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Integrating Neurobiology, Self Psychology and Social Work Concepts in Understanding the 12 Steps of Alcoholics Anonymous

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Abstract

This report describes interactive workshops at two conferences in 2025 for professional and student Social Workers and professionals from other disciplines. The authors modeled linking selected Social Work concepts, Self Psychology concepts, and Interpersonal Neurobiology concepts to each of the 12 Steps of Alcoholics Anonymous (AA) followed by the participants practicing doing the same and then sharing with the group. Each of the 12 Steps of AA was examined for the belief that the step addressed and for the nervous system function(s), the Social Work and Self Psychology concept(s) and treatment implications, including certain relevant cultural and ethical issues.

For example, Step 1 is "Do It Yourself" which reflects the following: denial [1] that life has become unmanageable [2]; employing self-regulation strategies with substances instead of people [3] as a way to manage separation distress, loss, and panic [4] leading to extreme self-dependence to the exclusion of developmentally appropriate reliance on others [5]. Attunement from others may have become anxiety/fear-producing (i.e., examine cultural belief of toxic individualism) rather than tolerating small doses of tending and empathy designed to correct emotional experiences of depending on imperfect others to maintain sobriety [6] and ethical value of the importance of human relationships [7].

Another example is Step 2: "No One is Coming" that may be the originally-adaptive belief of the danger from involvement with others [8] that is supported by the amygdala's danger-detection of powerful others with bad intentions [9]. Over-compensation via grandiosity, i.e., extreme self-dependence [5], is reflected in Maslow's [10] hope vs. despair stage of development and Panksepp's seeking others as one of the in-born emotional circuits [4]. Extreme ambivalence toward depending on more-powerful, potentially hurtful others may have resulted in the belief that the road to sanity is not to count on others under any circumstance, but rather depend on a substance, over which one has the fantasy of complete control. Dignity and Worth of a Person [7] are the focus of the repair of the experience of isolation as is the examination of cultural pressure to use substance for ease of relating to others [3].

Briefly reviewed for workshop attendees were concepts that informed the hand-outs and the chart material used to speculate on the associations among the above concepts that are linked in some way to each of the 12 Steps (see figures throughout this report). The clinical goal is to contribute to case conceptualization and treatment planning for appropriate interventions, thereby providing a focus on the underlying dynamics holding in place the belief that each step is addressing. This workshop format is easily replicated, as all handouts (including relevant literature) and the charts are contained in this report. The format is described in detail. Some reflections are offered for incorporating the factors that are influential, but invisible in their contribution to both being an obstacle to change and part of the effort to address achieving and maintaining sobriety.

Keywords: 12 Steps of Alcoholic Anonymous (AA); Self Psychology concepts; Social Work concepts; Neurobiology structure and function; empathy

Introduction

It is our experience that addictions of all sorts remain stigmatized generally, and in particular, in our own clinical treatment culture and are often avoided by many psychodynamic clinicians, among others. There is a gulf and, frankly, some hostility between those who do and do not treat addictions. In our experience, each "side" does not trust the other to address salient treatment issues. Our goal was to

draw from multiple streams of conceptualizations, including honoring several of the original thinkers from seemingly opposing traditions. We are reporting on our presenting a platform for speculating with colleagues on the linkages among the mind (beliefs), the body (neurobiology), and relevant theoretical concepts with selected treatment implications. We emphasize "speculate" as this is an exercise in pulling together several lines of thought dating back over the last 100 years that have diverged and, on their face, may not seem all that related. Particularly speculative are associating the findings in the literature on the brain and peripheral nervous system structures and functions published over the last 30 years in order to illuminate mind-brain-body interconnections that may influence addictive behaviors. Treatment planning and implementation could be enhanced.

Over a number of years, as clinical colleagues we have often discussed the hidden family and cultural dynamics affecting and affected by substance use issues. As we considered the 12 Step approach, we tried to imagine the belief that each step was designed to address in the healing process. We made an effort to integrate certain concepts about how the nervous system works to support those beliefs, how developmental insults weakened a person's sense of self, and ways social work interventions address treatment by challenging the currently dysfunctional beliefs, and most importantly, begin to replace the belief with more socially functional beliefs about self and the world with the hope that more adaptive behaviors would result. Certain related ethical and cultural aspects were considered.

Steps	Core Belief	Affect/Neuro Function	Psychoanalytic Concept	Clinical Social Work Concept
Step 1 Admitted powerlessness over addiction and unmanageability of life.	Do it yourself Avoidance of selfobject need of useful idealization(fosters identifying with strength of other)	The system must downregulate SEEKING(help) brain circuits [25]	Deprived of early merger with strength of other(s) resulted in grandiose or false self [11]	Past coping affects current extreme self-reliance [73]; not internalize strength of other's psychological support growth [12]; borrowing the ego of the worker [13]
Step 2 Came to belief a higher power can restore sanity.	No one is coming Avoidance of selfobject need of useful idealization(others provide safety)	Hope for reliable other reactivates SEEKING (safety) brain circuits [74]	Lack of empathy from earlier carer-takers { Higher Power} led to fragmentation & strong defenses against depending on anything but substances [3,11]	Self and other representation [14] (self-alone; other=absent; Linking affect=shame)
Step 3 Made a decision to turn will and life over to a personally understood God.	I don't trust anybody Avoidance of selfobject need of idealization(identify with self-control & calmness of carers)	Threat of relinquishing control [74] activates survival belief to not trust anyone due to developmental betrayal by carers; amygdala assesses danger, [75]. "Surrender" invites merger with strength of other.	Emotional contact in just right amount for beginning internalization of supportive selfobject function [11]	"The early loss of certain others, leads to generalizing to the whole world" [12]; revealed in idealizing transference (identifies with other's) [11]
Step 4 Made a fearless moral inventory.	Alone with and avoiding my fears	Mirror neurons of sponsor/others resonate with universality of human failings	Selfobject function(twinship/ alterego) of confirming and accepting of early adaptation to unempathic environment	Attunement to past blows to self esteem, self concept, & self image address shame experience(s); Schore & Schore [15, 16]
Step 5 Admitted wrongs to ourselves, God, and another person.	I am a victim, isolation	Dyadic regulation of affect to contain shame [15, 16] Sharing pain reduces isolation (heals PANIC/GRIEF) and activates CARE/bonding. Relieves RAGE turned inward (guilt/shame) [74]	Responsive to intensity of self-blame [5]	"Shame derives its power from being unspeakable" [17]

Figure 1. to be cont...

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Step 6 Became entirely ready to have defects removed.	I don't want to change, control, perfectionism	Amygdala resonates with client's storage of memories of negative self-evaluation without criticism or rejection Re-orients SEEKING away from maladaptive defenses toward hope in transformation. Cultivates willingness instead of control [74]	Share despair leading to acceptance & connection (selfobject [s/o] of alter ego/twinship)	Unconditional positive regard (for inner experience)[18]
Step 7 Asked God to remove shortcomings.	I can't be helped/ omnipotent	Submission to CARE restores humility and lightness; humility quiets RAGE and FEAR [74]	Share despair leading to acceptance & connection (selfobject [s/o] of alter ego/twinship)	Impulses can be "contained, rechanneled or transformed" [14]
Step 8 Made a list of people harmed and became willing to make amends to them all.	I've been hurt, lack of empathy	Acknowledges relational damage; re-engages CARE system by preparing to restore bonds [74]	Cognitive flexibility b/c self increasingly cohesive and, therefore, developing distress tolerance Selfobject need of mirroring(being seen and accepted	Improving reality testing [14] Mentalizing [19]
Step 9 Made direct amends wherever possible.	Others owe me apologies, distrust	Repairing relationships heals PANIC/GRIEF and fosters PLAY (restored connection); strengthens SEEKING toward positive social goals [74]	Internalize calm strength(s/o function of idealization and alter-ego/twinship)	Non-pathological self-soothing capacities
Step 10 Continued to take personal inventory and when wrong promptly admitted it.	I'm fine, I'm not accountable	Ongoing self-regulation keeps affect circuits balanced, preventing buildup of resentment (RAGE) or hidden fear [74]	Twinship.alter-ego selfobject experience combats loneliness via sharing of human imperfections	Belongingness [5, 20, 21]
Step 11 Sought through prayer and meditation to improve conscious contact with higher power.	Self-reliance, self-knowledge, no meaning	Calming of extremes in dysregulation(too high, too low) of and to increase self-control; Channels SEEKING into spiritual experience, CARE into trustful dependence, PLAY into creative openness [74]	Connection(twinship s/o)by choosing to show authentic self	Affirm courage for humility; Existential
Step 12 Carried the message to others and practiced these principles in all affairs.	I have no purpose	Alter-ego twinship identify with others and offer social synapses and resonance circuits to others anyone leading to low brain automatic responses, empathic attunement slowly builds trust via "dosing" and "titrating" [76, 77]; CARE is expanded outward in service; PLAY emerges in fellowship; SEEKING is satisfied by meaningful purpose beyond self [74]	Offer empathy to demonstrate acceptance of others and combat isolation	Altruism. Combats pathological regulation of self-esteem [22]

Figure 1: Example of an Integrated Chart for Beliefs, 12 Steps of Alcoholics Anonymous Neurobiology, Self Psychology and Social Work Concepts

Figure 1 above is an example of what can be done using the selected concepts from Self Psychology, Interpersonal Neurobiology, Social Work, and the 12 Steps of Alcoholics Anonymous. For the workshop presentation, only the first few steps were discussed by the presenters followed by the attendees working together or in small groups using the material from the PPX and handouts to work on other steps using the handouts in Figures 3-5.

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A brief discussion of concepts from the literature that informed our workshop discussion follows. A comprehensive review of these sources is beyond the scope and purpose of this report, but familiar citations are referenced for further elucidation. Figure 1 above illustrates the final result of the authors' effort to create a schematic that briefly links the phenomena under discussion. After Figure 2, (agenda) this report provides an abbreviated discussion of theoretical constructs from Self Psychology and Interpersonal Neurobiology as well as theoretical, spiritual, and cultural influences resulting in the treatment philosophy of Alcoholics Anonymous that we utilized for our power point and hand-outs. This is included in our report because, although Social Work concepts are well understood by our intended audience, currently the same is not as true for Self Psychology and Interpersonal Neurobiology fundamentals. The presentation began with a slide deck with selected constructs from Self Psychology as they required some description and discussion of the compatibility to well-known Social Work concepts.

Figure 2: Agenda

- Introduction of our idea
- Description of handouts
- Discuss how the nervous system has been corrupted to support the distorted belief
- Review selected Self Psychology concepts as deficit model to address the unconscious, implicit belief that each step aims to correct
- Discuss clinical social work concepts that facilitate repair
- Presenters model deconstruction of The Steps 1, 2, and/or 3
- Break out groups work together to deconstruct Steps 4-12 (one group per Step)
- Break out groups report back for group discussion

Self Psychology Basics

Described below is a brief rendering of Heinz Kohut's [5, 11] theory of the stages of the development of normal narcissism (self-love) and the clinical application thereof. Some details are provided as the field of Social Work has not integrated whole-heatedly these concepts to date. Kohut's developmental progression of self-love is often not appreciated for the clinical meaning he ascribed, that is, the normative love of the self develops through being looked at lovingly (mirror stage); being able to look lovingly at important others (idealizing stage); and being looked at lovingly as similar or the same-as (alter-ego/twinship stage). In common parlance, narcissism has come to represent grandiosity, elevating of the self over others, selfishness. arrogance, etc. However, Kohut's conception was quite benign and described an emotionally/psychologically stabilizing coherent inner experience that confers resilience to normative distress. Kohut never defined the self, but rather the by-product of healthy narcissism (self-love) producing functionality within normal limits for one's culture. Each stage requires empathy from caregivers as they focus on the "need" developmentally that is emotionally regulating. If outside normal limits, then maladaptive behaviors may stem from a delicate self-esteem that is easily injured and/or over-reactivity to perceived slight and defeats ("fragmentation" to use Kohut's term). Access to normal childhood narcissism is barred [23]. The child's nervous system is own their own to create a modicum of self-love that was denied to them by neglecting to process through the stages via care-giver empathic tending enough of the time.

Heinz Kohut thought that disappointments (or worse) in the caregiving experience could lead to maladaptive self-soothing regulatory functions; minor disappointments could lead to within-normal-limits self-soothing functions. Kohut coined the term "selfobject" to convey the developing mind gradually "downloading" the brain's experience of early merger with good enough (m)othering that could eventually become good enough self-regulation. His idea was that the original functions of the selfobject would be taken over by a "cohesive" self that would be properly self-regulating. A. Schore [24] later added that in times of stress, the cohesive self would turn to help from others that could temporarily re-regulate and return to baseline functioning. In contrast, the easily "fragmented" self seeks self-regulation from pathological sources (e.g., addictions, unreliable others, etc.).

The easily fragmented self had not properly experienced Kohut's proposed stages of the development of normal narcissism (or self-love) necessary for resilience in everyday life. The uncompleted stages leave the mind and nervous system "hungry" [23] for that development stage to be re-started over and again in current life. The form that each arrested stage takes has some identifiable behaviors that indicate the unconscious effort for correcting the lack of certain experiences that could lead to the normal narcissism of self-love. In brief, see below [5, 21]:

Stage 1 is the mirroring stage (0-2), a time when the infant/child experiences attunement to their needs to be special and unique (empathically admired by care-giver(s))

Stage 2 is the idealizing stage(2-5-ish), a time when the child connects with the calm & other strong qualities of others in a merger-like fashion(caregiver(s)empathically allow others to be admired)

Stage 3 is the alter-ego/twinship stage (elementary school), a time of needing to belong and be the same-as (peers empathically encourage learning to be part of a group in welcoming manner).

Following are some behavioral and emotional clues that the poorly developed stage is stirring the interpersonal environment toward correcting the past in the present relationship(s) [26]:

Mirroring stage: demanding admiration and confirmation of uniqueness

Idealizing stage: over-valuation of others to whom they imagine or have connections, e.g., best family, best pets, best sports team, finest car, and (watch out) best therapist which is calming and a source of borrowed strength.

Atler-ego/twinship: assuming sameness (e.g., people like us are….).

These thwarted needs may define a certain quality of transference/counter-transference experience in therapy as the client's nervous system signals the unmet needs in the clinical work; not a conscious process. It is common practice in Social Work to empathically identify unmet needs and craft the appropriate clinical response with empathy. We do not necessarily identify those responses as affected by Kohut's concepts, but they are operative much of the time anyway. We are articulating them for the purpose of the workshop deconstruction of aspects of the 12 Step interventions. In our work, we may see the following behaviors, perspective, emotions:

Mirroring transference: grandiosity, entitlement, exhibition of accomplishments, unstable self-esteem, unwilling to be empathic, fear of revealing even minor flaws, strong need to control others view of them (*Need=recognition & praise to shore up depleted self concept/esteem*)

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Figure 3: Power Point Presentation on Self Psychology Concepts

Slide 2

Heinz Kohut thought that disappointments (or worse) in the caregiving experience could lead to maladaptive self-soothing regulatory functions; minor disappointments could lead to within-normal-limits self-soothing functions [5, 11, 27]

Slide 3

Minor deficits mean sensory (comforting) experiences have been met by (m)other [28]

Slide 4

"Cohesive" self is properly self-comforting (caring)

Slide 5

"Fragmented" self seeks self-regulation from pathological sources (e.g., addictions, unreliable others, etc.) and becomes symptomatic

Slide 6

Normal narcissism is self-love necessary for resilience in everyday life

Resilience: the capacity to recover from dysregulation and restore adaptive functioning after stress [29]

Slide 7

Pathological narcissism, insatiable "hunger," manifests clinical symptoms

Hunger = symptoms = something is missing [23]

Slide 8

Transference [14]

Stage 1 is the mirroring stage (0-2), a time when the infant/toddler experiences attunement to their needs to be special and unique = proper attunement/reverie [78]

Stage 2 is the idealizing stage (2-5ish), a time when the child connects with the calm and other strong qualities of others in a merger-like fashion

Stage 3 is the alter-ego/twinship stage (middle childhood to adolescence), a time of needing to belong and feel a sense of likeness

Slide 9

The goal is to re-start development in the stage(s) it left off in present-day interpersonal encounters and heal the narcissistic wound(s).

Slide 10

Poorly completed stages of development lead to hunger for self-love needs.

Mirroring transference: grandiosity, entitlement, unstable self-esteem, un-empathic, strong need to control others, exhibition of accomplishments, fear of revealing minor flaws (hunger=recognition & praise to shore up depleted self-concept/esteem)

-Counter transference trap: the client is too much, the clinician doesn't want to gratify

Idealizing transference: looking for others to admire for their prestige, accomplishments, standing in the community, moral stature, experts, glamorous, intelligence (especially the therapist) (hunger=reflected glory to avoid feeling defective)

-Counter transference trap: too humble, false humility, inauthentic (reaction formation)

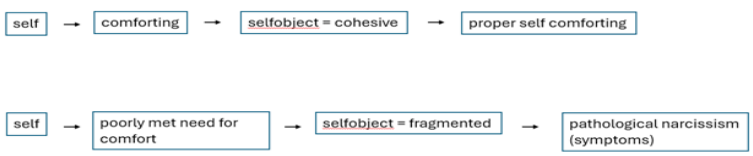
Alter-ego/twinship transference: vulnerable to adopting belief systems to ensure inclusion, similar lifestyle, clothes, opinions, appearance (hunger=sameness to avoid rejection)

-Counter transference trap: premature differentiation

Slide 11

Note: a small group of those with damage to the ability to love themselves (normal narcissism) will fall into category of "contact shunning" and, out of fears, will isolate because their hunger for unmet needs is so intense as to be unbearable for the undeveloped nervous system (hunger: to not feel pain of yearning) {[23]}

Slide12



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Idealizing transference: looking for others to admire for their prestige, accomplishments, standing in the community, moral stature, experts, glamorous, intelligence(especially the therapist) (*Need=reflected glory to avoid feeling defective*)

Alter-ego/twinship transference: vulnerable to adopting belief systems to ensure inclusion, similar lifestyle, clothes, opinions, appearance (*Need=sameness to avoid rejection*).

All the above, when not within normal limits, are compensating for unmet needs from early development. The goal is to re-start development in the stage(s) it left off in present-day interpersonal encounters and heal the narcissistic wound(s). However, many of the above compensating efforts simply re-create the original injury and others may withdraw, reject, and otherwise shun them, confirming the early trauma.

Note: a small group of those with damage to the ability to love themselves (normal narcissism) will fall into category of "contact shunning" and, out of fears, will isolate because their hunger for unmet needs is so intense as to be unbearable for the undeveloped nervous system (Need: to not feel pain of yearning). Counter-transference issues abound, but primarily the effort for the therapist to not recreate the original trauma of under-mirroring, not allowing ourselves to be idealized, or to tolerate being thought to be the "same as". Addictions seem an obvious way to meet one's own needs for depending on a reliable "other".

Interpersonal Neurobiology

Currently, the discipline of Social Work is in the process of embracing neurobiological findings with contributors to the intersection of the two fields exemplified by Applegate and Shapiro's 2005 book, Neurobiology for Clinical Social Work and Farmer's 2009 book,

Figure 4: Selected Neurobiological Concepts

1. All below [29]
   - Hyperarousal
   - Hypoarousal
   - Mutual attunement
   - Mutual misattunement
   - regulation
   - dysregulation
   - agitated or withdrawn in presence of other with no relational or intersubjective content contingent responsivity;
2. right & left amygdala involved in processing fear and aggression; amygdala plays role in sexual arousal in males only [30];
3. clarifies potential threat response [79];
4. drive to attach [31];
5. genetic drive for interpersonal connection i.e., attachment, vital for survival [31];
6. Protect from pain of difficult feelings or memories by determining emotional significance of threatening stimuli [32];
7. amygdala clarifies a potential threat response [79]; developmentally early signaling originates from amygdala (quick response)
8. maturing development increasingly engages limbic and upper cortex for complex consideration of meaning of signal affect (leading to more measured response [9, 24];
9. memories of early development and of trauma stored in amygdala (implicit), hippocampus stores explicit memories [33];
10. explicit memories are repressed and retrievable with intention or reminders [24];
11. the function of attachment relationship is expression of affect within normal limits for social group via mutual mapping of affect [34];
12. focused repeated pairing (associations) of experiences encoded in the brain in context of affectively charged relationship [35];
13. interactive regulation of difficult affect leads to change; [36];
14. can repair relationship ruptures to make new models of interacting that become inscribed in neural circuitry [24, 37];
15. new experience with clinician can be integrated on brain as experienced to be preserved [38];
16. interactive regulation of difficult affect leads to change [36];
17. can repair relationship ruptures to make new models of interacting that become inscribed in neural circuitry [24, 37];
18. new experience with clinician can be integrated into the brain as experienced to be preserved [38];
19. intense interest simultaneously activates cortical associations for touch, hearing, & vision; this intersensory bridging action accesses memory and inspires insight [39];
20. right cortex modulates the processing of pain and coping with painful stimulus [40];
21. registers safety & danger [41] and amygdala signals flight, flight, freeze, and/or submit [24];
22. amygdala holds sensory memories [33].

Figure 4 The above list of neurobiological findings was not intended to be exhaustive. In our experience, we have found the above to be clinically useful.

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Neuroscience and Social Work Practice, to name some early works. It was only in 1990 that the Congress of the United States denoted that year as the beginning of the "Decade of the Brain" though John Bowlby's work on biological underpinnings of loss, grief, and resulting attachment and emotional regulation issues from the 1940s has been integrated into social work perspectives since its introduction. Bowlby described the stages of grief and mourning and the psycho-social consequence of loss; importantly, a social worker, John Robinson, was involved in the early loss/grief research with Bowlby that eventuated into the attachment work of today [42]. Contributors other than social workers are too numerous to name, so suffice it to say that the authors chose to list commonly known and/or briefly described brain functions for suggestions on the workshop participant's hand-out that are self-evident as to their relevance for the 12 Step exercise. Following the model that John Bowlby provided for clinical thinking, the authors deconstructed each of the steps for what belief the step addressed. We could not emphasize that enough, each step addresses a once-adaptive, but currently maladaptive, belief that guides perspective on the world in general and toward certain people in particular. This belief is enacted in behaviors though it is unconscious. The belief provides support for choosing substances/addictive behaviors over people.

Bowlby addressed the function of the insecure attachment behaviors as a regulation schema (avoid, anxiously signal, disorganized ways to interact) that has become dysregulating, but automatic. We have focused on the organizing belief that each of the 12 steps address, though invisible and largely out of conscious awareness. The "belief" or perspective motivates behaviors and is the focus of clinical interventions, if we can recognize them for their early and unarticulated original meanings.

Central Concepts from Recovery Literature

A significant contribution to the recovery movement emerged with the founding of Alcoholics Anonymous (AA) and the publication of its foundational text in 1939. As the first and longest-standing Twelve Step program, AA has inspired the development of more than sixty adjunctive and alternative mutual aid societies addressing a wide range of addictions and associated conditions, including substance dependence, gambling, sex and love addictions, codependency, and the experiences of family members affected by addiction, etc. [43].

AA's Twelve Step program has achieved a truly global reach. Its core text has been translated into over one hundred languages, and meetings are accessible worldwide in person, by mail, online, and even aboard cruise ships [44]. Today, AA maintains an active presence in approximately 180 countries, encompassing more than 123,000 groups across the globe [44].

Given its accessibility and enduring relevance, AA represents a vital contribution to holistic healing and the restoration of individual well-being, aligning with the ethical principles outlined in the NASW Code of Ethics [7]. Accordingly, this presentation and report seek to articulate and illuminate the curative elements of the Twelve Steps (See Figure 5) as they relate to the treatment of addiction and the reparation of maladaptive core beliefs. These elements are examined through the lenses of Self Psychology, Neurobiology, and clinical Social Work concepts. From a Social Work perspective, the discussion explores implications for culturally responsive referrals, case conceptualization, and the development of integrated biopsychosocial–cultural–spiritual interventions.

Debate surrounding the disease model of addiction remains vigorous, with scholars offering both supporting and critical perspectives [26, 45-51]. One of the earliest articulations of the disease perspective is attributed to Benjamin Rush [52], who proposed that "habitual drunkenness should be considered a disease... and treated as such." This conceptualization profoundly influenced later thought, including that of Dr. William D. Silkworth, an early medical contributor to the AA movement. In his letter included in all editions of the "Big Book" of Alcoholics Anonymous, Silkworth described alcoholism as an illness involving both body and mind [53].

Although a detailed analysis of the competing arguments surrounding the disease model of addiction lies beyond the scope of this paper, addiction and recovery are conceptualized here as processes of deficit and repair occurring across the biological, psychological, sociocultural, and spiritual dimensions of the self. While these domains are often delineated separately, they are inherently interdependent and nonlinear a perspective grounded in systems theory and supported by developmental scholarship [54-58].

Within this framework, the emergence and maturation of the self occur within a dynamic, nonlinear system composed of multiple interacting levels of human experience across the lifespan. Optimal regulation within this system integrates several pathways: self-regulation, somatosensory regulation, relational regulation, and pharmacological regulation [59]. This multidimensional integration underscores the necessity of approaching addiction and recovery not as isolated phenomena but as complex, systemic processes involving reciprocal influences among body, mind, relationships, spirit, and environment.

Alcoholics Anonymous owes its very existence, in part, to the influence of Dr. Carl Jung's guidance to one of its early influencers, Roland H. After approximately a year of psychoanalytic treatment under Jung's care, Roland relapsed into drinking. Upon returning to Switzerland for further help, Jung informed him that his condition lay beyond the reach of medical or psychotherapeutic intervention, explaining that recovery required a profound spiritual awakening.

Following this counsel, Roland joined the Oxford Group, a Christian movement emphasizing personal transformation through spiritual principles. Through this engagement, he achieved sobriety and subsequently inspired Bill W., cofounder of Alcoholics Anonymous, to pursue his own recovery events that directly contributed to the formation of AA [53].

This historical connection highlights the enduring importance of the spiritual dimension in recovery an aspect frequently minimized or overlooked within contemporary clinical discourse. Jung observed that Roland's "craving for alcohol was the equivalent, on a low level, of the spiritual thirst of our being for wholeness expressed in medieval language as the union with God" [60]. Within this context, wholeness may be understood as an integrative process that restores the individual to psychological, physical, emotional, and social well-being. The present report, and the workshops from which it draws, are grounded in this integrative perspective, seeking to illuminate pathways toward a multidimensional recovery.

Description of how presenters used the handout materials in the workshops

The first time we presented the 12 Steps Meets Neurobiology was for the 2025 Texas National Association of Social Workers annual meeting that was virtual this year (we had over 100 participants and we were on the same computer together). We had prepared to use the break-out function on zoom so our participants would meet in small groups to work together to identify the core belief that a certain step was addressing and provided hand-outs on selected Interpersonal Neurobiology, Self Psychology and Social Work concepts e.g., early childhood missing functions, corrective therapeutic interventions, ethical issues, brain functions, to name a few. There was no correct answer. We were sharing our own clinical experiences of trying to connect similar, but siloed off, theoretical and treatment concepts to address the origin story of the core belief and ways to provide an alternative belief leading to maintaining a recovery trajectory. We intended to provide our effort to the participants (see Figure 1) on the first 3 steps (see Figure 5 the 12 Steps of AA) as a model and talk to one another and the group about our process. Then we intended to break out into small groups to practice doing the same and reporting back to the group, step by step, time permitting.

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Figure 5: The Twelve Steps of Alcoholics Anonymous

1. We admitted we were powerless over alcohol—that our lives had become unmanageable.
2. Came to believe that a Power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will and our lives over to the care of God as we understood Him.
4. Made a searching and fearless moral inventory of ourselves.
5. Admitted to God, to ourselves, and to another human being the exact nature of our wrongs.
6. Were entirely ready to have God remove all these defects of character.
7. Humbly asked Him to remove our shortcomings.
8. Made a list of all persons we had harmed, and became willing to make amends to them all.
9. Made direct amends to such people wherever possible, except when to do so would injure them or others.
10. Continued to take personal inventory and when we were wrong promptly admitted it.
11. Sought through prayer and meditation to improve our conscious contact with God as we understood Him, praying only for knowledge of His will for us and the power to carry that out.
12. Having had a spiritual awakening as the result of these Steps, we tried to carry this message to alcoholics, and to practice these principles in all our affairs [53].

Figure 5 The above Steps were reworded to reflect commonly-used language and inclusivity of all addictions.

However, just before we were to present, we learned that there would be no breakout groups, and a moderator was to manage the chat for participant comments (and he also had to manage helping some of the group find the handouts during the workshop). Hurriedly, we reorganized our plan and, after some brief introductory information sharing our roadmap for the seminar, we presented brief slide deck on Self Psychology concepts (See Figure 3). Not knowing our audience, we assumed that many may not have been acquainted with the work of Kohut directly, so the PPX provided a brief review, emphasizing the compatibility with Social Work and Social Welfare practice. We saw no reason to review Social Work concepts (See Figure 6) and the Interpersonal Neurobiology concepts (See Figure 4) were obvious.

We then discussed the first step and our thoughts about connecting these varied concepts, then checked in with the group, who right away wanted to skip to a step that the presenters had not shared, so we skipped to Step 6 for their input. This was done through the chat with the moderator helping and some back-and-forth occurred, as connections from other theories (i.e., Maslow's hierarchy of needs), the possible belief the step was meant to address, Social Work interventions, a smattering of speculations about the neurobiological function that was either missing or operating to keep the belief in place, and the missing functions (deficit model of Self Psychology). The rest of the presentation was a discussion of one step and the possible influences on the early-in-development adaptation to the environment, what forces kept the belief in place, and both the obstacles and a way forward in recovery for any addiction. The group asked for our effort to fill out the chart (See Figure 1) for which the conference provided our contact information.

The second presentation of The 12 Steps Meets Neurobiology occurred the following week at the American Association of Psychoanalytic Social Work biennial conference. We met in person with about 15 participants (43 were signed up but it was Sunday morning, the last workshop of the conference and people were trying to catch their flights during the government shutdown of service in the Fall of 2025).

We again presented the PPX of basic tenets of Self Psychology that were particularly compatible with illuminating the missing care-taking experiences around which an originally adaptive, later maladaptive, belief would govern turning from people for regulatory bonding experiences and instead, to use more "reliable" substances or driven behaviors to regulate their nervous systems. The discussion was rich and lively, as we connected the deficit model of Heinz Kohut's Self Psychology to the idea that each step of AA was designed to offer an alternative to regulation that involved other people, though not perfectly available. Our reasoning for devoting time to the Kohutian concepts of the development of the capacity to love the self (normal narcissism) was our conceptualizing self-development as having been derailed early in development and the AA model would help supply the missing function, thereby, provide repetitive emotionally corrective experiences. The handouts mentioned in above discussion of the first workshop were provided but are fairly self-explanatory (list of concepts from Neurobiology, Social Work and the Steps of AA).

As in the first workshop, the presenters interacted with one another to review our process of examining Step 1 for the missing function it provided that linked back to the unconscious belief for surviving (e.g., "Do It Myself" meaning that if I do not take care of myself in various ways, no one will). We described how we speculated on the neurobiological process that may have shut down the "seeking" emotion [4] so that the nervous system of the developing child's brain/mind was deprived of the chance to connect with carers and share their emotional strength. The Social Work early concept from Ego Psychology [61] "borrowing the ego of the worker" [13] is especially apt.

In the interest of time, we did not review the other 2 Steps that we prepared and for which they had our chart but went directly to small groups choosing a step to consider with the handouts provided. The groups reported back to the workshop their use of the material to consider the linkages among them. Some had used the same step but

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had somewhat different ideas of the belief; all but one group used each of the handouts to settle on what may be the underlying neurobiological process; which aspect of the deficit model may be operative; and one or more concepts from Social Work practice may be relevant. Comments from the group about the usefulness of this exercise included an appreciation of the prompts from the handouts so notes would not have to be taken, having some concepts to work from (though many added their own theoretical concepts), and the empathy for the developmental insults that eventuated in a set of beliefs that adapted to a milieu that was less-than-optimal to forge regulating connections to others. Even though we were at the end of a three-day workshop and people were tired, there was an enthusiasm and intensity that permeated the 3 hour seminar, with open and vulnerable commentary using examples of clients, some personal thoughts, plus suggesting specific treatment considerations based on a variety of theoretical considerations.

Figure 6: Social Work Concepts

1. Bowlby four Stages of grief [80, 81]:
- Shock and numbness
- Yearning and searching
- Despair and disorganization
- Reorganization and recovery;
2. Conflict between trying to forget and trying to remember trauma [62];
3. Conflict between impulses and social reality [12];
4. Adaptation is the result of the outcome between frustration and gratification [63];
5. Impulses can be "contained, rechanneled or transformed" [14];
6. Memories can be made conscious; defenses and some thoughts are unconscious [63];
7. Psychosocial history focuses on how past and past coping affects presenting problem(s)
8. Bringing into clinical relationship elements of past [12, 64];
9. Co-regulation as a biological imperative [65];
10. "Borrowing the ego of the worker" [61];
11. "Shame derives its power from being unspeakable" [17];
12. The client social class, culture, ethnicity, and religious beliefs impact help-seeing [64];
13. "Generation after generation, our bodies stored trauma and intense survival energy and passed these on to our children and grandchildren" [66];
14. Unconditional positive regard [18];
15. "The curious paradox is that when I accept myself just as I am, then I can change" [67];
16. "Social workers respect the inherent dignity and worth of the person"[7];
17. "Social workers recognize the central importance of human relationships" [7];
18. Key social work concept on reality testing [14, 68];
19. The strengths perspective posits that misfortune can be reversed and growth and change are possible [69];
20. "A description of spirituality as a more individual, practice and experience based" [70];
21. "Altruism is engaging in actions to benefit others and to avoid or prevent harm to them" [71];
22. Examples of cultural concepts reflected in 12-Step culture
- "Just as each AA must continue to take his [their] moral inventory and act upon it, so must our whole Society do if we are to survive and if we are to serve usefully and well" [72];
- "We see that we can accomplish together what we could never accomplish in separation and rivalry." [72];
- "Let us always remember that any society of men and women that cannot freely correct its own faults must surely fall into decay if not collapse" [72];
- Multiple pathways to spirituality [43];
23. Social workers "shall be able to make culturally appropriate referrals…" to suitable and hospitable 12-meeting [7].

Figure 6. The above Social Work concepts were considered for their compatibility with the 12 Steps, Self Psychology, and Neurobiology.

Concluding Reflections and Implications for Practice

Feedback from participants following the first presentation highlighted their appreciation for the clarity of the PPX framework as it related to Self Psychology. We were initially concerned about the risk of oversimplifying a complex theoretical model; however, the PPX concepts were intentionally selected to align with familiar social work principles and clinical practice. Participants' responses suggested that this intentional framing facilitated accessibility without sacrificing conceptual depth. In retrospect, it would have been helpful to have the fully completed conceptual chart available (See Figure 1), as it visually captured our evolving hypotheses regarding the interrelationships among key constructs.

Although the format for participant interaction shifted unexpectedly during the first seminar, the use of a continuous chat stream proved generative. The real-time commentary allowed us to engage in reflective dialogue, posing questions to one another, inviting

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elaboration from our respective areas of expertise, and openly contemplating participants' observations. Our intention was to model intellectual curiosity rather than endorse any singular interpretation of how theoretical concepts might apply. This stance appeared to invite participants to draw connections from their own theoretical orientations and clinical experiences, as well as from the provided materials.

Across both presentations and particularly during the in-person session participants engaged collaboratively in parallel learning processes that integrated personal and professional experience. This engagement deepened opportunities for co-creative and co-regulatory interaction. Notably, several participants remarked that the facilitation process itself embodied the relational qualities emphasized in the content, including warmth, curiosity, and attunement. They observed that the manner in which the material was presented was congruent with its relational and theoretical foundations.

From a professional development standpoint, these experiences suggest meaningful implications for practice. The process can be conceptualized as a model for mentoring, supervision, academic instruction, and direct clinical work. Parallel processes informed by Self Psychology such as mirroring, idealization, and twinship can be intentionally integrated across practice settings, supporting the professional growth of emerging Social Work practitioners and clients through empathic attunement and relational transmission of interdisciplinary and cross-theoretical knowledge. This dynamic was evident both within dyadic exchanges and at the group level, where diverse levels of expertise and experience contributed to a layered and generative learning environment. Such an approach can be deliberately replicated when grounded in sound theoretical principles as discussed within this report.

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