

“Sex, Drugs and... How to cover it all, simplify treatment plans and get better results.”
Tony Comerford, Ph.D.

The “history and physical” of a Bigger picture

Context

Biology

Psychology

Productivity

The Time Line of A social Context

- 1650 - The good drugs for prevention and cure;
- 1800 – The religious answer to individual problems;
 - Take the pledge;
 - The woman's Temperance movement;
- 1920 – Prohibition
 - The Speakeasy and the first drug (alcohol) cartels
 - Repealed in 1933

The Time Line of A social Context #2

- 1930-1950's Public policies to address the "People Problem;"
 - European immigrants and alcohol,
 - Cocaine with African Americans,
 - Opium with Chinese immigrants,
 - Marijuana Mexican immigrants,
 - LSD and the counterculture.
- Legal vs. illegal roles
 - Heroin cures morphine addiction and alcoholism (1800's),
 - Cocaine gives a lift to soft drinks (1903),
- Opium and morphine become a tax revenue source (Harrison Act 1914).

The Time Line of A social Context #3

- Controlled Substance Act (1970), medical use and abuse/dependence potential;
- NIAAA and NIDA (1971-74) Research & prevention;
- Office of Substance Abuse Prevention (1986), alcohol and drug abuse prevention;
- Office of National Drug Control Policy (1988); drug trafficking;
- Alcohol/Drug Abuse & Mental Health Administration 80/20 treat/prevent;
- Center for Substance Abuse Prevention (1992);
- SAMHSA (2000) starts to think about co-occurring disorders.

Hopes and Prayers

- Congress declares Drug Free US by 1995!
- 13-18 Metric Tons of Heroin consumed daily in 2004 (DHHS);
- The US has the highest prison population rate in the world, some 686 per 100,000 followed by the Cayman Islands (664), Russia (638), Belarus (554), Kazakhstan (522), and Turkmenistan.*

*www.publications.rds@homeoffice.gsi.gov.uk

Today

- Alcohol/Tobacco regulation and control:
 - Minimum ages for alcohol and tobacco;
 - “Dry” counties (Kentucky Bourbon);
 - Tax revenue source and state business;
 - Punitive intoxication laws (mostly driving);
- Drugs
 - A private enterprise and major import,
 - Approximately 65-Billion,
 - Columbia: cocaine as profitable as coffee,
 - USA: marijuana more profitable than corn.

Today

New York became the 30th state to pass a law that imposes taxes on illegal drugs and controlled substances.

What's the Problem? US Vs. the Netherlands

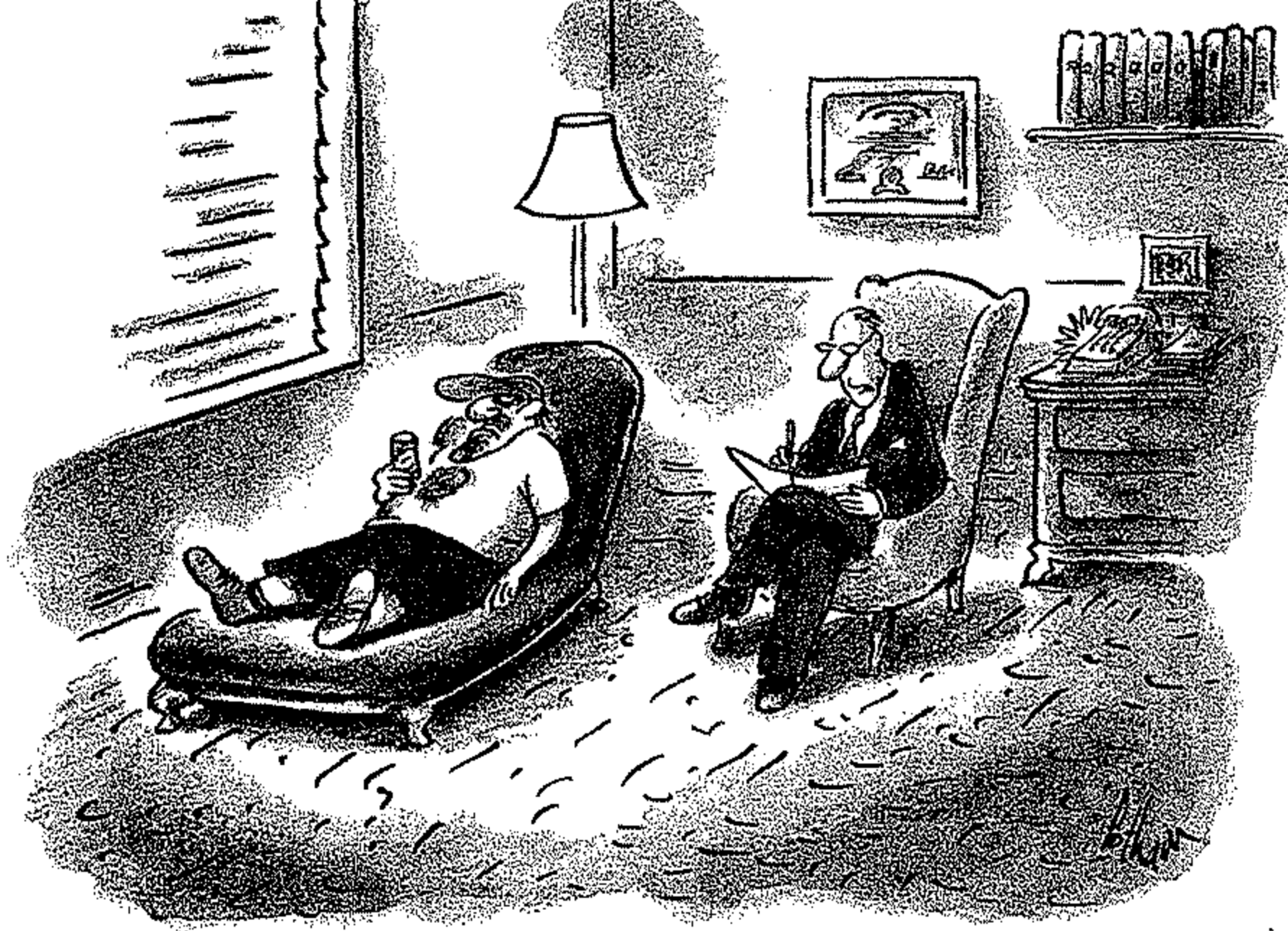
- Two times the lifetime prevalence of marijuana use (36.9/17.0);
- Three times the lifetime prevalence of heroin use (1.4/0.4);
- Seven times the incarceration rate (701/100 per k);
- Spend 1.7 times more on the criminal justice system (€379/223); and
- Kill each other 3.7 times more often (5.56/1.51 per k).

Netherlands Vs. US References

- 1: *US Department of Health and Human Services (HHS), Substance Abuse and Mental Health Services Administration, National Household Survey on Drug Abuse: Volume I. Summary of National Findings (Washington, DC: HHS, August 2002), p. 109, Table H.1.*
- 2: *Trimbos Institute, "Report to the EMCDDA by the Reitox National Focal Point, The Netherlands Drug Situation 2002" (Lisboa, Portugal: European Monitoring Centre for Drugs and Drug Addiction, Nov. 2002), p. 28, Table 2.1.*
- 3: *Walmsley, Roy, "World Prison Population List (fifth edition) (London, England: Research, Development and Statistics Directorate of the Home Office), Dec. 2003, p. 3, Table 2.*
- 4: *Walmsley, Roy, "World Prison Population List (fifth edition) (London, England: Research, Development and Statistics Directorate of the Home Office), Dec. 2003, p. 5, Table 4.*
- 5: *van Dijk, Frans & Jaap de Waard, "Legal infrastructure of the Netherlands in international perspective: Crime control" (Netherlands: Ministry of Justice, June 2000), p. 9, Table S.13.*
- 6: *Barclay, Gordon, Cynthia Tavares, Sally Kenny, Arsalaan Siddique & Emma Wilby, "International comparisons of criminal justice statistics 2001," Issue 12/03 (London, England: Home Office Research, Development & Statistics Directorate, October 2003), p. 10, Table 1.1.*

Ways to Look at it

- A Moral Problem: take the pledge and punish;
- Cognitive/Behavioral: motivation and reinforcement;
- Psychodynamic: symptomatic of other pathology, personality, object relations;
- Family systems: enabling, hidden motivations in roles;
- Disease model: Jellinek, models the pathway of other diseases;
- Genetic: Statistical associations with gene factors



"You can't worry what non-beer drinkers think."

Oh the Shame of It All

- **Stigma-I'd rather be a.... The issue is:**
 - **Misinformation;**
 - **What people do when addicted, guilt by association;**
 - **Anonymity in recovery; and,**
- **The result is:**
 - **Categorization and avoidance;**
 - **Specialty programming;**
 - **Insufficient funding and shift to the taxpayer;**
 - **Limited care availability.**

Your Tax Dollars at Work

- SAMHSA found that 77.4 percent of treatment in 2003 was paid for by Medicaid, Medicare, and other federal, state and local sources, up from 50.4 percent in 1986. Meanwhile, the private sector's share of the treatment cost burden slipped from 49.6 percent in 1986 to 22.6 percent in 2003.

Part of a Master Plan?

We need things like addiction to kill off the weak people.

Anonymous (1999)

Reported by Carlton Erickson, Ph.D.

A BRAIN DISEASE?



The Leading Edge

- Research on the brain chemistry involved with addiction;
- Drugs that reduces the urge to smoke, drink, or use drugs;
- Vaccines that block the action of addictive drugs (Cocaine);
- Brain imaging studies of drugs in action;
- Studies on the impact of drugs dependent upon developmental timing.
- New medical uses for illegal drugs like marijuana.
- The benefits of alcohol use to include aging populations.

Genetics

50 to 60 percent of the risk for alcoholism is genetically determined, for both men and women. Genes alone do not preordain that someone will be alcoholic; features in the environment along with gene–environment interactions account for the remainder of the risk.

Heath, A.C.; Bucholz, K.K.; Madden, P.A.F.; et al. Genetic and environmental contributions to alcohol dependence risk in a national twin sample: Consistency of findings in women and men. *Psychological Medicine* 27:1381–1396, 1997.

Prescott, C.A., and Kendler, K.S. Genetic and environmental contributions to alcohol abuse and dependence in a population–based sample of male twins. *American Journal of Psychiatry* 156: 34–40, 1999.

Genetics

NIAAA's Collaborative Study on the Genetics of Alcoholism (COGA) is searching for alcohol-related genes through studies of families with multiple generations of alcoholism. Using existing markers—known variations in the DNA sequence that serve as signposts along the length of a chromosome—and observing to what extent specific markers are inherited along with alcoholism risk, they have found “hotspots” for alcoholism risk on five chromosomes and a protective area on one chromosome near the location of genes for alcohol dehydrogenase.

Edenberg, H.J. The collaborative study on the genetics of alcoholism: An update. *Alcohol Research & Health* 26(3):214–217, 2002.

Genetics

One relationship between genes and alcoholism results in a variation in liver enzymes that metabolize alcohol. Genetic variants in the enzymes alcohol dehydrogenase (ADH) or aldehyde dehydrogenase (ALDH) raise the level of acetaldehyde after drinking, causing symptoms that include flushing, nausea, and rapid heartbeat. The genes for these enzymes and the alleles, or gene variants, that alter alcohol metabolism have been identified. Genes associated with flushing are more common among Asian populations than other ethnic groups, and the rates of drinking and alcoholism are correspondingly lower among Asian populations.

Li, T.K. Pharmacogenetics of responses to alcohol and genes that influence alcohol drinking. *Journal of Studies on Alcohol* 61:5–12, 2000. (9) Makimoto, K. Drinking patterns and drinking problems among Asian–Americans and Pacific Islanders. *Alcohol Health & Research World* 22(4):270–275, 1998.

Genetics

The comparison of approximately 500,00 known variations in the human genome against the DNA of 6,000 and 8,000 smokers from the US and Europe revealed two proteins linked to nicotine addiction in the heaviest smokers.

The two studies suggest that variations in the alpha 3 and alpha 5 nicotinic receptor subunit genes play a role in risk for nicotine addiction and will be targets for smoking cessation medication development programs.

(In press). University of Pennsylvania School of Medicine, GlaxoSmithKline and the University of Toronto. *Molecular Psychiatry*

Substance specific traits

(Standardized regression weights of paths from covariates to substance use factors)

<u>Covariate</u>	<u>Alcohol</u>	<u>Drug</u>	<u>Tobacco</u>
• Neuroticism	<u>.091</u>	.066	<u>.078</u>
• Extraversion	<u>.148</u>	-.011	.024
• Openness	<u>-.084</u>	.027	.047
• Agreeableness	-.014	-.014	.045
• Conscientiousness	-.046	<u>-.091</u>	<u>-.086</u>
• Novelty Seeking	<u>.249</u>	<u>.099</u>	<u>.191</u>
• Conduct Disorder	<u>.300</u>	<u>.308</u>	<u>.230</u>
• Gender	.035	<u>.127</u>	.042

Grekin, Sher & Wood (2006). Personality and substance dependence symptoms: Modeling substance specific traits.

Anxiety and Alcohol

Researchers traced anti-anxiety effects to a nerve growth factor called BDNF that is stimulated by alcohol exposure. When alcohol was withheld from animals that had been chronically exposed to alcohol, they developed high anxiety and levels of BDNF and Arc -- and the number of dendritic spines -- were decreased in the amygdala. Researchers were able to eliminate the anxiety in the alcohol-dependent animals by restoring BDNF and Arc to normal levels.

The study suggested that an initial easing of anxiety may encourage people to begin to use alcohol, while for chronic users, a lack of alcohol provokes high anxiety, creating a need to continue drinking to feel normal.

Subhash C. Pandey, Huaibo Zhang, Adip Roy, and Kaushik Misra. **Central and Medial Amygdaloid Brain-Derived Neurotrophic Factor Signaling Plays a Critical Role in Alcohol-Drinking and Anxiety-Like Behaviors.** J. Neurosci., Aug 2006; 26: 8320 – 8331; doi:10.1523/JNEUROSCI.4988-05.2006.

Alcohol

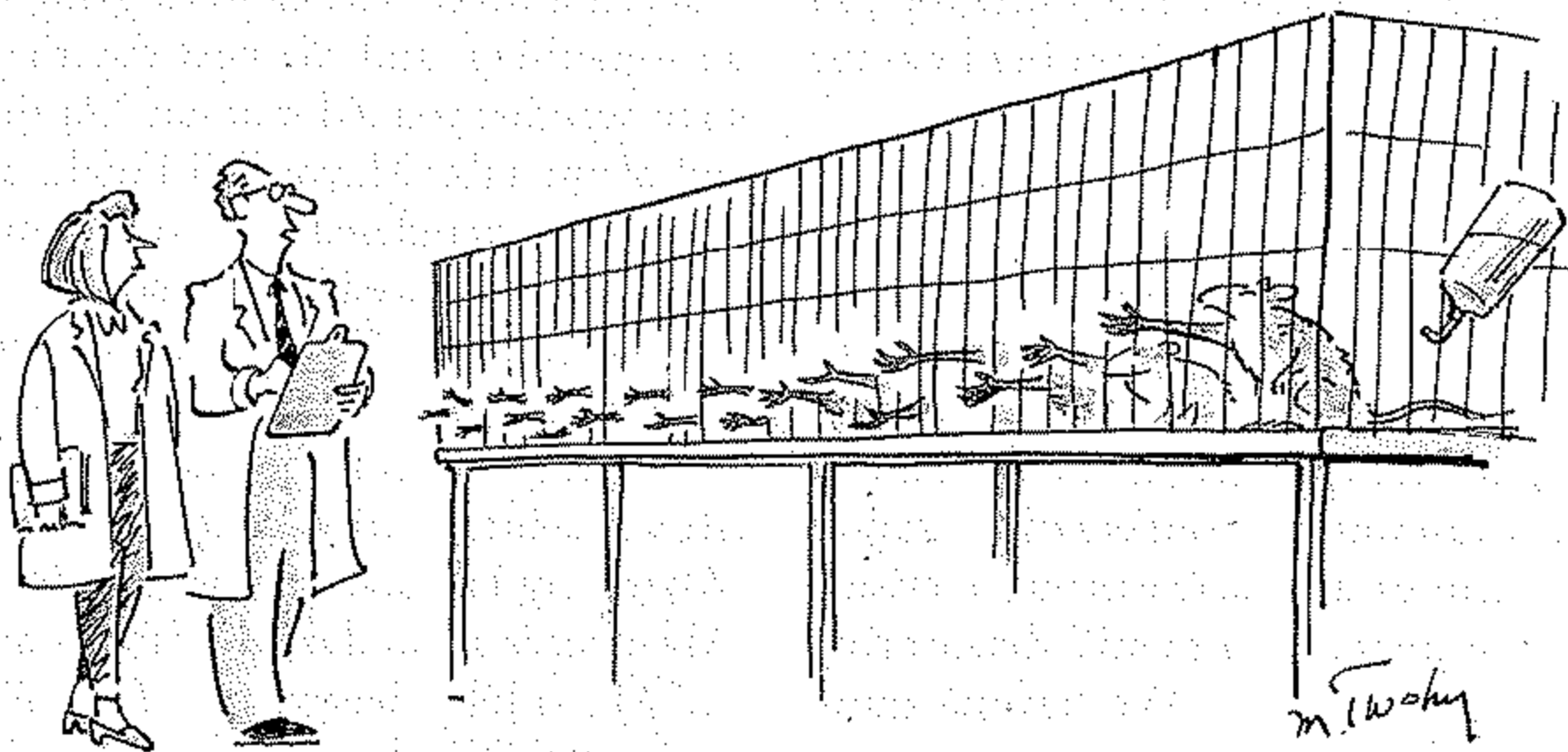
Animal studies have shown that alcohol can also cause brain injury and degeneration by inhibiting insulin and insulin-like growth factor (IGF). A new study using postmortem human brain tissue has found that chronic alcohol abuse can decrease levels of genes needed for brain cells to respond to insulin/IGF, leading to neurodegeneration similar to that caused by Type 2 diabetes mellitus.

Alcoholism: Clinical & Experimental Research (September, 2008)

Marijuana

Study suggests that the withdrawal from heavy marijuana use is similar to that experienced by people who quit smoking. Abstinence from either appears to cause irritability, anger and trouble sleeping, based on the self report of heavy users of both marijuana and cigarettes.

Vandrey, R. (2007), Department of Psychiatry, Johns Hopkins University School of Medicine.



"At this point, we know it's addictive."

Drug Therapies

- Agonists
- Antagonists
- Reduce withdrawal symptoms
- Control craving

Naltrexone:

an opiate receptor antagonist that blocks the pleasurable effects of alcohol and reduces cravings.

Compared with placebo, 380 mg of long-acting naltrexone resulted in a 25% decrease in the event rate of heavy drinking days ($P = .03$) and 190 mg of naltrexone resulted in a 17% decrease ($P = .07$). Men and those with lead-in abstinence both exhibiting greater treatment effects. Discontinuation due to adverse events occurred in 14.1% in the 380-mg and 6.7% in the 190-mg group and 6.7% in the placebo group.

Long-acting naltrexone was well tolerated and resulted in reductions in heavy drinking among treatment-seeking alcohol-dependent patients during 6 months of therapy. These data indicate that long-acting naltrexone can be of benefit in the treatment of alcohol dependence.

JAMA. 2005;293:1617-1625

Topiramate:

reduces alcohol's reinforcing effects through facilitation of gamma-aminobutyric acid function and inhibition of glutaminergic pathways in the corticomesolimbic system

Compared with placebo, topiramate was more effective at decreasing the percentage of heavy drinking days from baseline (mean difference, 8.44%; 95% confidence interval, 3.07% - 13.80%; $P = .002$) to week 14. Topiramate vs placebo also reduced the percentage of heavy drinking days (mean difference, 16.19%; 95% CI, 10.79% - 21.60%; $P < .001$) and all other drinking outcomes ($P < .001$ for all comparisons), based on prespecified mixed-model analysis.

Adverse events that were more frequently observed with topiramate vs placebo included paresthesia (50.8% vs 10.6%), taste perversion (23.0% vs 4.8%), anorexia (19.7% vs 6.9%), and difficulty with concentration (14.8% vs 3.2%).

JAMA. 2007;298:1641-1651, 1691-1692.

Acamprosate:

thought to work by modifying the action of GABA, a neurotransmitter; based on structural similarities and in vitro data, Campral does not share most of the other effects of GABA receptor modifying drugs and likely the effects of Campral are mediated some other way.

Campral was demonstrated to be safe and effective by multiple placebo-controlled clinical studies involving alcohol-dependent patients who had already been withdrawn from alcohol, (i.e., detoxified).

"Campral proved superior to placebo in maintaining abstinence (keeping patients off alcohol consumption), as indicated by a greater percentage of acamprosate-treated subjects being assessed as continuously abstinent throughout treatment. Campral is not addicting and was generally well-tolerated in clinical trials. The most common adverse events reported for patients taking Campral included headache, diarrhea, flatulence, and nausea."

Source: FDA News Release

Disulfiram:

a metabolic change occurs that causes severe, temporary toxicity. It causes unpleasant effects when even small amounts of alcohol are consumed.

Antabuse, the generic name for disulfiram, is thought to be an effective deterrent to drinking alcohol because of unwanted effects that include: headache, flushing, nausea, vomiting, chest pain, weakness, blurred vision, confusion, sweating, choking, anxiety, and difficulty breathing about 10 minutes for up to an hour after drinking alcohol. (mdadvice.com/library/drug/drug163.htm)

A 1992 randomized clinical trial compared the supervised administration of 200 mg of disulfiram vs. the supervised administration of 100 mg of vitamin C and found significantly less drinking with those who had disulfiram. The dosage given (250 mg) did not produce a toxic disulfiram-ethanol reaction (DER) vs. 1,000-3,000 mg doses that produced excess toxicity in prior trials suggesting a dose of between 250 and 500 mg, enough to produce a reaction without excess toxicity.

Fuller, Richard K., & Gordis, Enoch. (2004). Does disulfiram have a role in alcoholism treatment today?. *Addiction*, 99, 21-24.

Methadone:

Methadone, a synthetic narcotic, has been used to treat opioid addiction for more than 30-years. Some have suggested that the protracted use of heroin causes users to need an opiate to continuously occupy opioid receptors in order for them to feel normal. Methadone serves this purpose and is intended to provide a stabilizing factor to permit heroin addicts to change their behavior and discontinue heroin use. Methadone reduces the cravings associated with heroin use and blocks the high, but it does not provide a euphoric rush. Methadone patients do not experience extreme highs and lows related to heroin blood levels. While they remain physically dependent, the idea is that they are freed from the uncontrolled, compulsive, and disruptive behavior seen in heroin addicts. In sum, the objective is behavior modification.

Buprenorphine:

Buprenorphine (B) is a partial opioid agonist. It is an opioid, and produces typical opioid agonist effects and side effects (euphoria and respiratory depression), but its effects are less than that of a full agonist (heroin/methadone). B produces sufficient agonist effect to help the opioid-addicted to stop using without experiencing withdrawal symptoms. The agonist effects increase with increasing doses up to a plateau, or “ceiling effect.” This makes the drug less subject to abuse, addiction, and side effects compared with full agonists. In high doses and under certain circumstances, buprenorphine can block the effects of full opioid agonists and can precipitate withdrawal symptoms if administered while a full agonist is in the bloodstream.

Two commercial forms: Suboxone[®], a sublingual tablet, comes in two dosage forms: 2 mg buprenorphine/0.5 mg naloxone and 8 mg buprenorphine/2 mg naloxone; and Subutex[®], also a sublingual tablet, is available in 2 mg and 8 mg strengths.

www.fda.gov/cder/drug/infopage/subutexsuboxone/default.htm

Clonidine

Clonidine is an anti-hypertensive agent, but in 1978 Gold and his colleagues reported that it could suppress or reverse the symptoms of opiate withdrawal. Subsequent work has shown that this reversal is by no means complete, but clonidine can make opiate withdrawal more comfortable.

Medical detoxification is also accomplished by giving decreasing doses of a long-acting opiate like methadone over several weeks. A percentage of the methadone marketed for medical use finds its way to the streets and some use street methadone to detox themselves. Still others detox 'cold turkey, experience flu like symptoms.

Krivanek, J. A. (1988). Heroin, Myths and Reality. New York: Allen & Unwin.

Sabril

Sabril, in phase II studies to assess safety, may block cocaine and methamphetamine euphoria in humans and suppress craving by increasing brain levels of gamma-aminobutyric acid (GABA), an inhibitory transmitter in the brain.

OVATION Pharmaceuticals in collaborating with the National Institute on Drug Abuse

Vigabatrin

Phase II clinical trial evaluating the use of CPP-109 (vigabatrin) to assess reductions of cocaine use and craving and determine if a larger proportion of vigabatrin treated subjects than placebo are cocaine-free during their last two weeks of treatment. Vigabatrin inhibits psychostimulant-induced dopamine release.

Catalyst Pharmaceutical Partners, Inc. (2008)

Lofexidine

US WorldMeds, a Kentucky-based specialty pharmaceutical company, recently completed a Phase III clinical trial investigating the use of lofexidine hydrochloride (Lofexidine), a non-addictive, non-narcotic treatment for relieving withdrawal symptoms. Peak of withdrawal symptoms were significantly reduced and client retention increased vs. placebo. Lofexidine has been approved for use for 15 years in the United Kingdom (UK).

US World Meds, June (2008)

21st Century Phrenology

Quantitative EEG is being used to guide physician prescribing of medications for difficulties with attention, mood, anxiety, and behavior, including a range of psychological or psychiatric disorders.

Initial studies showed that medication prescription based on indicators from the QEEG resulted in a significantly higher rate of success than prescription based solely on symptom patterns.

<http://www.neurodevelopmentcenter.com/index.php?id=97>

Context Counts...

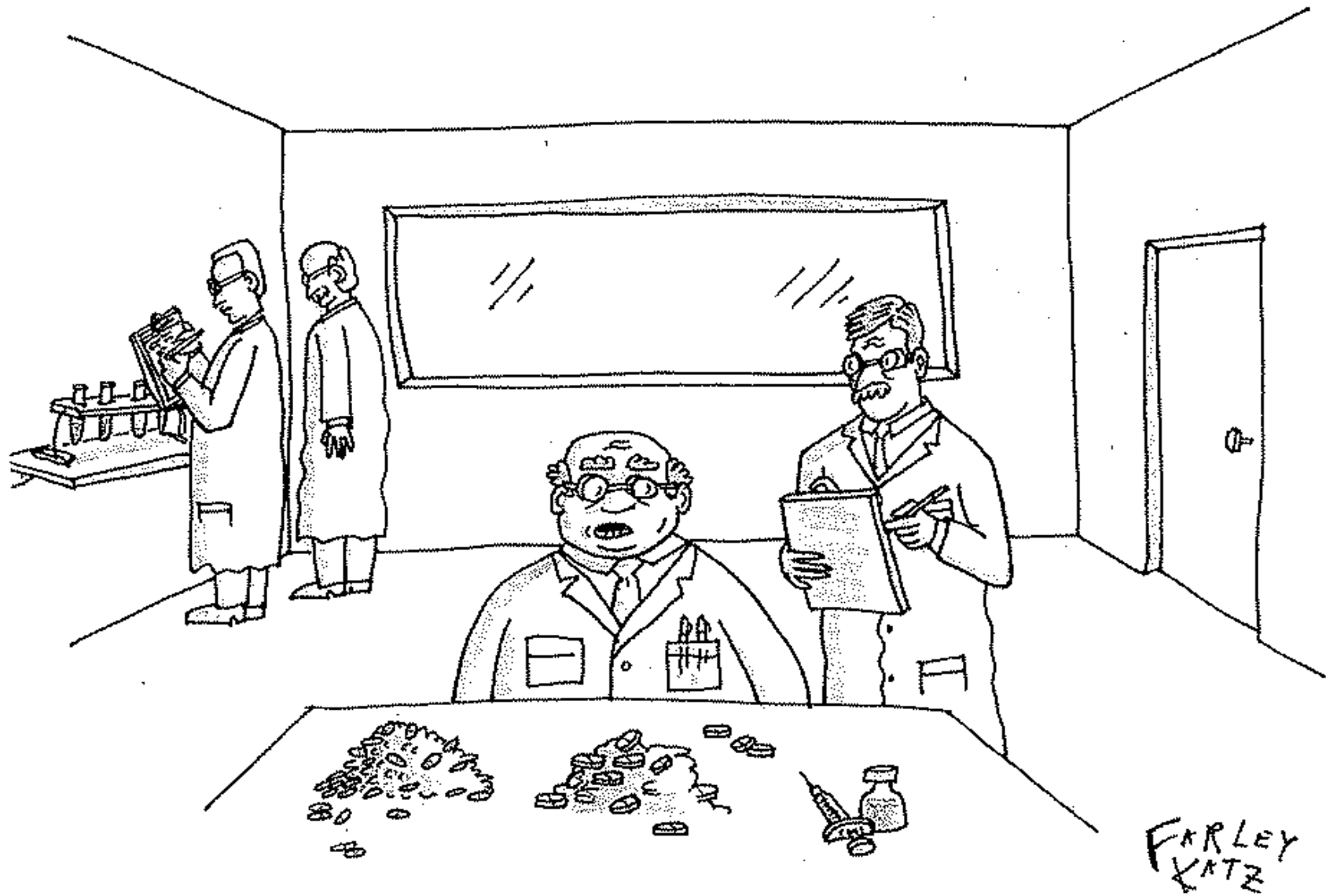
Drugs delivered in similar doses to comparable patients produced significantly different results attributable to the facilities where they were delivered.

Feighner, Aden, Fabre, Rickels & Smith (1983)

Rickes, Fisher, Park, Lipman & Mock (1966)

Greenblatt, Grosser & Wechsler (1964)

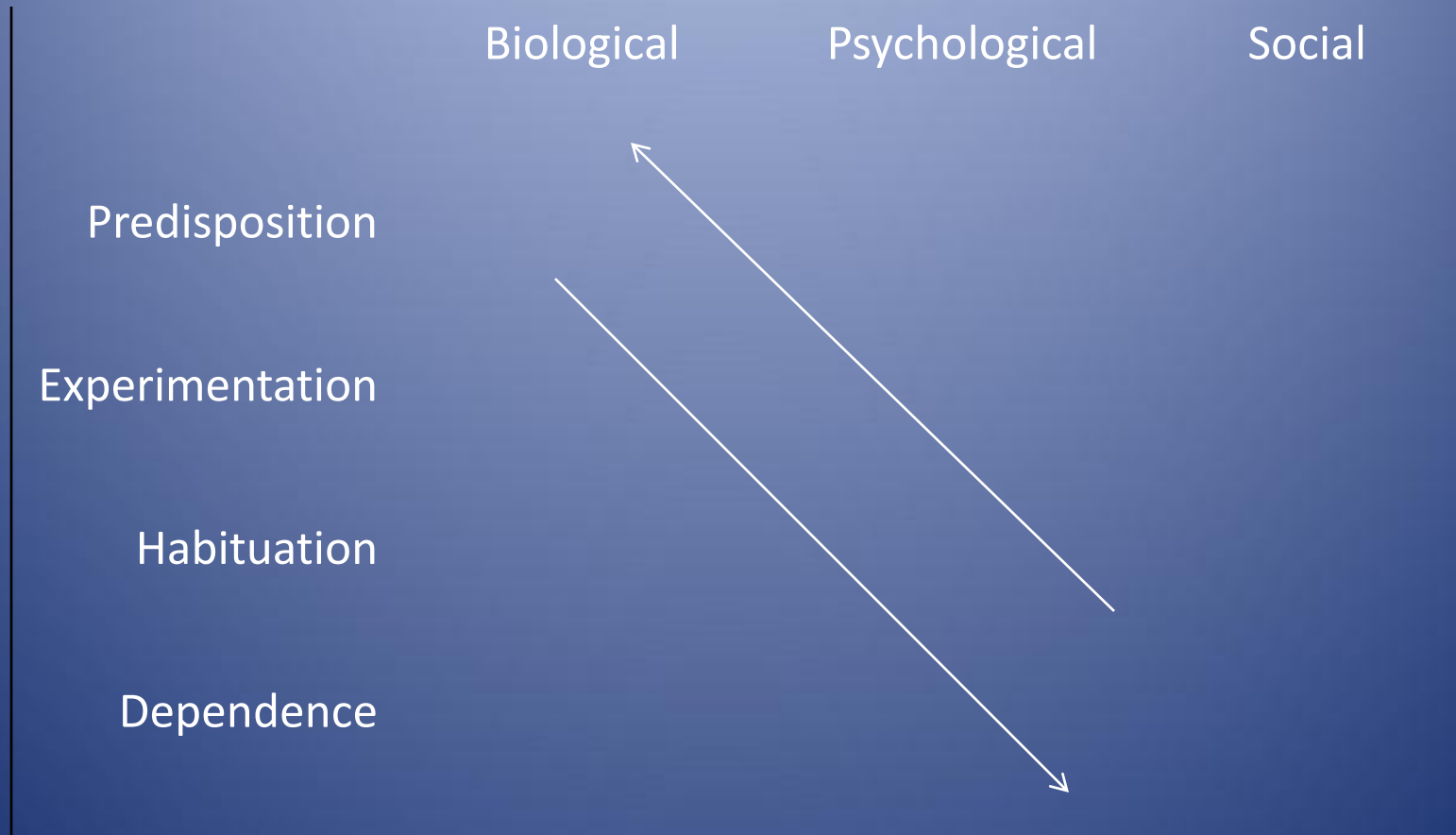
INSIDE THE F.D.A.



FARLEY
XATZ

"These medicines all taste pretty good—let's approve them."

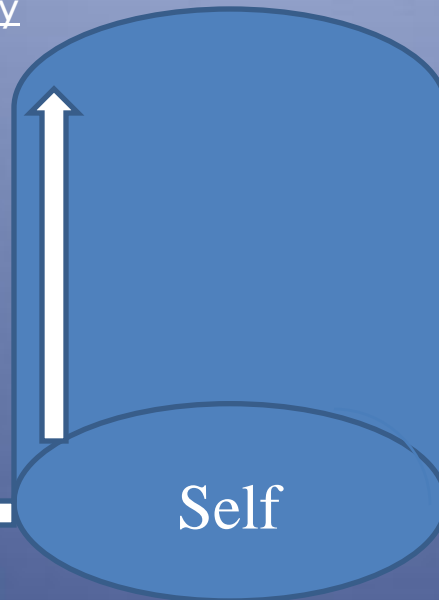
BioPsychoSocial



Avoiding the Task

Existential Psychology
Husserl and Heidegger, Rollo May
Self Efficacy, Albert Bandura

Efficacy avoidance
or Avoiding the Task



Efficacy Building
Erickson
Developmental Tasks

Genetics/Biological Theories

Freud
Psychological Defenses

- Neurosis, Depression, anxiety
- Substance abuse
- Psychosis
- Schizophrenia
- Death

Are we Conscious?

- **Physical actions taken and the sense that we take them depend on neurological events that we don't consciously control and that take place before we are conscious of making the decision to move or moving.**
- **On average, the brains of subjects monitored worked 350ms in a "readiness potential" prior to a subjects being conscious of deciding, or having an urge to move.**
- **Interpreted to mean that human actions begin with unconscious mental processes that are manifest prior to conscious awareness.**

Libet, B. (1985). Unconscious cerebral initiative and the role of conscious will in voluntary action. *Behavioral and Brain Sciences*, 8, 529-566 .

Intentionality

- Future intentions and present intentions may be cause for taking action without its being experienced as the result of conscious will. This is if the person is focused on the situation at hand as opposed to mental states and thus not conscious of intention.
- This suggests that we are operating, to one degree or another, on an automatic pilot driven by biological bases and practiced response.

Pacherie, E. (2006). Toward a dynamic theory of intentions. In S. Pockett, W. P. Banks, & S. Gallagher (Eds.), *Does consciousness cause behavior?* Cambridge, MA: MIT Press.

Criteria of the American Society of Addiction Medicine (ASAM)

1. Acute Intoxication and/or Withdrawal Potential;
2. Biomedical conditions and complications;
3. Emotional/Behavioral/Cognitive conditions and complications ;
4. Readiness to Change;
5. Relapse/Continued Use/Continued Problem potential;
6. Recovery Environment

Individualized, Clinically-driven Treatment (cont.)

Motivate - Dimension 4

Manage – All Six Dimensions

Medication – Dimensions 1, 2, 3, 5

Meetings – Dimensions 2, 3, 4, 5, 6

Monitor - All Six Dimensions

POP QUIZ

Question #1

False

- Of all of the factors affecting treatment outcome, treatment model (technique or programming) is the most potent.
- Technique makes the smallest percentage contribution to outcome of any studied component.

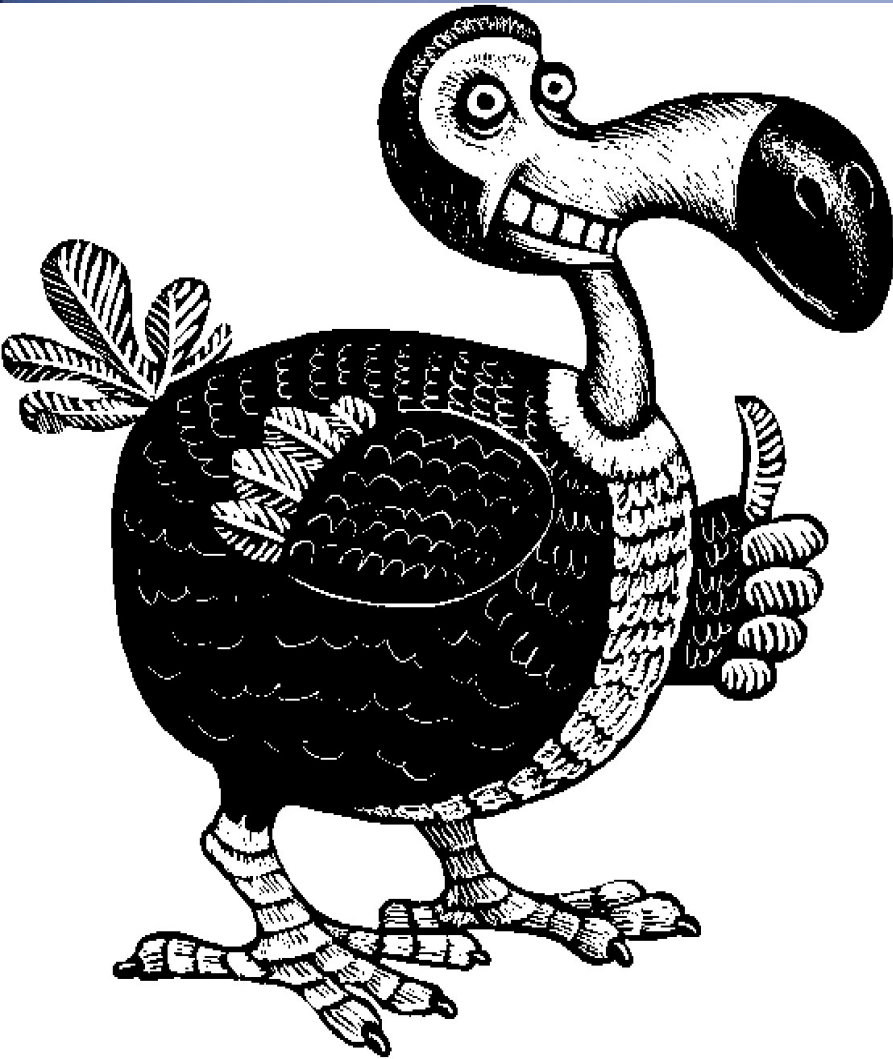
POP QUIZ

Question #2

False

- Research shows that some treatment approaches are more effective than others.
- All approaches work equally well with some of the people some of the time.

The DoDo Bird Verdict

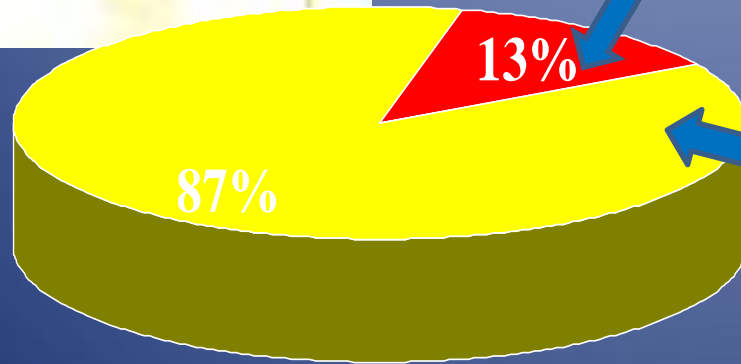
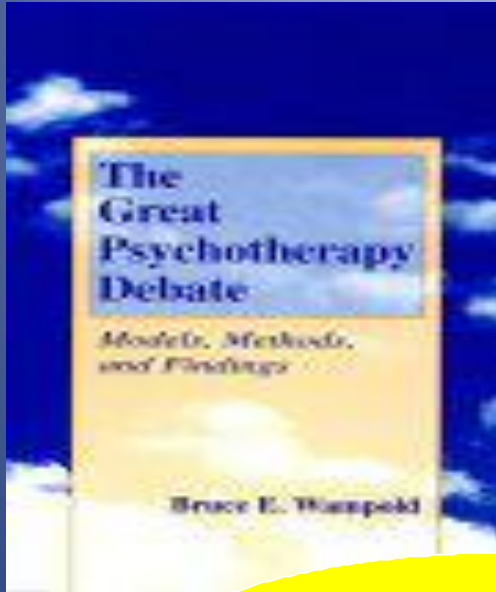


With few exceptions, partisan studies designed to prove the unique effects of a given model have found no differences—nor has meta-analyses.

Wampold, B. E. (1997). A meta-analysis of outcome studies comparing bona fide psychotherapies: Empirically, “all must have prizes.” *Psychological Bulletin*, 122 (3), 203-215.

www.newhopefoundation.org

What Works in Treatment: The Empirical Evidence



• Treatment:

- 60% due to “Alliance” (8%/13%);
- 30% due to “Allegiance” Factors (4%/13%);
- 8% due to model and technique (1/13)

• Extra-therapeutic and/or Client Factors

Wampold, B. (2001). *The Great Psychotherapy Debate*. New York: Lawrence Erlbaum.

Miller, S.D., Mee-Lee, D., & Plum, B. (2005). Making Treatment Count. In J. Lebow (ed.). *Handbook of Clinical Family Therapy*. New York: Wiley.

Client Directed

- Unless we develop a working alliance, nothing we do will work.
- Only what the client believes counts; the “client’s theory of change.”
- If the client doesn’t think it will work it probably won’t.
- The client is the best judge of whether or not we are doing a good job.

Outcome Informed

- Only the client knows if it's working.
- You don't know if it's working if you don't ask.
- If it's not working more of the same won't work.
- A higher level of care is not always the answer.

Client Directed Outcome Informed

Two Instruments

- The Outcome Rating Scale (ORS)
- Session Rating Scale (SRS)

Miller, Duncan, 2004

ORS

How have you been feeling?

- Individually (Personal well-being)
- Interpersonally (Family, close relationships)
- Socially (Work, School & Friends)
- Overall (General sense of well-being)

SRS

How am I doing?

- Relationship (Bond)
- Goals and topics (Goals)
- Approach or method (Task)
- Overall

Client Directed ASAM

Two Instruments

- The How am I Doing (HAID)
- How are We Doing (HAWD)

Comerford, 2007

HAID

(No Problem to Significant Problem)

- **Withdrawal Symptoms or Other Physical Pain?**
- **Medical Problems?**
- **Mood Anxiety or depression?**
- **Family and Friends?**
- **Alcohol or Drug Use Not using alcohol or drugs for the next 7-days would be: (no problem at all) to (significant problem or difficulty)**
- **Living Situation (very comfortable and no concerns) to (very uncomfortable and significant concerns)?**

The HAWD (Good to Not So Good)

- Goals: We worked on goals and objectives that were meaningful to me.
- Working Relationship: I feel that my counselor understands me and is helping me reach my goals.
- Tasks: What we discussed and the next steps we worked on will help me meet my goals.
- In General: I feel that We are moving in the right direction.





*"I'll come back and buy it someday when there's
a less judgmental sales clerk."*

The Basic Question... Productivity!

How can we spend our time
more effectively???

Rethinking Systems

- Outcome Support
 - Efficiency
- Outcome Building
 - Effectiveness

How do we:

- Eliminate non-essential activities,
- Make support functions more efficient,
and
- Increase activities that drive outcomes?

A New Direction

