Addiction and the Mind

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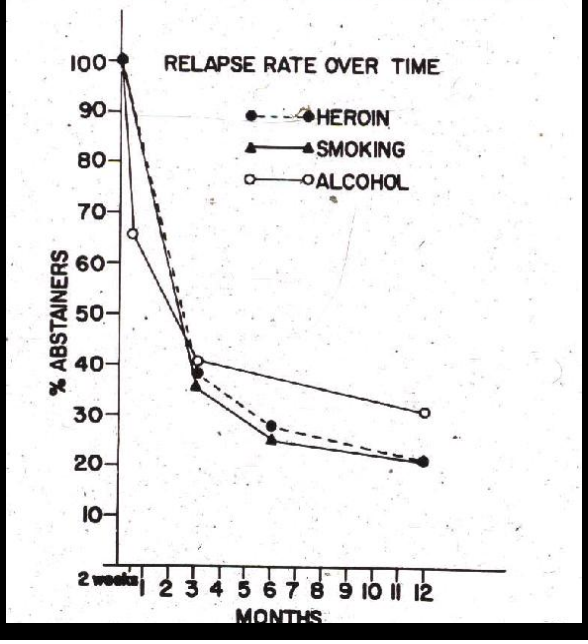
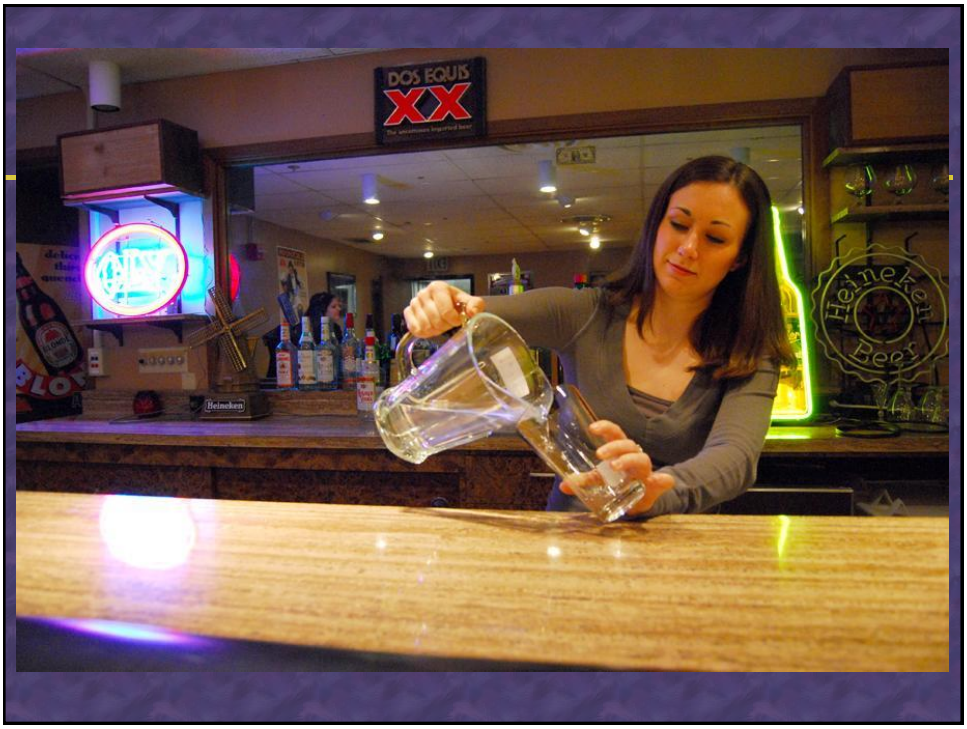
FIG. 1. RELAPSE RATE OVER TIME FOR HEROIN, SMOKING AND ALCOHOL.



Brickman's Model of Helping & Coping Applied to Addictive Behaviors

		Is the person responsible for changing the addictive behavior?	
		YES	**NO**
Is the person responsible for the development of the addictive behavior?	**YES**	**MORAL MODEL** (War on Drugs) Relapse = Crime or Lack of Willpower	**SPIRITUAL MODEL** (AA & 12-Steps) Relapse = Sin or Loss of Contact with Higher Power
	NO	**COMPENSATORY MODEL** (Cognitive-Behavioral) Relapse = Mistake, Error, or Temporary Setback	**DISEASE MODEL** (Heredity & Physiology) Relapse = Reactivation of the Progressive Disease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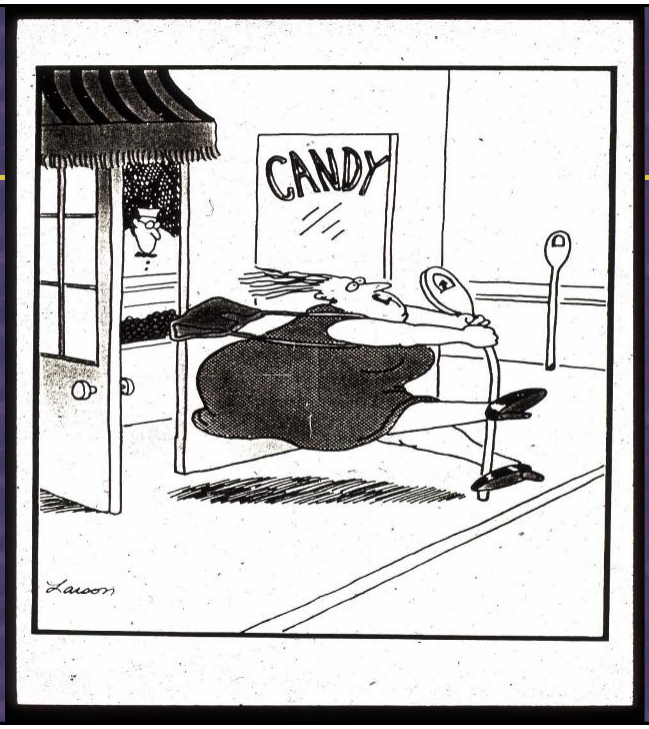
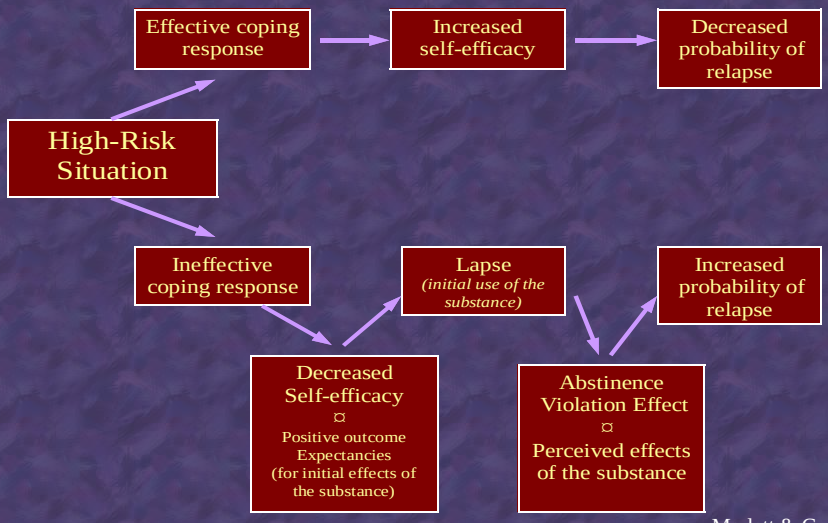
Analysis of High-Risk Situations for Relapse

Alcoholics, Smokers, and Heroin Addicts

RELAPSE SITUATION (Risk Factor)	Alcoholics (N=70)	Smokers (N=35)	Heroin Addicts (N=32)	TOTAL Sample (N=137)
INTRAPERSONAL DETERMINANTS				
Negative Emotional States	**38%**	**43%**	**28%**	**37%**
Negative Physical States	3%	-	9%	4%
Positive Emotional States	-	8%	16%	6%
Testing Personal Control	9%	-	-	4%
Urges and Temptations	11%	6%	-	8%
TOTAL	**61%**	**57%**	**53%**	**59%**
INTERPERSONAL DETERMINANTS				
Interpersonal Conflict	**18%**	**12%**	**13%**	**15%**
Social Pressure	**18%**	**25%**	**34%**	**24%**
Positive Emotional States	3%	6%	-	3%
TOTAL	**39%**	**43%**	**47%**	**42%**



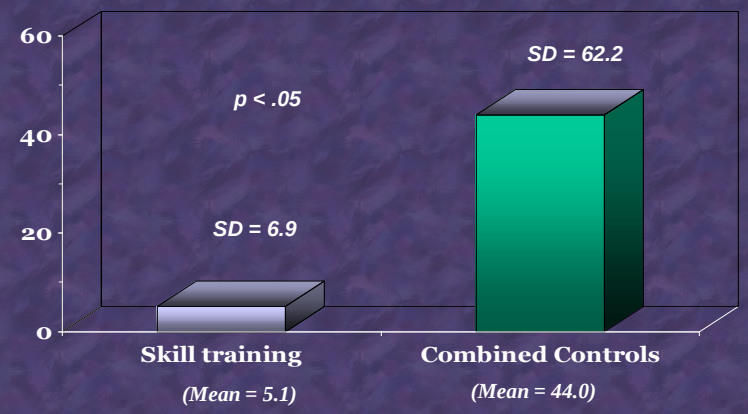
A Cognitive Behavioral Model of the Relapse Process



Marlatt & Gordon 1985

Skill-Training with Alcoholics: One- Year Follow-Up Results

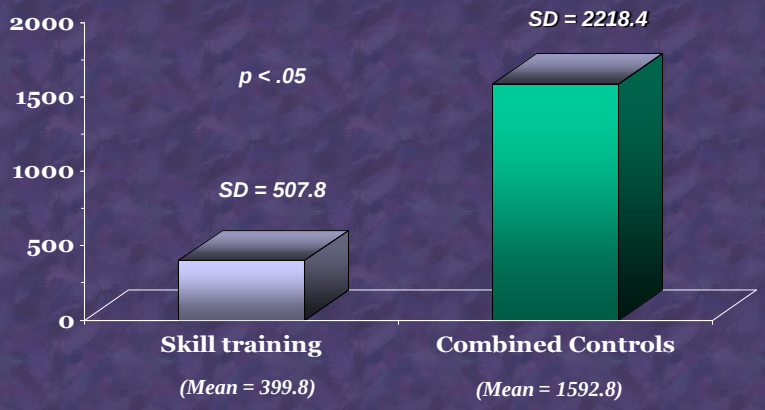
Days of Continuous Drinking



Chaney et al., 1978.

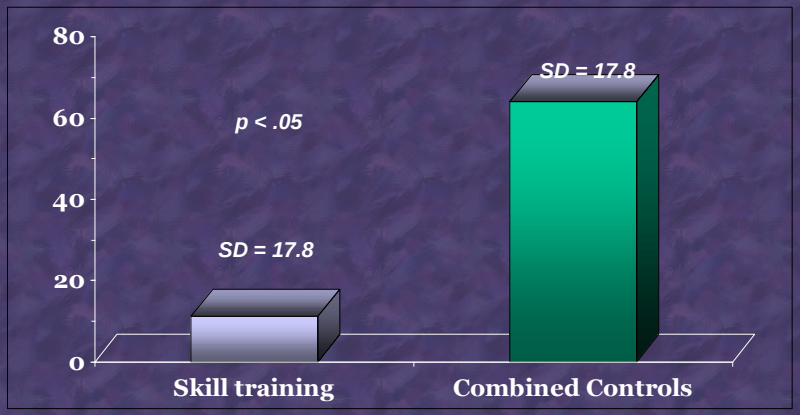
Skill-Training with Alcoholics: One- Year Follow-Up Results

Number of Drinks Consumed



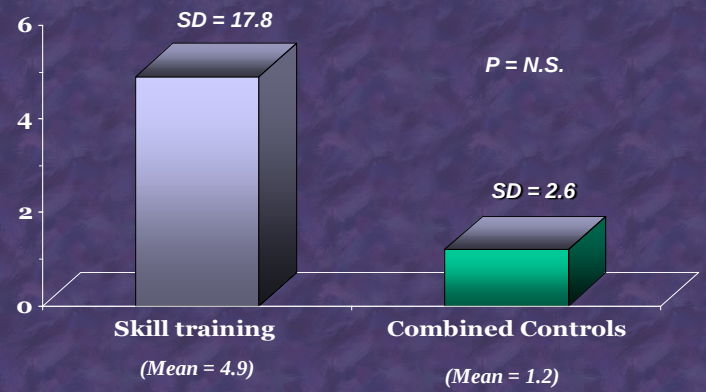
Skill-Training with Alcoholics: One- Year Follow-Up Results

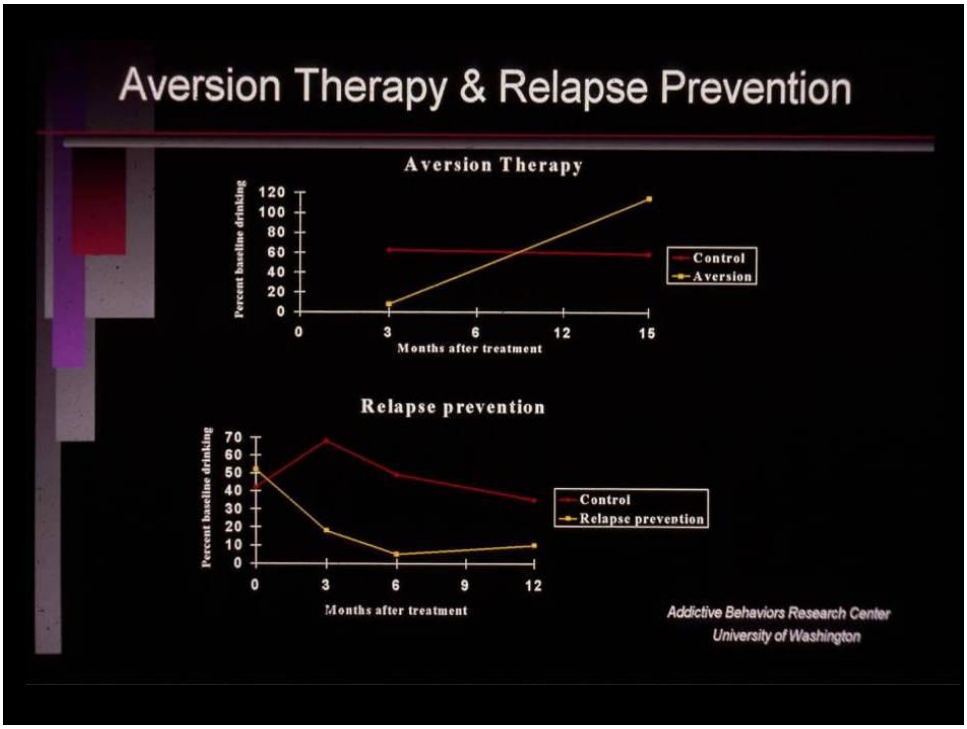
Days Intoxicated



Skill-Training with Alcoholics: One- Year Follow-Up Results

Controlled Drinking





Empirical Support:
Review of 24 RCTs

Kathleen M. Carroll (1996)

Relapse Prevention:

- Does not usually prevent a lapse better than other active treatments, but is more effective at "Relapse Management," i.e. delaying first lapse and reducing duration and intensity of lapses
- Particularly effective at maintaining treatment effects over long term follow-up measurements of 1-2 years or more
- "Delayed emergence effects" in which greater improvement in coping occurs over time
- May be most effective for "more impaired substance abusers including those with more severe levels of substance abuse, greater levels of negative affect, and greater perceived deficits in coping skills." (Carroll, 1996, p.52)

Empirical Support: Meta-Analytic Review

Irvin, Bowers, Dunn & Wang (1999)

- Reviewed 17 controlled studies to evaluate overall effectiveness of the RP model as a substance abuse treatment
- Statistically identified moderator variables that may reliably impact the outcome of RP treatment
- "Results indicate that RP is highly effective for both alcohol-use and substance-use disorders"

Empirical Support: Meta-Analytic Review

Irvin, Bowers, Dunn & Wang (1999)

Moderator Variables with Significant Impact on RP Effectiveness:

- Group format more effective than individual therapy format
- More effective as "stand alone" than as aftercare
- Inpatient settings yielded better outcomes than outpatient
- Stronger treatment effects on self-reported use than on physiological measures
- While effective across all categories of substance use disorders, stronger treatment effects found for substance abuse than alcohol abuse

Relapse Prevention Recognition

NREPP SAMHSA's National Registry of Evidence-based Programs and Practices

SAMHSA Model Programs
Effective Substance Abuse and Mental Health Programs for Every Community

PROJECT CHOICES

Project Choices Team

PRINCIPAL INVESTIGATOR	**G. Alan Marlatt, PhD**
CO-PRINICIPAL INVESTIGATORS	**Mary Larimer, PhD** **Arthur Blume, PhD** **Tracy Simpson, PhD**
RESEARCH COORDINATORS	**George A. Parks, PhD** **Jessica M. Cronce**
RESEARCH STUDY ASSISTANTS	**James K. Buder** **Tiara Dillworth**
GRADUATE RESEARCH ASSISTANTS	**Laura MacPherson** **Katie Witkiewitz** **Sarah Bowen**

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Mindfulness

"A way of paying attention:
on purpose,
in the present moment,
non-judgmentally"

(Kabat-Zinn, 2005)

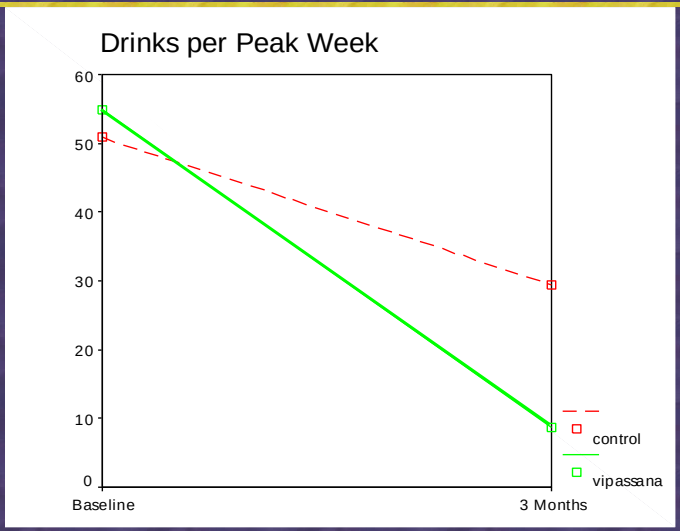

QUIET PLEASE
MEDITATION
IN PROGRESS

Results: Vipassana vs. TAU 3-Months Post-Release

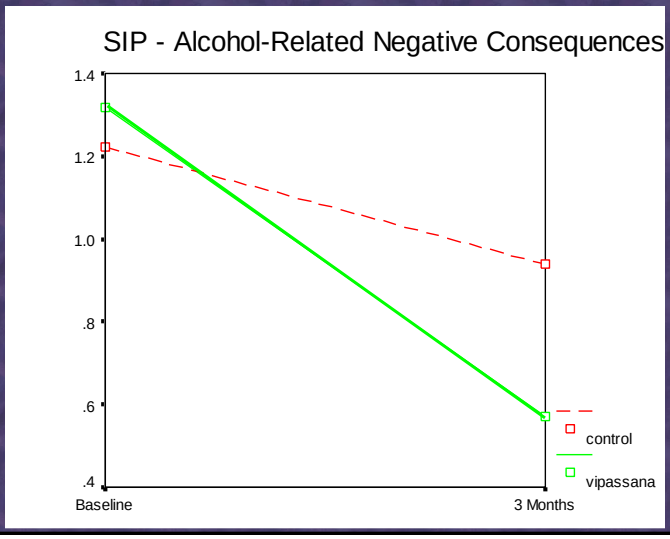
- N = 173
- Significant reductions in substance use
  - Marijuana
  - Crack cocaine
  - Alcohol
  - Alcohol-related negative consequences
- Significant changes in psychosocial outcomes
  - Decreased psychiatric symptoms
  - Increased internal drinking-related locus of control
  - Increased optimism

(Bowen et al, 2006)

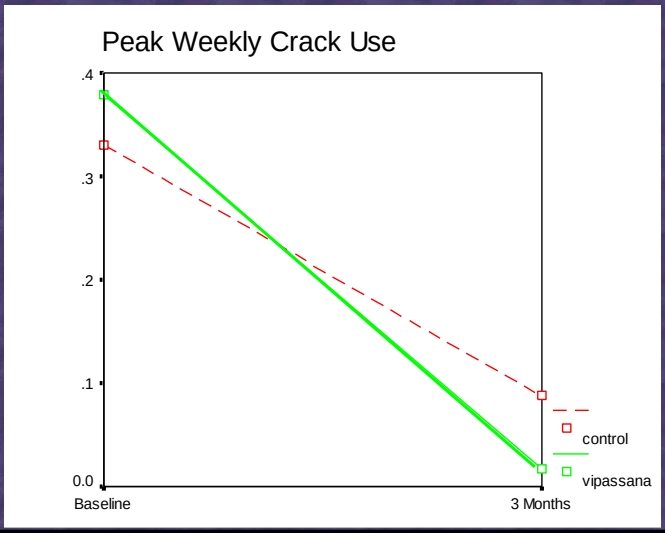
Mean Changes from Baseline to 3-month Follow-up: *Peak Weekly Alcohol Use*



Mean Changes from Baseline to 3-month Follow-up: *Alcohol-Related Negative Consequences*



Mean from Baseline to 3-month Follow-up: Peak Weekly *Crack Cocaine Use*



Mindfulness-Based Relapse Prevention

The MBRP Team

Principle Investigator: G. Alan Marlatt

Co-Investigators: Katie Witkiewitz, Mary Larimer

Project Coordinator: Seema Clifasefi

Post Docs: Sarah Bowen, Susan Collins

Graduate Research Assistants: Neha Chawla,
Joel Grow,
Sharon Hsu

NIDA Grant#R21 DA010562

Mindfulness and Western Psychology

- Incorporated into a number of treatment approaches, and is associated with positive outcomes for a variety of populations and conditions:
  - Mindfulness-Based Stress Reduction (MBSR)
  - Mindfulness-Based Cognitive Therapy (MBCT)
  - Dialectical Behavior Therapy (DBT)
  - Acceptance and Commitment Therapy (ACT)
  - Functional Analytical Psychotherapy (FAP)
- Associated with changes in brain areas related to reductions in anxiety and negative affect (Davidson et al., 2003)

Mindfulness-Based Relapse Prevention

(Bowen, Chawla & Marlatt, 2008; Witkiewitz, Marlatt & Walker, 2005)

- Integrates mindfulness practices with Relapse Prevention
- Patterned after MBSR (Kabat-Zinn) and MBCT (Segal et al.)
  - 8 weekly 2 hour sessions; daily home practice
- Components of MBRP
  - Formal mindfulness practice
  - Informal practice
  - Coping strategies

Goals of MBRP

- Increase awareness of triggers, interrupting habitual reactive behaviors
- Shift from "automatic pilot" to mindful observation and response
- Increase tolerance of discomfort, thereby decreasing the need to alleviate with substance use (self-medication)
- Acceptance of present moment experiences vs. focusing on the next "fix"

Facilitating MBRP

- Person-Centered or Rogerian approach
- Motivational Interviewing style
- Authenticity, unconditional acceptance, empathy, humor, present-centered
- Facilitators have their own ongoing practice similar to what they are teaching
- Facilitators deliver the program according to the MBRP Treatment Guide, but are spontaneous and creative within those parameters

"Formal" Meditation Practices

- Body Scan
  - Based on Vipassana
  - Adapted from Kabat-Zinn
- Sitting Meditation
  - Focused awareness (breath)
  - Expanding to Body, Emotion, Thought
- Walking Meditation
- Mountain Meditation

"SOBER" Breathing Space

S – Stop: pause wherever you are

O – Observe: what is happening in your body & mind

B – Breath: bring focus to the breath as an "anchor" to help focus and stay present

E – Expand awareness to your whole body & surroundings

R – Respond mindfully vs. "automatically"

Urge Surfing

"Observe and accept" vs. "fight or control"

Allows clients to learn alternative (nonreactive) responses, and weaken the intensity of urges over time

MBRP Session Themes

Session 1: Automatic Pilot and Relapse

Session 2: Awareness of Triggers and Craving

Session 3: Mindfulness in Daily Life

Present-Centered Awareness

Session 4: Mindfulness in High-Risk Situations

Session 5: Balancing Acceptance and Action

Session 6: Thoughts as Just Thoughts

Mindfulness and Relapse

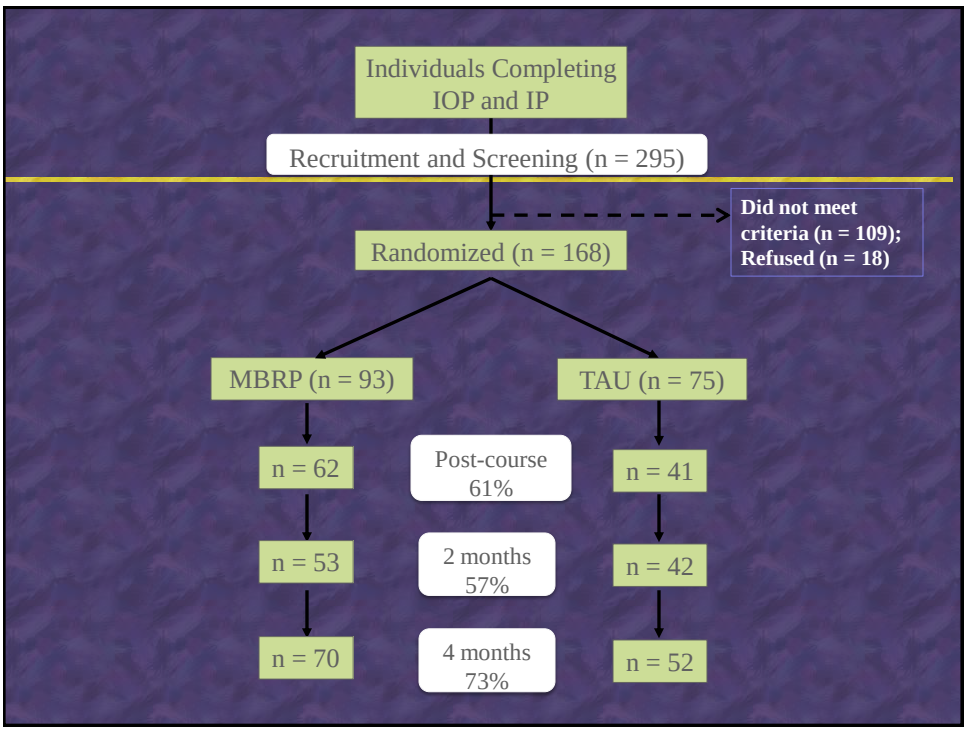
Session 7: Self-Care and Lifestyle Balance

Session 8: Building Support Networks and Continuing Practice

Bigger Picture: Creating a Balanced Life

Pilot Efficacy Trial

- Randomized Trial conducted at Recovery Centers of King County
- MBRP vs. TAU (process, 12-step, and psychoeducation)
- 12 MBRP groups
  - Two master's level therapists per group
  - 5-12 participants



Participants

- 63.7% male
- Age = 40.45 (*SD* = 10.28)
- Ethnicity:
  - 55.4% Caucasian
  - 29.8% African American
  - 10% Native American
  - 6% Hispanic/Latino
  - 2.4% Hawaiian/Pacific Islander
  - < 1% Asian American

Participants

- Drug of Choice:
  - 45.2% Alcohol
  - 26.2% Cocaine/Crack
  - 13.7% Methamphetamine
  - 7.1% Opiates/Heroin
  - 5.4% Marijuana
  - 1.8% Other

- No differences between groups on:
  - Attrition
  - Baseline demographic or outcome variables

Results: Treatment Adherence

- MBRP Attendance: 5.18 sessions (*SD* = 2.41)
- Percent reporting weekly meditation practice (MBRP):
  - Post-course: 86%
  - 2-month: 63%
  - 4-month: 54%
- At 4-months, MBRP participants reported practicing:
  - 4.74 days per week (*SD* = 4.0)
  - 29.94 minutes per day (*SD* =19.5)

Results: Substance Use

Time x group interaction: *B*=-.32, *SE*=.14, *p*= .02
Time^2 x group interaction: *B*=.10, *SE*=.05, *p*= .04

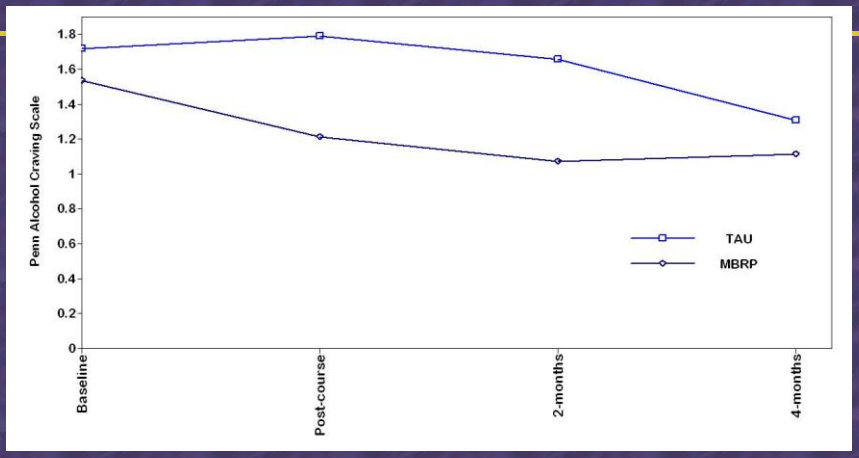
All Omnibus tests: $p < .001$

Results: Mindfulness & Acceptance

Over the 4-month follow-up, MBRP participants showed significant time x treatment effects:

- Increases in mindfulness skills (omnibus $p < .01$)
  - Acting with awareness (p=.02)
    (FFMQ, Baer et al., 2006)
  - Increases in acceptance (p=.05)
    (AAQ, Hayes et al., 2004)

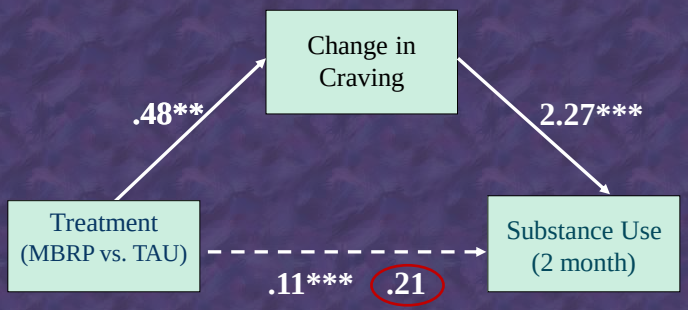
Results: Craving



Time x treatment: *IRR* =.65, *SE* =.12, *p* =.02
Time^2 x treatment: *IRR* =1.15, *SE* =.07, *p* =.02

PACS, Flannery et al., 1999

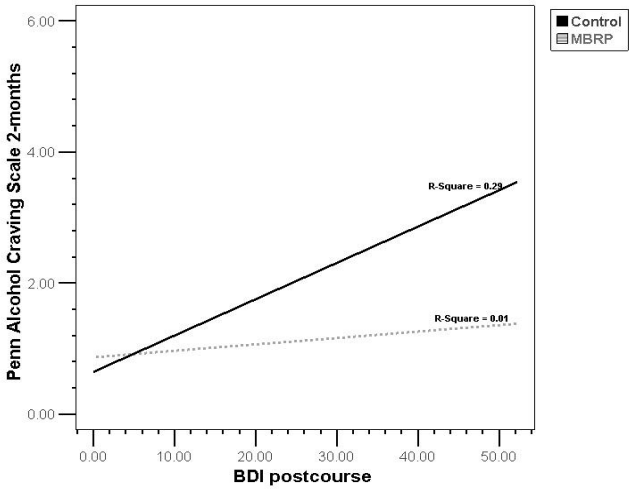
Results: Craving as a Mediator



$z = -2.00$, $p < .05$

**$p < .01$, *** $p < .001$

Results: Depression and Craving



Discussion

- Preliminary evidence suggests promise for MBRP for:
  - Decreasing rates of substance use
  - Increasing mindfulness (awareness) and acceptance
  - Reducing craving, which mediates the effect of treatment

Future Directions

- Investigate additive effects of mindfulness-based practices to standard RP
- Unique mediators and moderators of MBRP
- Modify treatment program to include ongoing support for MBRP participants
- Compare MBRP as initial treatment vs. aftercare

Acknowledgements

Recovery Centers of King County

Co-Investigators:
Mary Larimer
Katie Witkiewitz

Consultants:
Jon Kabat-Zinn
Zindel Segal

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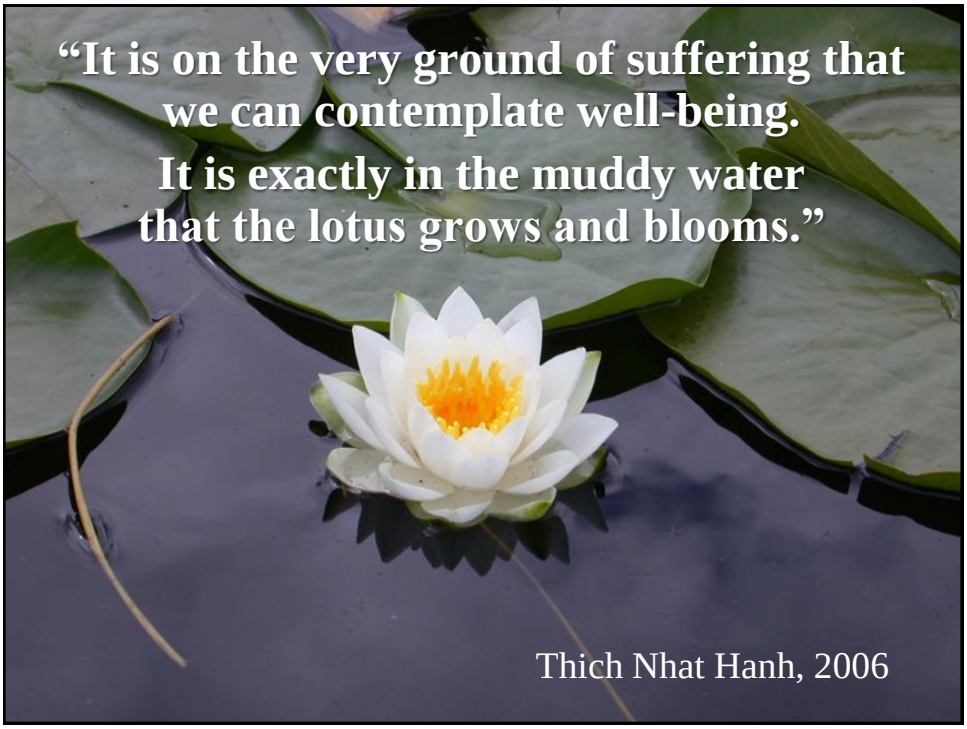
“It is on the very ground of suffering that we can contemplate well-being.
It is exactly in the muddy water that the lotus grows and blooms.”
Thich Nhat Hanh, 2006

Thank You