



Rationale and Role of Recovery Community Centers: A Bio-Psycho-Social Perspective

Recovery Webinar Series Enhancing Research Infrastructure for Recovery Community Centers (NIDA R24)

November, 20 2020



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Outline



What are Recovery Community Centers?



Why did they emerge and grow?



How might they work?



What do we know about their impact?

Outline



What are Recovery Community Centers?



Why did they emerge and grow?



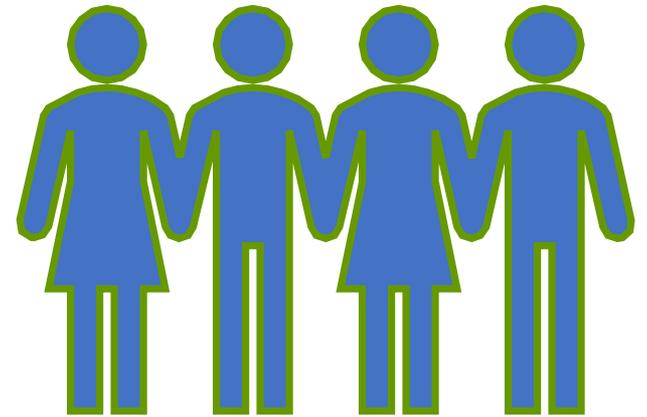
How might they work?



What do we know about their impact?

Recovery Community Centers are intended to ...

- Provide locatable sources of community-based recovery support beyond the clinical setting
- Help individuals achieve sustained recovery by building and successfully mobilizing personal, social, environmental, and cultural resources.



Recovery Community Centers are NOT...



Residential
centers



Sober living
environments



Treatment
centers



12-step
clubhouses



Drop-in (clinical)
centers

Principles of RCCs

Source of recovery capital at the community level

- Provide different services than formal treatment
- Offer more formal and tangible linkages to social services, employment, training and educational agencies than do mutual-help organizations

There are many pathways to recovery

- RCCs not allied with any specific recovery philosophy/model
- All and any pathway to recovery should be celebrated

WHAT DO RCCS OFFER?



Outline



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What do we know about their impact?

TOP PUBLIC HEALTH PROBLEM

Alcohol/Drug
Impact

- Mortality
- Disease
- Disability
- Crime
- Economic

EPIDEMIC

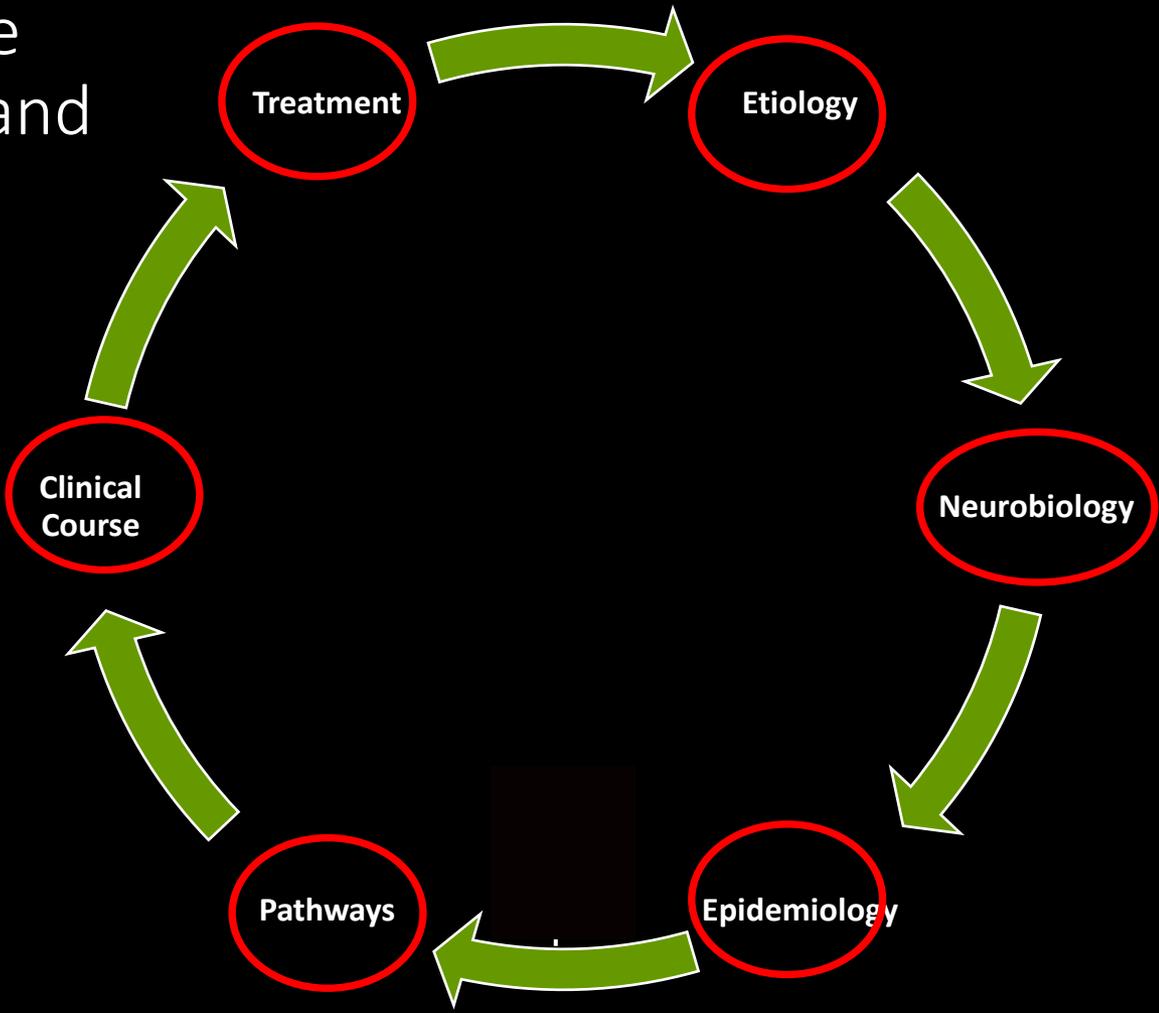
HOW DO WE SOLVE IT?



50 years....
1970-2020

Past 50 yrs since declaration of “War on drugs” led to large-scale federal appropriations and a number of paradigm shifts...

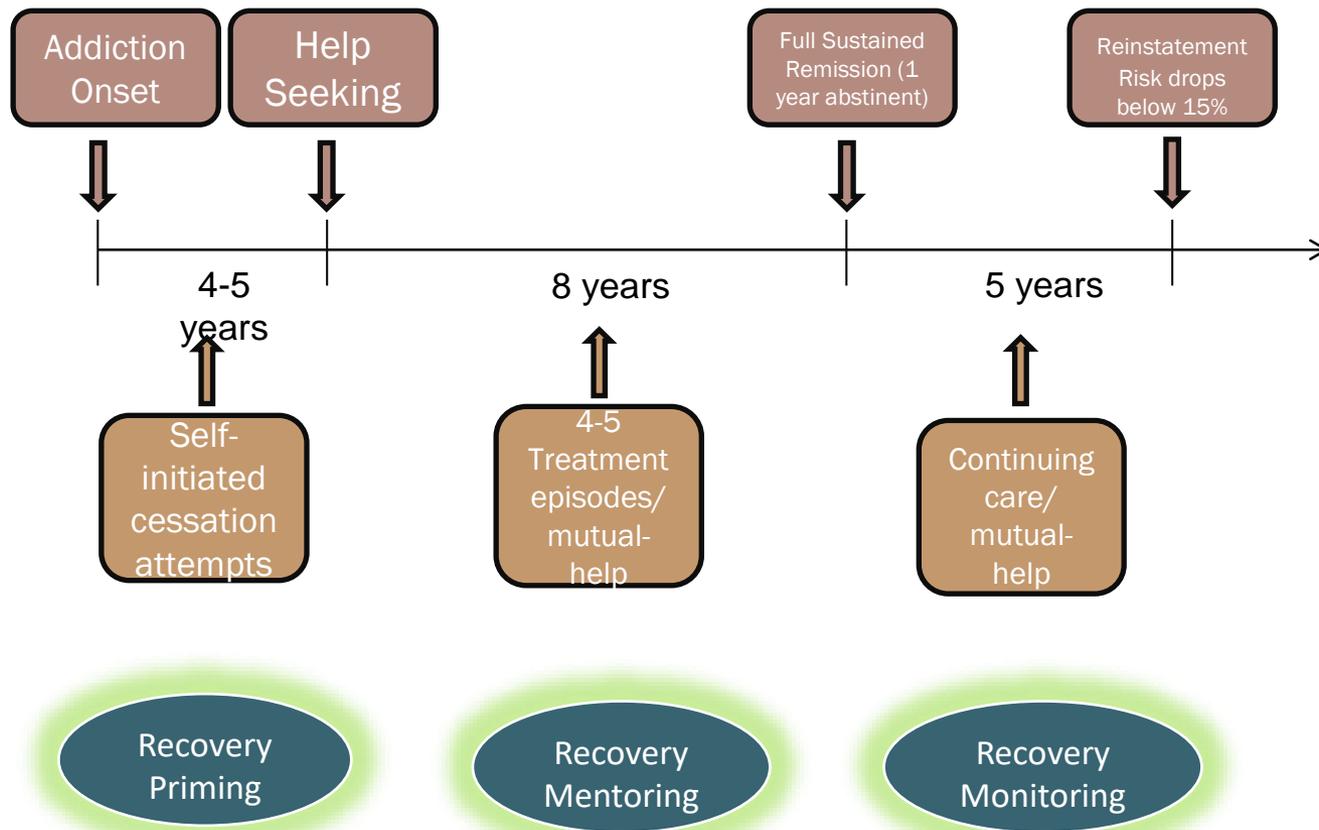
Addiction field now experiencing another paradigm shift **beyond acute care** models addressing only clinical addiction pathology and towards holistic models of sustained disease, or “recovery”, management ...





Why?

Recognition that clinical course of SUD and achievement of initial and stable remission can take years. **What can be done to shorten this timeframe?**

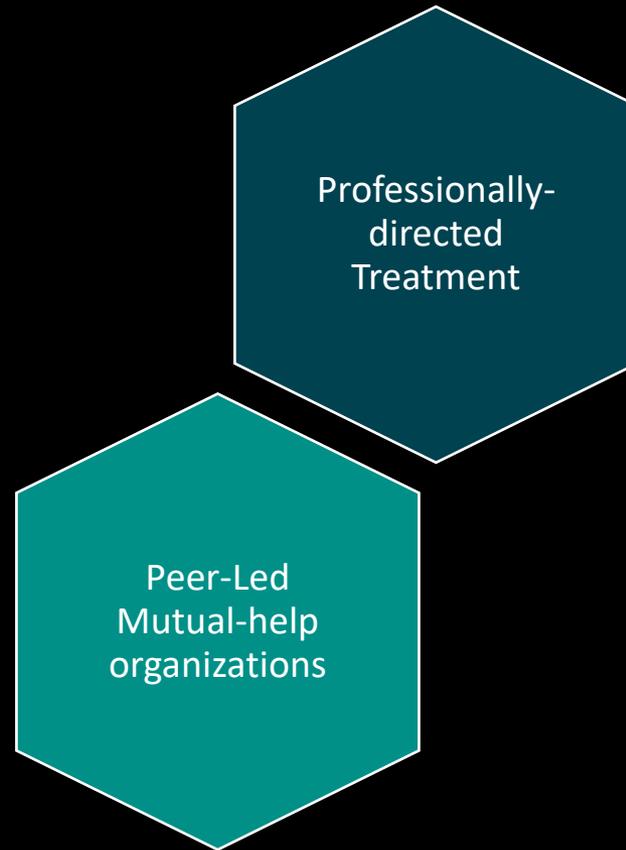


50 years of
Progress: Burning
building analogy...

- **Putting out the fire** –addressing acute clinical pathology - good job
- **Preventing it from re-igniting (RP)** - strong emphasis, but pragmatic disconnect...
- **Architectural planning** (recovery plan) –neglected
- **Building materials (recovery capital)** –neglected
- **Granting “rebuilding permits”** - (removing barriers - neglected)



Historically, two major ways most societies have addressed endemic alcohol/drug problem...

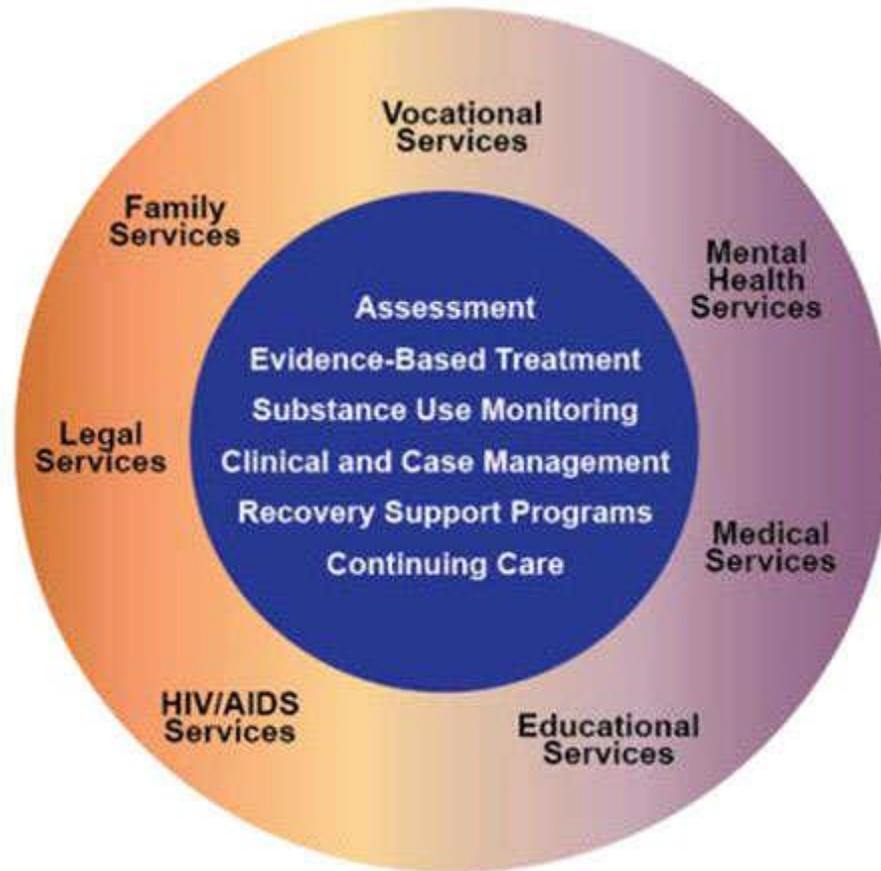


Now, additional wave of services emerging...to try to meet needs; expand recovery capital...



In fact, the concept of SUD “treatment” is changing...

Components of Comprehensive Drug Addiction Treatment



The best treatment programs provide a combination of therapies and other services to meet the needs of the individual patient.

...and support services are growing...



Anchor
Recovery Community
Peer-to-peer support services



Outline



What are Recovery Community Centers?



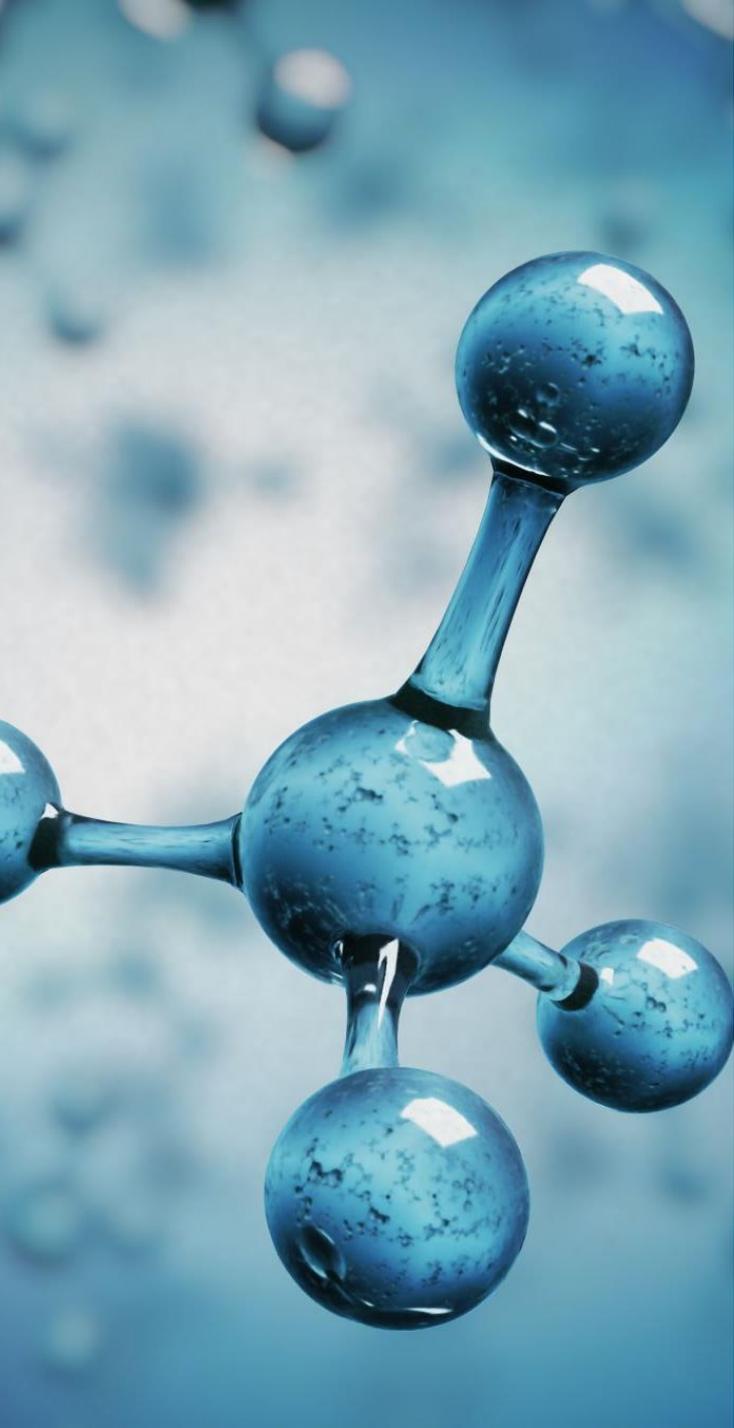
Why did they emerge and grow?



How might they work?

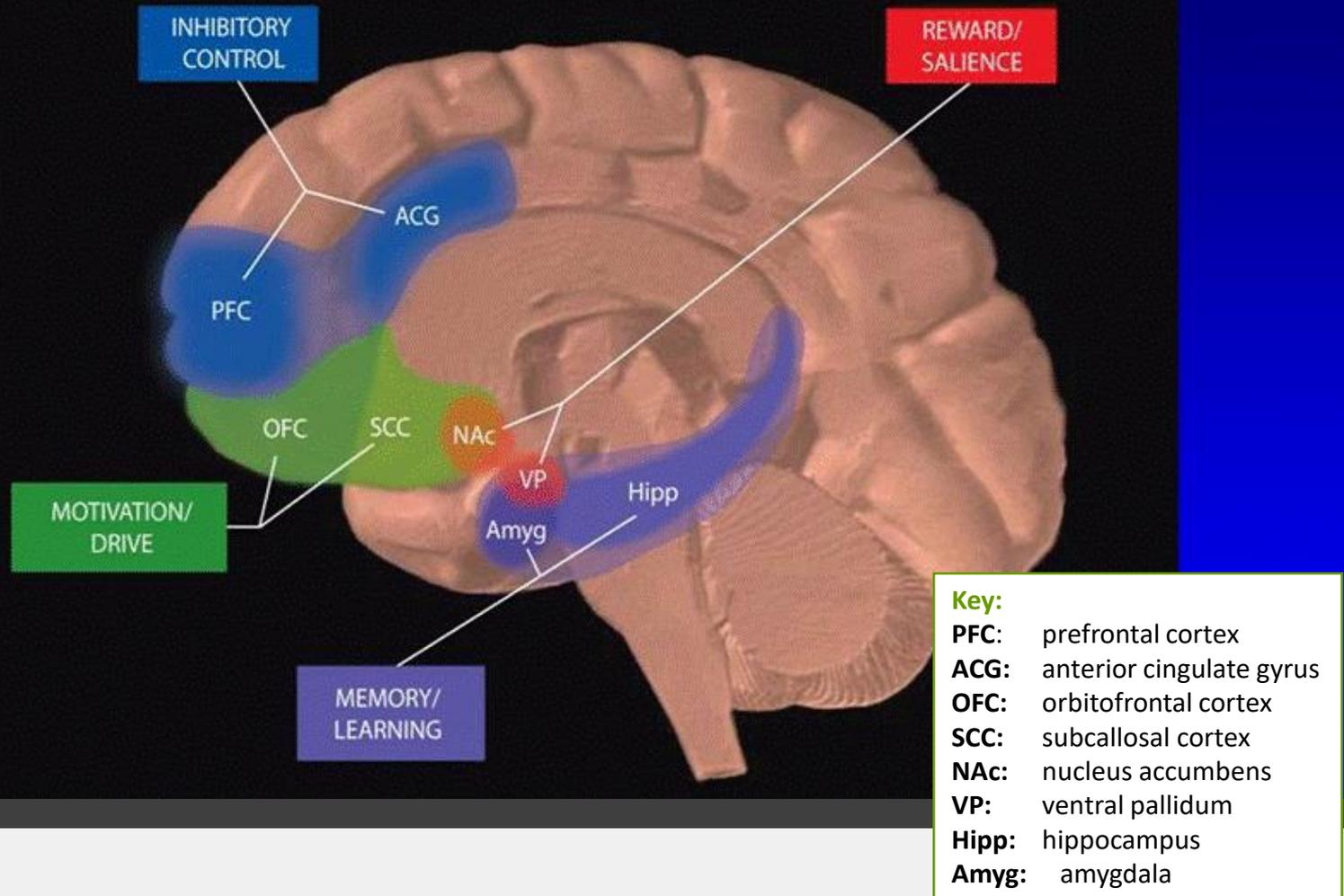


What do we know about their impact?



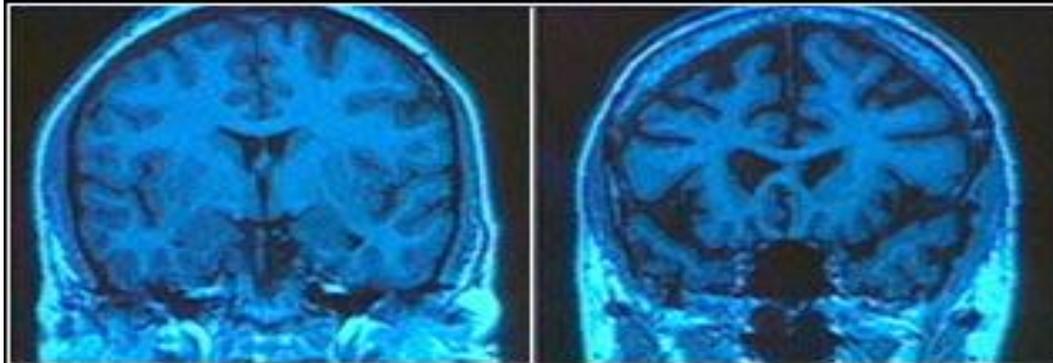
Levels of Mechanisms...

- Social
- Psychological
- Biological
- Cellular
- Atomic
- Sub-atomic
- Quantum
- Vibrating strings of energy
- Engelburt Humperdink



Circuits Involved in Drug Use and Addiction

All of these brain regions must be considered in developing strategies to effectively treat addiction.



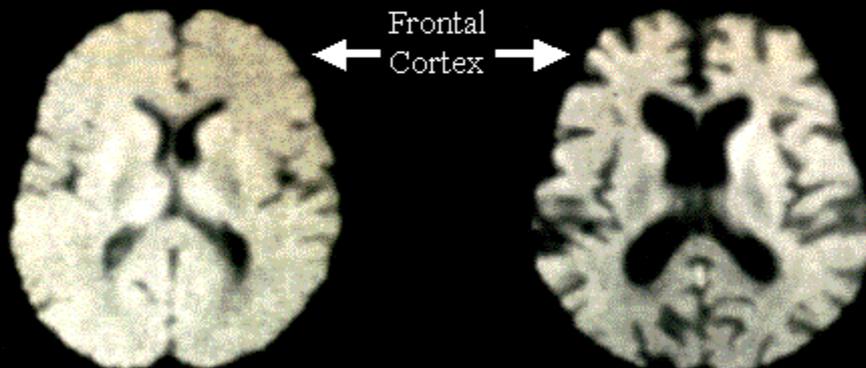
Normal
43-year-old

Alcoholic
43-year-old

HUMAN BRAIN IMAGES

Moderate Drinker

Alcoholic



Axial magnetic resonance images from a healthy 57-year-old man (left) and a 57-year-old man with a history of alcoholism (right). D. Pfefferbaum

Post-acute withdrawal effects:

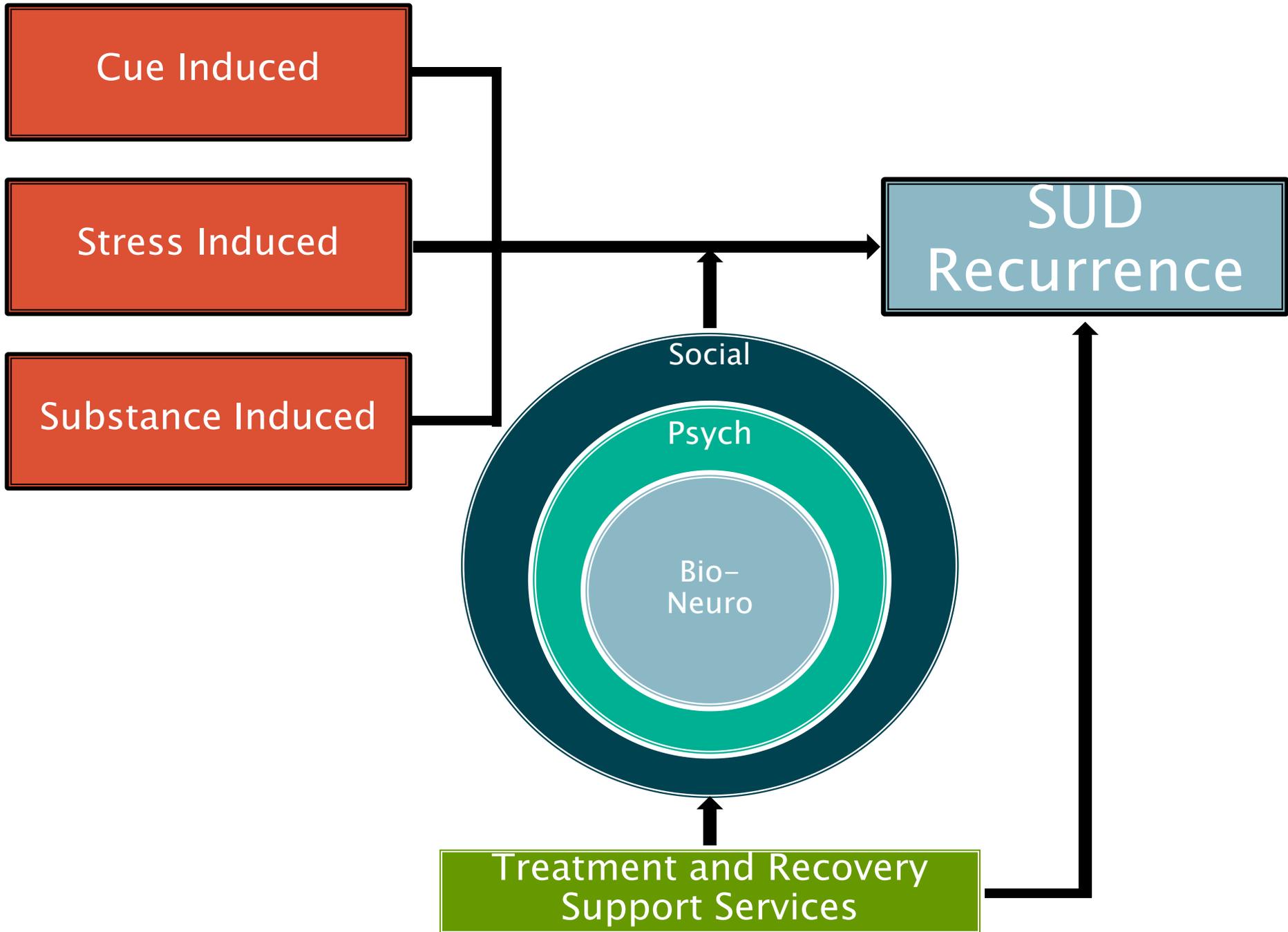
- More stress and lowered ability to experience normal pleasures

Increased sensitivity to stress via...

- Increased activity in hypothalamic-pituitary-adrenal axis (HPA-axis) and CRF/Cortisol release

Lowered ability to experience normal levels of reward via...

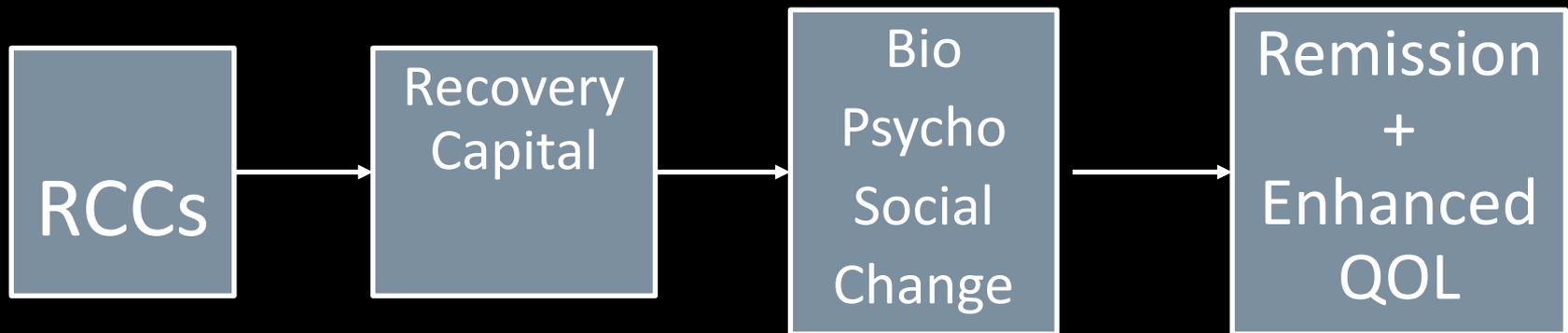
- Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk



RCCs Goal

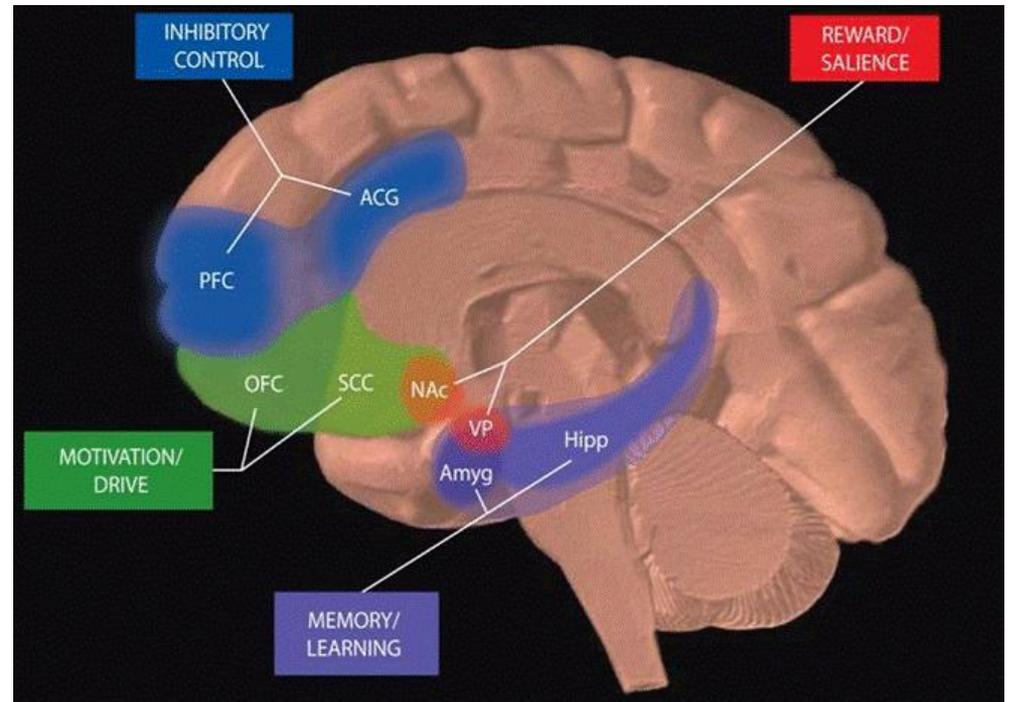


RCCs Mechanisms



Neuroscience of Recovery Capital

If addiction is a disease of the brain could jobs, recovery housing, and peers, change the brain, help buffer stress, upregulate down-regulated receptor systems, and increase the chances of long-term remission?



Post-acute withdrawal effects:

- More stress and lowered ability to experience normal pleasures

Increased sensitivity to stress via...

- Increased activity in hypothalamic-pituitary-adrenal axis (HPA-axis) and CRF/Cortisol release

Lowered ability to experience normal levels of reward via...

- Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk

RCCs at their heart provide “community” ...they are social enterprises that engage people with others with similar lived experience of addiction and recovery...

This can help mitigate feelings of shame/guilt and increase universality/sense of belonging and instill hope that can mitigate stress...

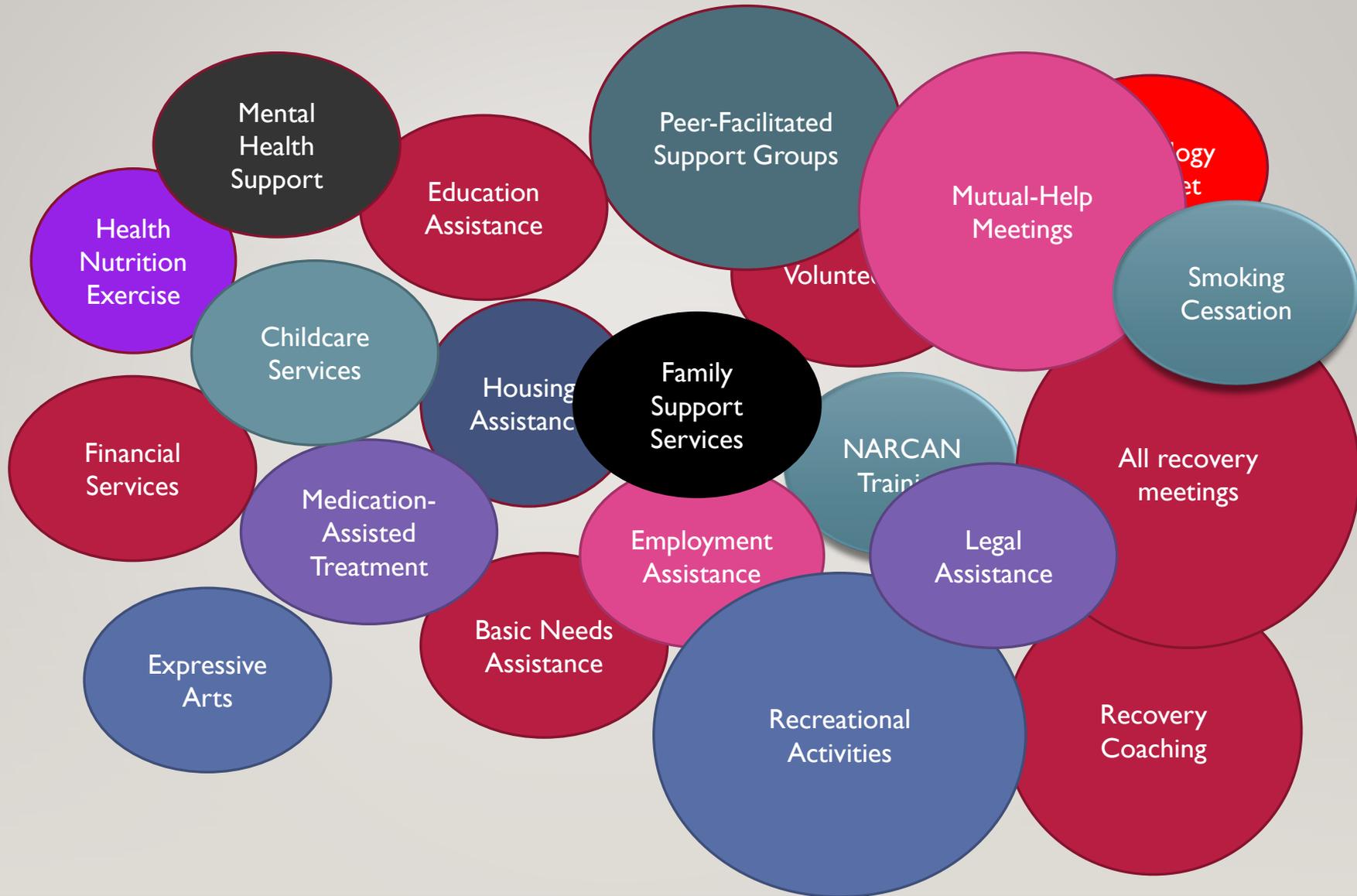




Fast Car –
Tracy
Chapman

“... and your arm felt nice wrapped around my shoulder, and I felt like I belonged, and I felt like I could be someone...”

WHAT DO RCCS OFFER?



Social Buffering

- Stress-buffering effects of social relationships—one of the major findings of past century
- Mechanisms of this poorly understood

Psychobiological Mechanisms Underlying the Social Buffering of the Hypothalamic–Pituitary–Adrenocortical Axis: A Review of Animal Models and Human Studies Across Development

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New York University Langone Medical Center

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University of Minnesota

Discovering the stress-buffering effects of social relationships has been one of the major findings in psychobiology in the last century. However, an understanding of the underlying neurobiological and psychological mechanisms of this buffering is only beginning to emerge. An important avenue of this research concerns the neurocircuitry that can regulate the activity of the hypothalamic–pituitary–adrenocortical (HPA) axis. The present review is a translational effort aimed at integrating animal models and human studies of the social regulation of the HPA axis from infancy to adulthood, specifically focusing on the process that has been named *social buffering*. This process has been noted across species and consists of a dampened HPA axis stress response to threat or challenge that occurs with the presence or assistance of a conspecific. We describe aspects of the relevant underlying neurobiology when enough information exists and expose major gaps in our understanding across all domains of the literatures we aimed to integrate. We provide a working conceptual model focused on the role of oxytocinergic systems and prefrontal neural networks as 2 of the putative biological mediators of this process, and propose that the role of early experiences is critical in shaping later social buffering effects. This synthesis points to both general future directions and specific experiments that need to be conducted to build a more comprehensive model of the HPA social buffering effect across the life span that incorporates multiple levels of analysis: neuroendocrine, behavioral, and social.

Keywords: stress, social support, early caregiving, oxytocin, prefrontal cortex

It is an empirical reality that some individuals succumb, whereas others thrive, when confronted with similar stressors. Having access to social support may be an important modulator of these widespread individual differences in responses to potentially stressful events. Indeed, some exciting experiments in humans (e.g., Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003; Kirschbaum, Klauer, Filipp, & Hellhammer, 1995; Taylor et al., 2008) and animals (e.g., Hennessy, 1984, 1986; Vogt, Coe, & Levine, 1981) have identified a dampening of the hypothalamic–pituitary–adrenocortical (HPA) axis response to stressors by social

factors as one of the possible mechanisms underlying the benefits of social support. Longitudinal studies also reveal relations between social support and basal levels of stress hormones such as salivary cortisol (Rosal, King, Ma, & Reed, 2004). Understanding the social buffering processes affecting this neuroendocrine axis would allow the possibility of interventions that might have cascading positive effects across multiple biological and psychological systems. Despite the important implications of this knowledge, our understanding of the underlying neurobiology and relevant components of social interaction that permit these HPA activity-regulating effects remains vastly incomplete.

General Framework

RESPONDING TO STRESS: SOCIAL BUFFERING

...and researchers have started to examine possible neurobiological connections between social support and individual stress responses

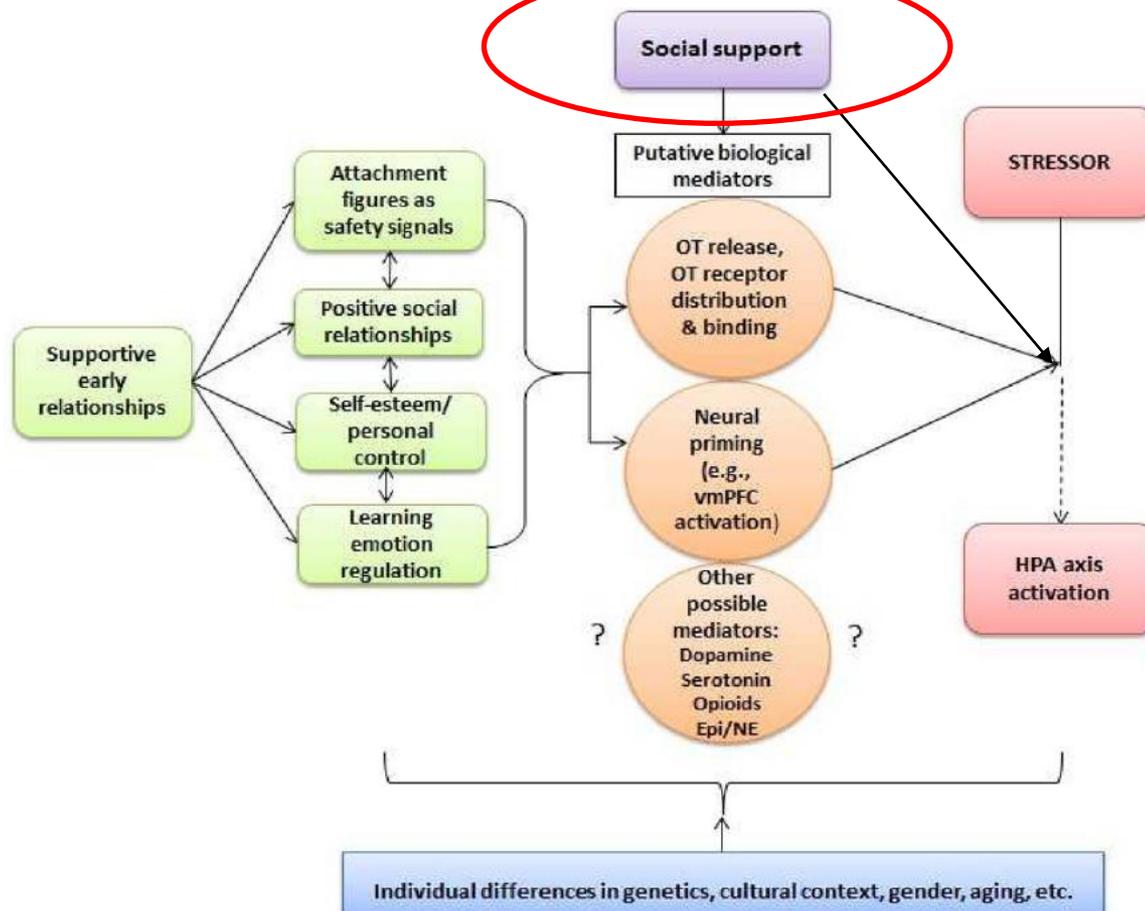


Figure 1. A Developmental Working Model of Social Buffering of the HPA Axis in Humans

OT = oxytocin, vmPFC = ventro-medial prefrontal cortex, Epi = epinephrine, NE = norepinephrine

VOLITIONAL SOCIAL INTERACTION PREVENTS DRUG ADDICTION IN RATS (2018)



SAMPLE

- n = 357 male and female rats, of which 222 were given drugs and 135 were social partners

DESIGN

- Operant model of choice between drugs and social interaction
- Rats trained to use two different levers (drug and social) to self-administer rewards
- Researchers examined lever usage across several conditions, such as:
 - **Social delay:** Induced by progressively increasing delay between pressing social lever and opening door.
 - **Punishment:** Induced by shocking rats when social lever was pressed.

ARTICLES

<https://doi.org/10.1038/s41593-018-0246-6>

nature
neuroscience

Volitional social interaction prevents drug addiction in rat models

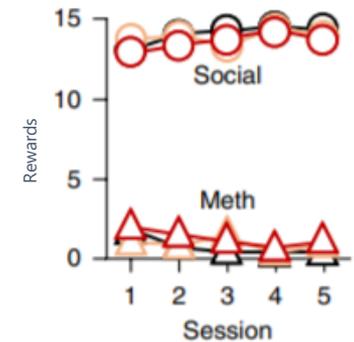
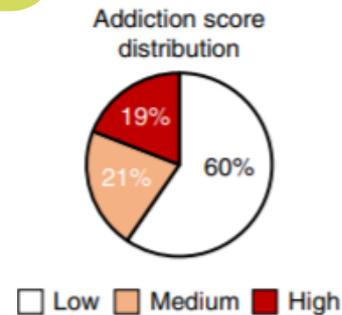
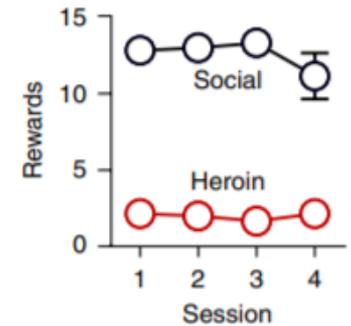
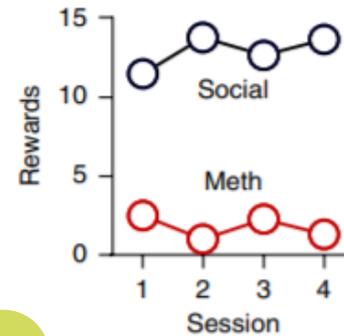
Marco Venniro^{1*}, Michelle Zhang¹, Daniele Caprioli^{2,3}, Jennifer K. Hoots¹, Sam A. Golden¹, Conor Heins¹, Marisela Morales^{1,4}, David H. Epstein^{1,4} and Yavin Shaham^{1,4*}

Addiction treatment has not been appreciably improved by neuroscientific research. One problem is that mechanistic studies using rodent models do not incorporate volitional social factors, which play a critical role in human addiction. Here, using rats, we introduce an operant model of choice between drugs and social interaction. Independent of sex, drug class, drug dose, training conditions, abstinence duration, social housing, or addiction score in Diagnostic & Statistical Manual IV-based and intermittent access models, operant social reward prevented drug self-administration. This protection was lessened by delay or punishment of the social reward but neither measure was correlated with the addiction score. Social-choice-induced abstinence also prevented incubation of methamphetamine craving. This protective effect was associated with activation of central amygdala PKC δ -expressing inhibitory neurons and inhibition of anterior insular cortex activity. These findings highlight the need for incorporating social factors into neuroscience-based addiction research and support the wider implantation of socially based addiction treatments.

RESULTS

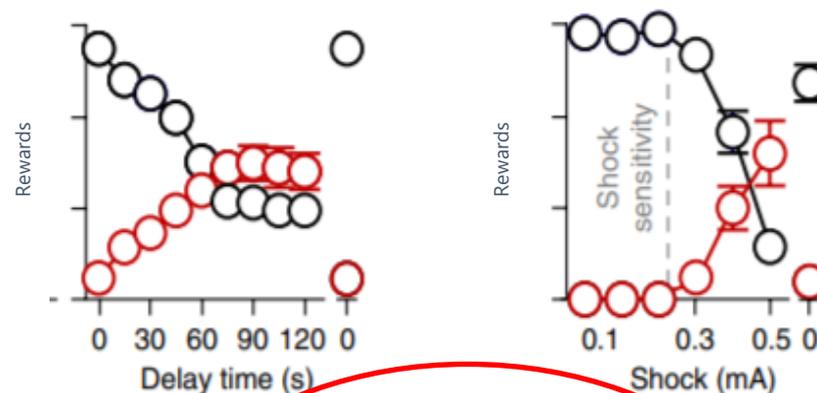
- When given a choice between drugs and social interaction, rats almost always choose social interaction.
- This effect is independent of addiction severity, sex, drug class, drug dose, and housing conditions (e.g., housed alone or with other rats).

Rats choose social interaction over drugs.



RESULTS (continued)

- As delay time of social reward increases, likelihood of rat choosing drugs increases.
 - Established addiction severity measures do not predict which rats will choose drugs given a social delay.
- As strength of punishment increases, likelihood of choosing social reward increases.



Thus, inaccessibility to peers or experience of social exclusion, discrimination, and ostracization may similarly increase risk of relapse in humans...

...when they are punished for choosing social reward.

Post-acute withdrawal effects:

- More stress and lowered ability to experience normal pleasures

Increased sensitivity to stress via...

- Increased activity in hypothalamic-pituitary-adrenal axis (HPA-axis) and CRF/Cortisol release

Lowered ability to experience normal levels of reward via...

- Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk

D2/D3 RECEPTOR BINDING & SOCIAL STATUS AND SUPPORT

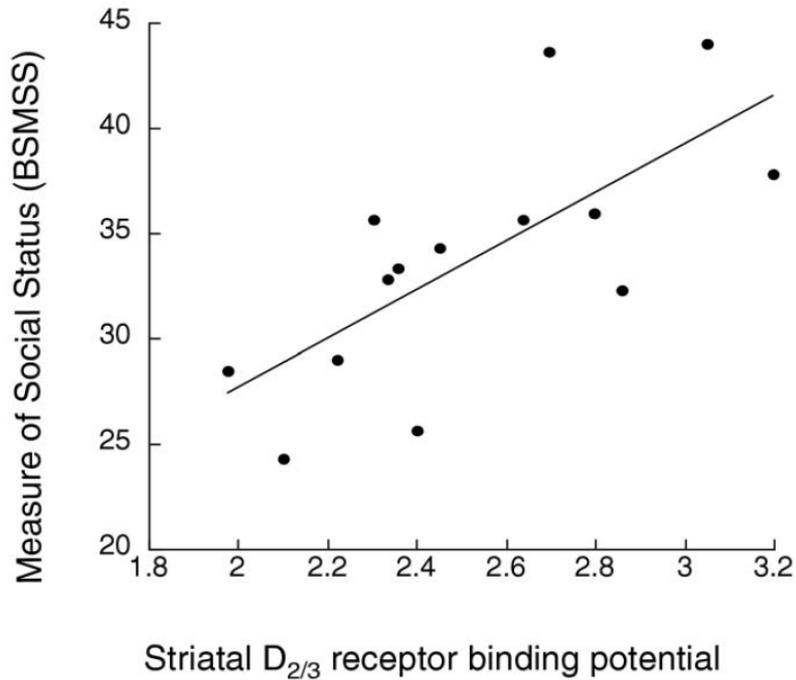


Figure 1. Correlation between [¹¹C]raclopride BP (x axis) and social status, measured with the Barratt Simplified Measure of Social Status (BSMSS). A positive correlation was seen, where higher BP correlated with higher BSMSS ($r = .71, p = .004, \text{age-corrected } p = .007$). BP, binding potential.

D_{2/3} receptor binding increases as **social status** increases.

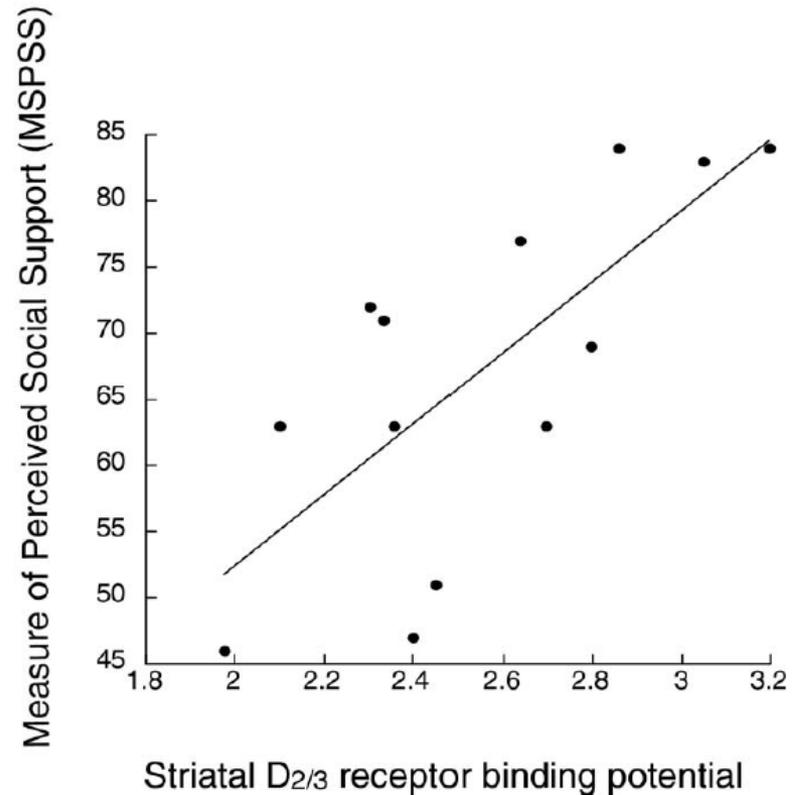


Figure 2. Correlation between [¹¹C]raclopride BP (x axis) and score on the Multidimensional Scale of Perceived Social Support (MSPSS). A positive correlation was seen, where higher BP correlated with higher score on the MSPSS ($r = .73, p = .005, \text{age-corrected } p = .02$). BP, binding potential.

D_{2/3} receptor binding increases as **social support** increases.

Social dominance in monkeys: dopamine D₂ receptors and cocaine self-administration

Drake Morgan¹, Kathleen A. Grant¹, H. Donald Gage², Robert H. Mach^{1,2}, Jay R. Kaplan³, Osric Prioleau¹, Susan H. Nader¹, Nancy Buchheimer², Richard L. Ehrenkauf² and Michael A. Nader^{1,2}

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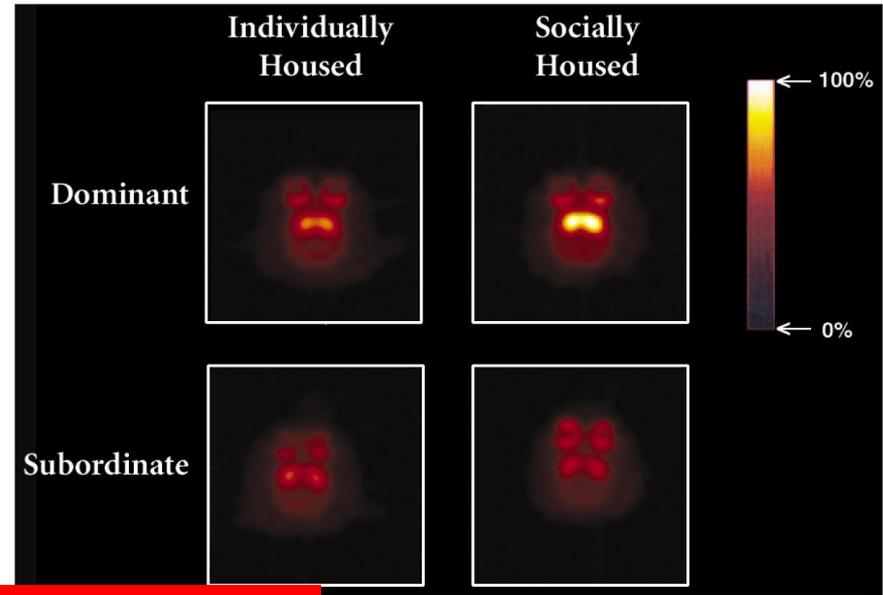
Published

Monkeys, like humans, love to be with each other, and also like cocaine...

Disruption of the dopaminergic system has been implicated in the etiology of many pathological conditions, including drug addiction. Here we used positron emission tomography (PET) imaging to study brain dopaminergic function in individually housed and in socially housed cynomolgus macaques ($n = 20$). Whereas the monkeys did not differ during individual housing, social housing increased the amount or availability of dopamine D₂ receptors in dominant monkeys and produced no change in subordinate monkeys. These neurobiological changes had an important behavioral influence as demonstrated by the finding that cocaine functioned as a reinforcer in subordinate but not dominant monkeys. These data demonstrate that alterations in an organism's environment can produce profound biological changes that have important behavioral associations, including vulnerability to cocaine addiction.

The importance of social context, control over environment, and relapse risk

- When all monkeys were individually housed no difference in DA D2 receptor volume
- After 3 months of social housing, dominant monkeys showed 22% increase in DA D2 volume; subordinate monkeys - no change
- Increase in DA D2 associated with lower likelihood of cocaine use



- “Dominant and water environment”

Human Implications: facilitating greater access to and availability of recovery capital in a rich social environment may instill hope, empower people, help them have more control over their environment, increase social contact and social mobility through the environment, and thereby induce neurochemical changes that reduces relapse risk

... characteristics of monkeys.

[¹⁸F]FCP distribution volume ratios

	Socially housed	Percent change
Individually housed dominant	3.04 ± 0.23 ^{b,c}	+22.0 ± 8.8
Individually housed subordinate	2.99 ± 0.13	+16.7 ± 6.0
Socially housed dominant	2.88 ± 0.30	+13.4 ± 15.3
Socially housed subordinate	2.49 ± 0.10	+3.9 ± 5.3

Mean ± s.e.m. [¹⁸F]FCP DVR as determined with PET imaging in male cynomolgus monkeys as a function of social rank while individually and socially housed. ^aFor individually housed scans, these numbers represent eventual social rank. ^bSignificantly higher than individually housed ‘dominants.’ ^cSignificantly higher than socially housed subordinates.

Outline



What are Recovery Community Centers?



Why did they emerge and grow?



How might they work?



What do we know about their impact?



Questions

- Who uses RCCs?
- Do/how do participants benefit?



New kid on the block: An investigation of the physical, operational, personnel, and service characteristics of recovery community centers in the United States



John F. Kelly^{a,*}, Nilofar Fallah-Sohy^a, Corrie Vilsaint^a, Lauren A. Hoffman^a, Leonard A. Jason^b, Robert L. Stout^c, Julie V. Cristello^c, Bettina B. Hoepfner^c

^a Recovery Research Institute, Massachusetts General Hospital and Harvard Medical School, Harvard Medical School, 151 Merrimac Street, Boston, MA 02114, United States of America

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ABSTRACT

Background: Professional treatment and non-professional mutual-help organizations (MHOs) play important roles in mitigating addiction relapse risk. More recently, a third tier of recovery support services has emerged that are neither treatment nor MHO that encompass an all-inclusive flexible approach combining professionals and volunteers. The most prominent of these is Recovery Community Centers (RCCs). RCC's goal is to provide an attractive central recovery hub facilitating the accrual of recovery capital by providing a variety of services (e.g., recovery coaching; medication assisted treatment [MAT] support, employment/educational linkages). Despite their growth, little is known formally about their structure and function. Greater knowledge would inform the field about their potential clinical and public health utility.

Method: On-site visits (2015–2016) to RCCs across the northeastern U.S. ($K = 32$) with semi-structured interviews conducted with RCC directors and online surveys with staff assessing RCCs' physicality and locality; operations and budgets; leadership and staffing; membership; and services.

Results: *Physicality and locality:* RCCs were mostly in urban/suburban locations (90%) with very good to excellent Walk Scores reflecting easy accessibility. Ratings of environmental quality indicated neighborhood/grounds/buildings were moderate-good attractiveness and quality. *Operations:* RCCs had been operating for an average of 8.5 years ($SD = 6.2$; range 1–33 years) with budgets (mostly state-funded) ranging from \$17,000–\$760,000/year, serving anywhere from a dozen to more than two thousand visitors/month. *Leadership and staffing:* Center directors were mostly female (55%) with primary drug histories of alcohol (62%), cocaine (19%), or opioids (19%). Most, but not all, directors (90%) and staff (84%) were in recovery. *Membership:* A large proportion of RCC-visitors were male (61%), White (72%), unemployed (50%), criminal-justice system-involved (43%) and reported opioids (35%) or alcohol (33%) as their primary substance. Roughly half were in their first year of recovery (49%), but about 20% had five or more years. *Services:* RCCs reported a range of services including social/recreational (100%), mutual-help (91%), recovery coaching (77%), and employment (83%) and education (63%) assistance. Medication-assisted treatment (MAT) support (43%) and overdose reversal training (57%) were less frequently offered, despite being rated as highly important by staff.

Conclusions: RCCs are easily accessible, attractive, mostly state-funded, recovery support hubs providing an array of services to individuals in various recovery stages. They appear to play a valued role in facilitating the accrual of social, employment, housing, and other recovery capital. Research is needed to understand the relative lack of opioid-specific support and to determine their broader impact in initiating and sustaining remission and cost-effectiveness.

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E-mail address: jkelly11@mg.harvard.edu (J.F. Kelly).

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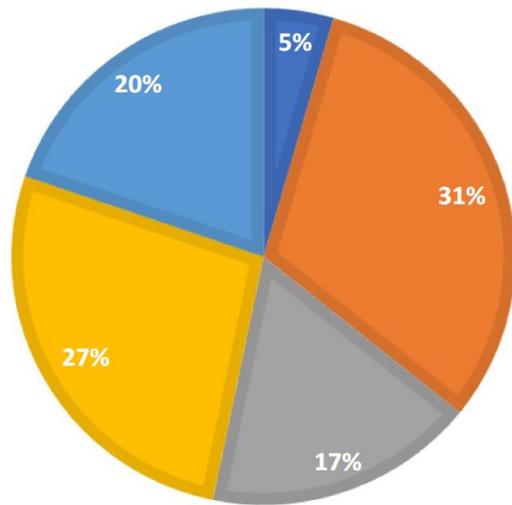
<http://www.journalofsubstanceabusetreatment.com>

RESULTS

'New Kid On The Block'

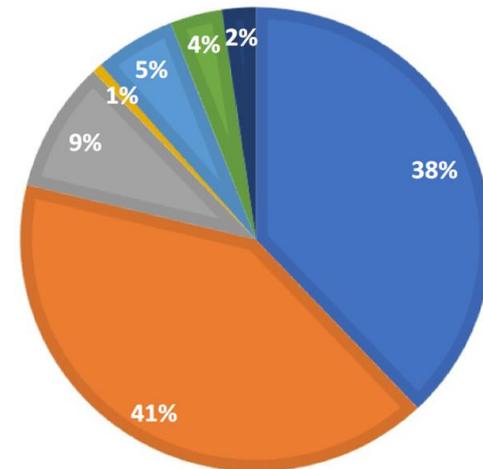
YEARS IN RECOVERY

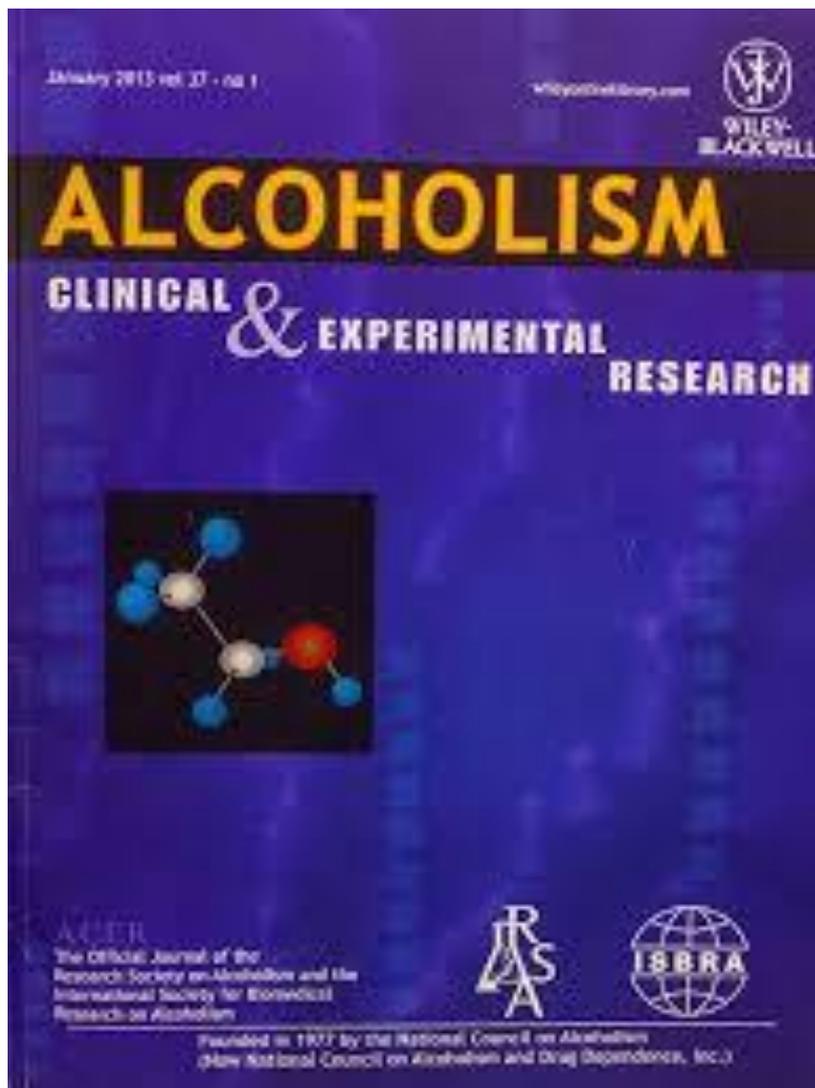
■ Actively using ■ 0-6months ■ 6 months - 1yr ■ 1-5 yrs ■ 5+ yrs



PRIMARY SUBSTANCE

■ Alcohol ■ Opioids ■ Cocaine/Crack
■ Amphetamines/Meth ■ cannabis ■ Other
■ No drug problem





CLINICAL & EXPERIMENTAL RESEARCH

ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

Vol. 42, No. 1
January 2018

Beyond Abstinence: Changes in Indices of Quality of Life with Time in Recovery in a Nationally Representative Sample of U.S. Adults

John F. Kelly , M. Claire Greene, and Brandon G. Bergman

Background: Alcohol and other drug (AOD) treatment and recovery research typically have focused narrowly on changes in alcohol/drug use (e.g., “percent days abstinent”) with little attention on changes in functioning or well-being. Furthermore, little is known about whether and when such changes may occur, and for whom, as people progress in recovery. Greater knowledge would improve understanding of recovery milestones and points of vulnerability and growth.

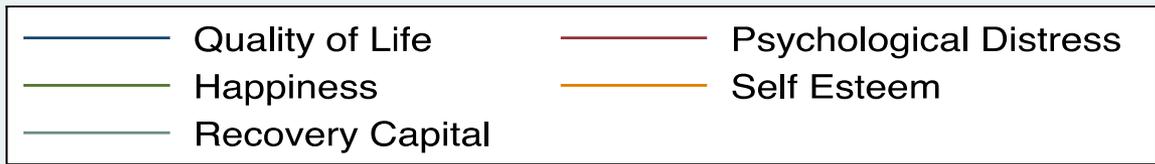
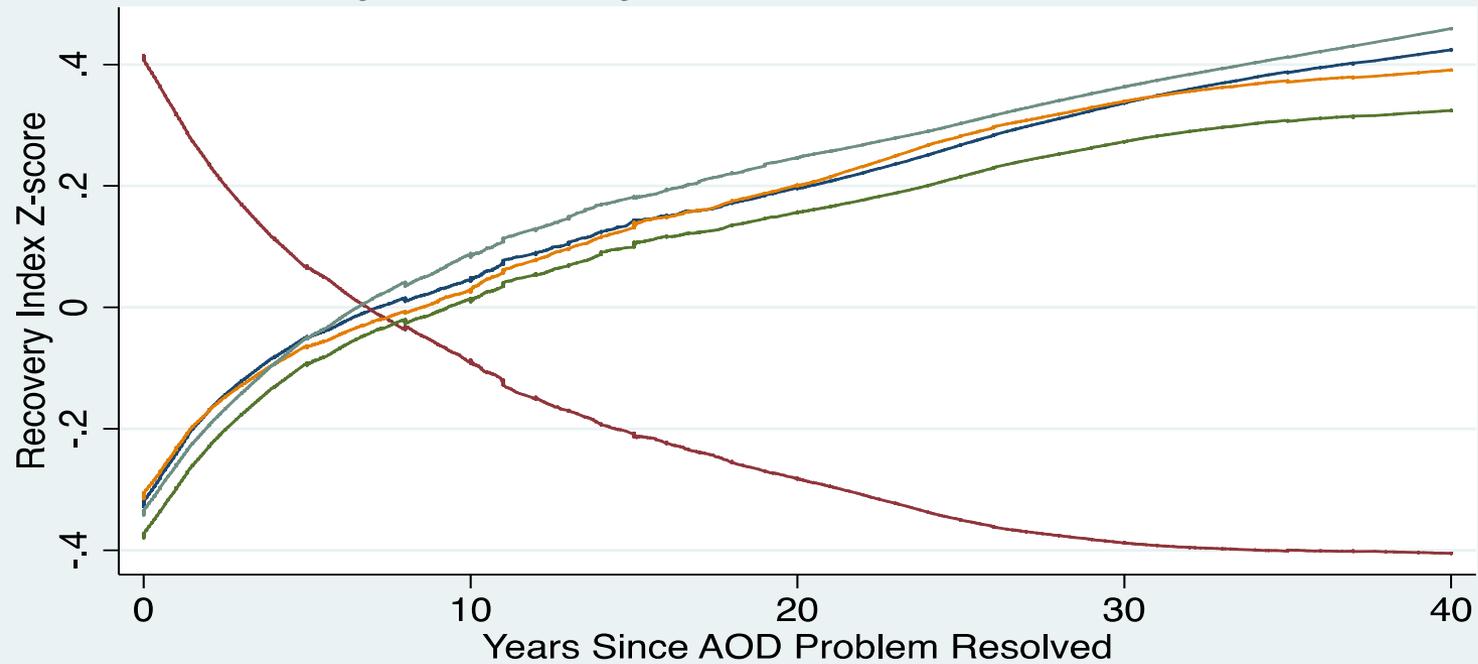
Methods: National, probability-based, cross-sectional sample of U.S. adults who screened positive to the question, “Did you used to have a problem with alcohol or drugs but no longer do?” (Response = 63.4% from 39,809; final weighted sample $n = 2,002$). Linear, spline, and quadratic regressions tested relationships between time in recovery and 5 measures of well-being: quality of life, happiness, self-esteem, recovery capital, and psychological distress, over 2 temporal horizons: the first 40 years and the first 5 years, after resolving an AOD problem and tested moderators (sex, race, primary substance) of effects. Locally Weighted Scatterplot Smoothing regression was used to explore turning points.

Results: In general, in the 40-year horizon there were initially steep increases in indices of well-being (and steep drops in distress), during the first 6 years, followed by slower increases. In the 5-year horizon, significant drops in self-esteem and happiness were observed initially during the first year followed by increases. Moderator analyses examining primary substance found that compared to alcohol and cannabis, those with opioid or other drugs (e.g., stimulants) had substantially lower recovery capital in the early years; mixed race/native Americans tended to exhibit poorer well-being compared to White people; and women consistently reported lower indices of well-being over time than men.

Conclusions: Recovery from AOD problems is associated with dynamic monotonic improvements in indices of well-being with the exception of the first year where self-esteem and happiness initially decrease, before improving. In early recovery, women, certain racial/ethnic groups, and those suffering from opioid and stimulant-related problems appear to face ongoing challenges that suggest a need for greater assistance.

Key Words: Recovery, Remission, Alcohol Use Disorder, Quality of Life, National, Epidemiology.

Recovery Indices by Years Since Problem Resolution



Recovery Indices by Years Since Problem Resolution

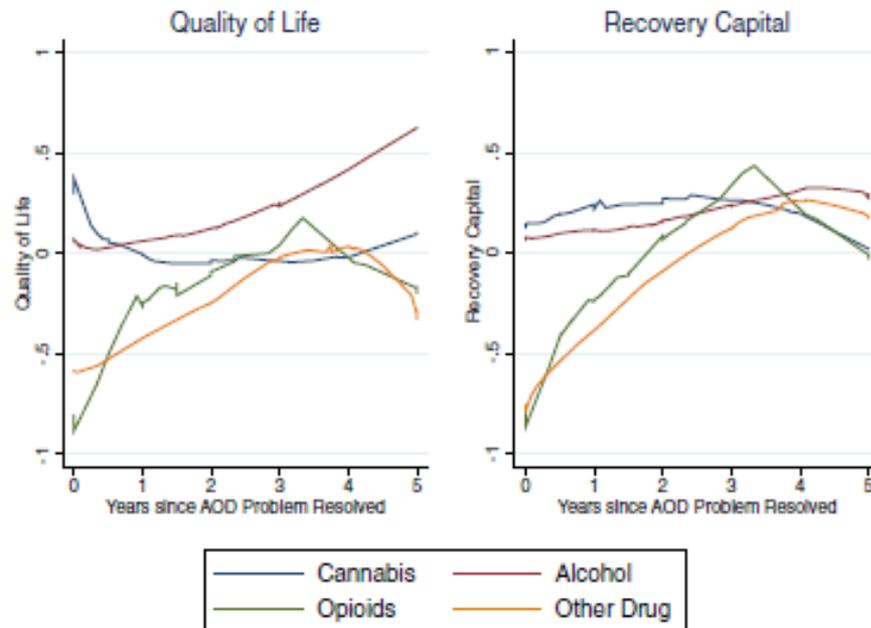


Fig. 5. Locally Weighted Scatterplot Smoothing (LOWESS) analysis of recovery indices by years since problem resolution stratified by primary substance.

One-Stop Shopping for Recovery: An Investigation of Participant Characteristics and Benefits Derived From U.S. Recovery Community Centers

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Background: Recovery community centers (RCCs) are the “new kid on the block” in providing addiction recovery services, adding a third tier to the 2 existing tiers of formal treatment and mutual-help organizations (MHOs). RCCs are intended to be recovery hubs facilitating “one-stop shopping” in the accrual of recovery capital (e.g., recovery coaching; employment/educational linkages). Despite their growth, little is known about who uses RCCs, what they use, and how use relates to improvements in functioning and quality of life. Greater knowledge would inform the field about RCC’s potential clinical and public health utility.

Methods: Online survey conducted with participants ($N = 336$) attending RCCs ($k = 31$) in the northeastern United States. Substance use history, services used, and derived benefits (e.g., quality of life) were assessed. Systematic regression modeling tested a priori theorized relationships among variables.

Results: RCC members ($n = 336$) were on average 41.1 ± 12.4 years of age, 50% female, predominantly White (78.6%), with high school or lower education (48.8%), and limited income (45.2% < \$10,000 past-year household income). Most had either a primary opioid (32.7%) or alcohol (26.8%) problem. Just under half (48.5%) reported a lifetime psychiatric diagnosis. Participants had been attending RCCs for 2.6 ± 3.4 years, with many attending <1 year (35.4%). Most commonly used aspects were the socially oriented mutual-help/peer groups and volunteering, but technological assistance and employment assistance were also common. Conceptual model testing found RCCs associated with increased recovery capital, but not social support; both of these theorized proximal outcomes, however, were related to improvements in psychological distress, self-esteem, and quality of life.

Conclusions: RCCs are utilized by an array of individuals with few resources and primary opioid or alcohol histories. Whereas strong social supportive elements were common and highly rated, RCCs appear to play a more unique role not provided either by formal treatment or by MHOs in facilitating the acquisition of recovery capital and thereby enhancing functioning and quality of life.

Key Words: Recovery Community Centers, Recovery, Addiction, Support Services, Recovery Coaching, Addiction, Substance Use Disorder.

PROFESSIONAL TREATMENT SERVICES often play a vital role in addressing substance use disorders in the United States and around the world. Such clinical services can provide life-saving medically managed detoxification and stabilization as well as deliver medications and psychosocial interventions that can alleviate cravings and help prevent relapse. Extending the framework and benefits of these professional treatment efforts, peer-led mutual-help

organizations (MHOs), such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), SMART Recovery, and many others are commonly used to provide additional long-term free recovery support over time in the communities in which people live (Bog et al., 2017; Kelly, 2017; Kelly et al., 2017a). Adding to these resources in recent years has been a new dimension of recovery support services that are neither professional treatment nor MHOs. These new services (e.g., recovery community centers [RCCs], recovery residences, recovery coaching, recovery high schools, and collegiate recovery programs; Kelly et al., in press; White et al., 2012, 2012) combine voluntary, peer-led initiatives, with professional activities, and are intended to provide flexible community-based options to address the psychosocial barriers to sustained remission (White et al., 2012, 2012).

RCCs are one of the most common of these new additions to recovery support infrastructure and are growing rapidly

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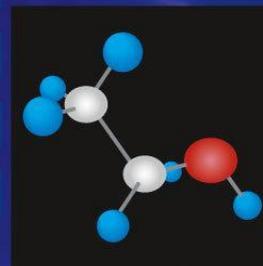
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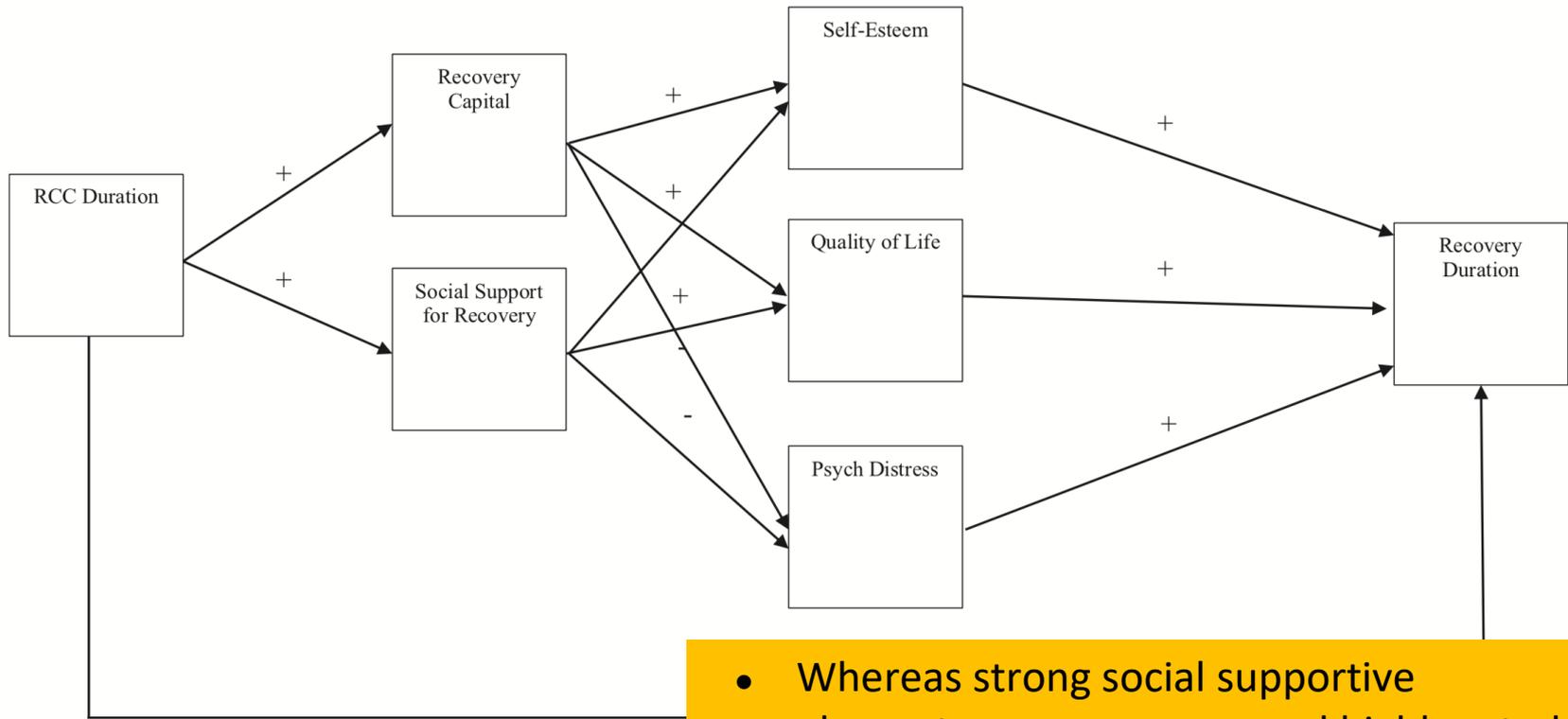


Fig. 1. Conceptual model of the theorized relationships among variables. “+” = theorized positive association among linked variables; “-” = theorized negative association among linked variables.

- Whereas strong social supportive elements were common and highly rated, **RCCs appear to play a more unique role not provided either by formal treatment or by MHOs** in facilitating the acquisition of recovery capital and thereby enhancing functioning and quality of life.

note:



RCC Summary

- Past 50yrs seen great progress in novel interventions and greater recognition of need for ongoing care and provision of recovery support services
- Address clinical pathology and build recovery capital
- RCCs are utilized by individuals mostly with few resources and higher addiction pathology and comorbidities, mostly with opioid and alcohol histories
- RCCs are new kids on the block – appear to provide, perhaps uniquely, access to recovery capital, not provided by either treatment or mutual-help
- Preliminary results appear promising, but more systematic research is needed (e.g., purpose of the NIDA R24) to understand more about the clinical and public health utility and societal health and other cost-offset potential of RCCs....

Discussion: Questions for you...

- What's missing?
- What comes to mind when thinking about RCCs and their potential role in supporting recovery?
- What do clinicians/agencies/criminal justice need to know about RCCs?
- What are next critical research steps?
- Benefits for those with opioid use disorder (maintained on medication) vs alcohol use disorders/other disorders?
- What role should Engelbert Humperdink play in RCC research (if any)?



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