<td>Negative religious coping</td>
<td>--</td>
<td>-5.067*</td>
<td>1.095*</td>
<td>1.123**</td>
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<tr>
<td>Purpose in life</td>
<td>.301*</td>
<td>1.733**</td>
<td>.974**</td>
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### Translational Take Home Message

- Forgiveness of self and spiritual/religious practices (such as prayer and meditation) are the strongest predictors of decreased drinking.

### Spirituality within 12-Step Programs

(Galanter, et al., 2013)
Study Design and Sample Characteristics

- Survey of 10 Narcotics Anonymous groups in California, Pennsylvania, and Florida
- 72% men
- Average age 39 (SD 13)
- Sober 6 (SD 9)
- 75% employed or in school
- 88% had a sponsor
- 48% were a sponsor
- 49% felt no craving for drugs in the past week

I Feel God’s Presence...

Felt God’s Presence at Least Daily

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<td>Level of craving</td>
<td>1.39</td>
<td>2.40</td>
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<tr>
<td>Depression</td>
<td>0.66</td>
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<td>Age</td>
<td>41.59</td>
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<td>Months abstinent</td>
<td>89.74</td>
<td>54.78</td>
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<tr>
<td># of NA meetings attended last year</td>
<td>212.32</td>
<td>171.17</td>
</tr>
<tr>
<td>Affiliation with other members</td>
<td>35.04</td>
<td>33.38</td>
</tr>
<tr>
<td>Belief in NA principles</td>
<td>37.34</td>
<td>34.72</td>
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Translational Take Home Message

• “Feeling God’s presence” on at least a daily basis could help people who are already in recovery with craving and depression.

Spirituality as a Mediator of the effect of 12-Step Programs on Drinking (Krentzman et al., 2013)

Design of the Life Transitions Study
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Stress and Coping Theory

Religious Coping Theory
Theories of Spirituality’s Beneficial Effect on Health Outcomes

- Reduction of behavioral risks
- Expansion of social support
- Enhancement of coping skills
- Physiological mechanisms

Theory of Religious Coping

Religious Coping Theory

Spirituality
Religiousness ➔ Health Outcomes

Theory of Religious Coping

Spirituality
Religiousness ➔ Health Outcomes

Precipitant to Spiritual Religious Coping ➔ Health Outcomes
Research Design

Covariates:
- Age
- Ethnicity
- Gender
- Marital Status
- Employment Status
- # Times in Treatment
- Site
- Baseline Spirituality
- Baseline Drinking

Baseline 6 months 12 months 18 months

Initial Model

Chi-square 660.56, df = 71, p < .001; RMSEA = .163, CFI = .730

Initial Model

Chi-square 660.56, df = 71, p < .001; RMSEA = .163, CFI = .730
Modified Model

Chi-square: 30.28, df = 24, p < .176, RMSEA = .030, CFI = .955
Translational Take Home Message

- One of the ways that AA “works” (that is, has an effect on reduced drinking) is by way of spiritual/religious practices such as prayer and meditation
- AA attendance and involvement are associated with more prayer and meditation
- More prayer and meditation is associated with better drinking outcomes

Certain dimensions of spirituality change as the result of AA.

Does spirituality improve with decreases in drinking? (Krentzman et al.)

Design of the Life Transitions Study

Baseline | 6 months | 12 months | 18 months | 24 months | 30 months
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Outcome (6-30 months)  

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<th>AA Involvement and Drinks per Drinking Day</th>
<th>AA Involvement and Percent Days Abstinent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spiritual/Religious Practices (5-37)</td>
<td>AA Involvement 1.067*** AA Involvement 0.06***</td>
<td></td>
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<tr>
<td>Positive Religious Coping (30-60)</td>
<td>AA Involvement 1.249*** AA Involvement 1.199***</td>
<td></td>
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<tr>
<td>Daily Spiritual Experience (56-96)</td>
<td>AA Involvement 2.462*** AA Involvement 2.166***</td>
<td></td>
</tr>
<tr>
<td>Purpose in Life (10-149)</td>
<td>AA Involvement 0.862 AA Involvement 0.024</td>
<td></td>
</tr>
<tr>
<td>Forgiveness of Self (0-15)</td>
<td>AA Involvement 0.107 AA Involvement 0.016</td>
<td></td>
</tr>
<tr>
<td>Forgiveness of Others (0-15)</td>
<td>AA Involvement 0.162*** AA Involvement 0.205**</td>
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Translational Take Home Message

• Holding AA constant, levels of drinking at 6 months are associated with greater levels of these spiritual dimensions over the following 2 years:
  • Forgiveness of self
  • Purpose in life
  • Spiritual/religious practices

• Holding drinking constant, levels of AA involvement at 6 months are associated with greater levels of these spiritual dimensions over the following 2 years:
  • Spiritual/religious practices
  • Forgiveness of others
  • Positive religious coping
  • Daily spiritual experiences

Which Comes First, Forgiveness of Self or Forgiveness of Others? (Krentzman et al.)

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Sample Characteristics in the Life Transitions Study

Forgiveness of Self

Forgiveness of Others

For every one unit increase in time, forgiveness of self increased significantly by .062 points (p < .001). Time accounted for 20.3% of the variance within individuals.

For every one unit increase in time, forgiveness of others increased significantly by .148 points (p < .001). Time accounted for 12.8% of the variance within individuals.

Forgiveness of others was an average of 2 points higher than forgiveness of self across all waves.

Forgiveness of Self

Forgiveness of Others
Forgiveness
of
Self
6
Months
Later

Forgiveness
of
Others
6
Months
Later

Evidence for this Pathway

Alcoholics Anonymous
Forgiveness of Others
Forgiveness of Self
Less Drinking

Translational Take Home Message

• Forgiveness of others is more strongly associated with forgiveness of self at the next wave than the other way around
• Forgiveness of self is related to decreased drinking
• Forgiveness of others might be a worthy treatment goal
Introduction to Gratitude

Gratitude has Religious Roots

- Judaism
- Christianity
- Islam

Gratitude has been described as...

- Spiritual (Emmons & Stern, 2013)
- A cognitive-affective state (Emmons & Stern, 2013)
- A virtue (morally positive character trait) (Emmons & Stern, 2013)
- Essential to interpersonal bonding (Algoe et al., 2008; Algoe, 2012)
- Single higher-order personality trait with lower-order facets (Wood et al., 2010)
- Only present when one is grateful to a benefactor for something provided (Manela, 2015)
- More broadly applicable to include other types of appreciation (Wood et al., 2010)
Gratitude is Positively Associated With...

- Post traumatic Growth (Kashdan et al., 2006; Lies, Mellor, & Hong, 2009)
- Positive mood and happiness (McCullough, Emmons, & Tsang, 2002)
- Effective coping (Wood, Joseph, & Linley, 2007)

Gratitude is Negatively Associated With...

- Less effective coping, including substance use, denial, self-blame, withdrawing, and giving up (Wood, Joseph, & Linley, 2007)
- Negative mood, envy, materialism, worry, frustration, anxiety, fear (McCullough, Emmons, & Tsang, 2002)
- Worker burnout (Chan, 2011; Kaplan et al., 2014)

Gratitude in Recovery
Gratitude and Recovery

- Gratitude is a prevalent theme in recovery circles
- Gratitude is a prevalent theme in AA literature
  - 10th step: expressing "gratitude for blessings received"
  - Bill Wilson’s writings

Model of Gratitude and Recovery
Effect of a Gratitude Practice on Mood among Individuals in Outpatient Treatment for Alcohol Use Disorders (Krentzman et al., 2015)

Design of the Daily Life Study

Participants of the Daily Life Study

- 23 outpatients in treatment for AUD
- 46 years old (SD 10.9)
- 16 years of education (SD 3.0)
- 48% Female
- 82% European American
- 48% Married or co-habitating
- High levels of AA attendance
- Low levels of depression, anxiety, alcohol craving, drinking consequences
- Wide range of days since last drink
Design

• Mixed methods
• Randomized controlled trial
• Intervention delivered, and data collected, via web-based surveys
• Exercises completed every day for 14 days
• Control group – sham exercise
• Mood measured immediately after each exercise

Gratitude Group
• Description of the first good thing that happened in the past 24 hours
• What was its cause? (what made this happen?)
• Description of the second good thing that happened in the past 24 hours
• What was its cause? (what made this happen?)
• Description of the third good thing that happened in the past 24 hours
• What was its cause? (what made this happen?)

Gratitude Group
• Description of the first good thing that happened in the past 24 hours
• What was its cause? (what made this happen?)
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• What was its cause? (what made this happen?)
• Description of the third good thing that happened in the past 24 hours
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Placebo Group
• When and where slept, dozed, napped
• Exercise and when
• Caffeinated products consumed
• TV, computer, lights on while sleeping?
• Hour before you last feel asleep.
• Hour after your final awakening
Mood was the outcome:
Theory of emotion
Results
‘To look for something positive every day takes me out of the negative thinking about the world. I’m not looing around and thinking everything is screwed up …. Looking for a sunny day and appreciating it instead of a cloudy day and I caused it. It keeps my head in another place.’

Qualitative Data Complemented
Quantitative Findings: Gratitude Brightened Cognition

• Three good things helped one participant give himself credit for each day sober (versus reaching 6 month benchmarks)

• ‘What made that good thing happen?’
  • ‘I always felt like I was falling back on, “Well, because I am in recovery” … that was pretty much the answer every time.’
Translational Take Away Message

• This exercise might be very difficult for some people. Coaching that ‘small’ things count.
• Provide structure and positive reinforcement
• Writing and literacy
  • ‘The only thing some clients write is a check’
  • Allow those who have trouble putting thoughts in writing to ‘call it in’ or share it with a family member.

Good Things in Daily Life
(Higgins et al.)

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Procedure

- Replies to the Thee Good Things questions were analyzed
- Eleven participants reported “three good things” over 14 days yielding 462 possible replies
- 80 of these units were unable to be coded
- Absences
- non-responses (e.g., “N/A”)
- negative responses (e.g., becoming ill)
- not having a second or third good thing (e.g., “Don’t really have anything else to speak of”)
- Most comments fell into four themes which were analyzed further

Good Things in Daily Recovery

- Travelled to see my older daughter’s field hockey game and take her out to dinner
- “I am thankful that I have a great job and an awesome support system there”
- “Visited raspberry pop tarts at Wal-Mart. I love raspberry and I love pop tarts but I’ve never seen raspberry pop tarts”
Translational Take Away Messages

- Helping clients build good lives in these areas may reinforce positive recovery:
  - Relationships with friends and family
    - "One of the most reliable predictors of happiness is stable social relationships" (Diener, 1999)
  - Meaningful work/careers/service
  - Gratifying personal activities
  - Appreciation for recovery itself

Gratitude and Recovery as Mutual Reinforcing (Krentzman et al.)

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<td>N=364</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>44.0 (12.8)</td>
</tr>
<tr>
<td>Years of Education</td>
<td>14.3 (2.5)</td>
</tr>
<tr>
<td>Female %</td>
<td>34.3</td>
</tr>
<tr>
<td>Ethnicity %</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>81.9</td>
</tr>
<tr>
<td>Black</td>
<td>10.4</td>
</tr>
<tr>
<td>Other</td>
<td>7.7</td>
</tr>
<tr>
<td>Married/cohabitating %</td>
<td>38.2</td>
</tr>
<tr>
<td>Full-time Employment %</td>
<td>40.1</td>
</tr>
<tr>
<td>Drinks per Drinking Day</td>
<td>9.5 (8.2)</td>
</tr>
<tr>
<td>Percent Days Abstinent</td>
<td>56.1% (31.3%)</td>
</tr>
</tbody>
</table>

Change from Baseline to 6-Months (n=58)

Gratitude at 6 Months Did Not Predict Drinking at 12 Months

<table>
<thead>
<tr>
<th>Outcome: Achievement of 90 Days Sobriety at 12 Months</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Month Gratitude</td>
<td>1.068</td>
<td>.863</td>
</tr>
<tr>
<td>6-Month Percent Days Abstinent</td>
<td>1.011*</td>
<td>1.027**</td>
</tr>
<tr>
<td>6-Month Gratitude x 6-Month Percent Days Abstinent</td>
<td>1.061*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Month Gratitude</td>
<td>1.059</td>
</tr>
<tr>
<td>6-Month Drinks per Drinking Day</td>
<td>0.568**</td>
</tr>
<tr>
<td>6-Month Gratitude x 6-Month Drinks per Drinking Day</td>
<td>.808**</td>
</tr>
</tbody>
</table>
Translational Take Away Message

- Gratitude seems to reinforce the status quo
- Recommend gratitude practices for those who are already sober
- Avoid recommending gratitude practices for those who are still drinking

Overall Translational Take Aways
Translational Take Home Messages

- There is an evidence base for the effectiveness of AA on drinking
- AA involvement has a stronger effect on drinking than AA attendance
- Helpful to assess for spirituality/religiousness at intake and throughout treatment
- AA Agnostica.org could be a helpful resource

Translational Take Home Messages

- Forgiveness of self, spiritual/religious practices, and purpose in life are elevated secondary to decreased drinking even without AA
- Forgiveness of self and prayer/meditation are the strongest predictors of reduced drinking; prayer/meditation might be one of the strongest mechanism by which AA spirituality has an impact on drinking
- “Feeling God’s Presence” on a daily basis is associated with less depression and less cravings among individuals in recovery
- Forgiveness of others is associated with subsequent forgiveness of self which is a predictor of reduced drinking

Translational Take Home Messages

- Gratitude practices help improve mood, cognitions, and reinforce recovery
  - For some, the practice is difficult
  - Not every client will respond well to a writing exercise
  - When our study ended, participants stopped doing the exercise
- High levels of gratitude reinforce the status quo
  - Gratitude practices helpful for clients who have stopped drinking
  - Gratitude practices not helpful for clients who are currently drinking
- Positive interpersonal relationships, meaningful work, personal enjoyment, and appreciation for recovery itself are important building blocks to a good life in recovery
Thank you!

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