"Addiction 101: A disease affecting both patient and family"

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Addiction: The History

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- *Genesis 9: 20-25*
  - *Noah, a tiller of the soil, was the first to plant the vine. He drank some of the wine, and while he was drunk, he uncovered himself inside his tent. Ham, Canaan's ancestor, saw his father's nakedness, and told his two brothers outside. Shem and Japheth took a cloak and they both put it over their shoulders, and walking backward, covered their father's nakedness. When Noah awoke from his stupor he learned what his youngest son had done to him, and he said:*
    - *"Accursed be Canaan. He shall be his brothers' meanest slave."*

History of Chemical Dependency

- In 1849, the Swedish Physician Magnus Huss (1807-1890) was the first to systematically classify the damage that was attributable to alcohol ingestion. Huss coined the term alcoholism and used it to label what he considered to be a chronic, relapsing disease.

History of Chemical Dependency

- In 1784, Dr. Benjamin Rush published an *Inquiry into the Effects of Ardent Spirits on the Human Mind and Body* which help launch the American temperance movement. He catalogued the symptoms of acute and chronic drunkenness, described progression, and suggested that chronic drunkenness was a "disease induced by a vice."

History of Chemical Dependency

- Jellinek coined the expression "the disease concept of alcoholism" and significantly accelerated the movement towards the medicalization of drunkenness and alcohol habituation.

-1946

RIP: "Bunky" Jellinek

- **Elvin Morton "Bunky" Jellinek** (1890-1963), **E. Morton Jellinek**, or most often, **E. M. Jellinek**, was a biostatistician, physiologist, and an alcoholism researcher. He was born in New York City and died at the desk of his study at Stanford University on 22 October 1963.

Jellinek's Criteria (1960)

- **Alpha alcoholism**: the earliest stage of the disease, manifesting the purely psychological continual dependence on the effects of alcohol to relieve bodily or emotional pain. This is the "problem drinker", whose drinking creates social and personal problems. Whilst there are significant social and personal problems, these people can stop if they really want to; thus, argued Jellinek, they have not lost control, and as a consequence, do not have a "disease".
- **Beta alcoholism**: polyneuropathy, or cirrhosis of the liver from alcohol without physical or psychological dependence. These are the heavy drinkers that drink a lot, almost every day. They do not have physical addiction and do not suffer withdrawal symptoms. This group do not have a "disease".
- **Gamma alcoholism**: involving acquired tissue tolerance, physical dependence, and loss of control. This is the AA alcoholic, who is very much out of control, and does, by Jellinek's classification, have a "disease".
- **Delta alcoholism**: as in **Gamma alcoholism**, but with inability to abstain, instead of loss of control.
- **Epsilon alcoholism**: the most advanced stage of the disease, manifesting as dipsomania, or periodic alcoholism.

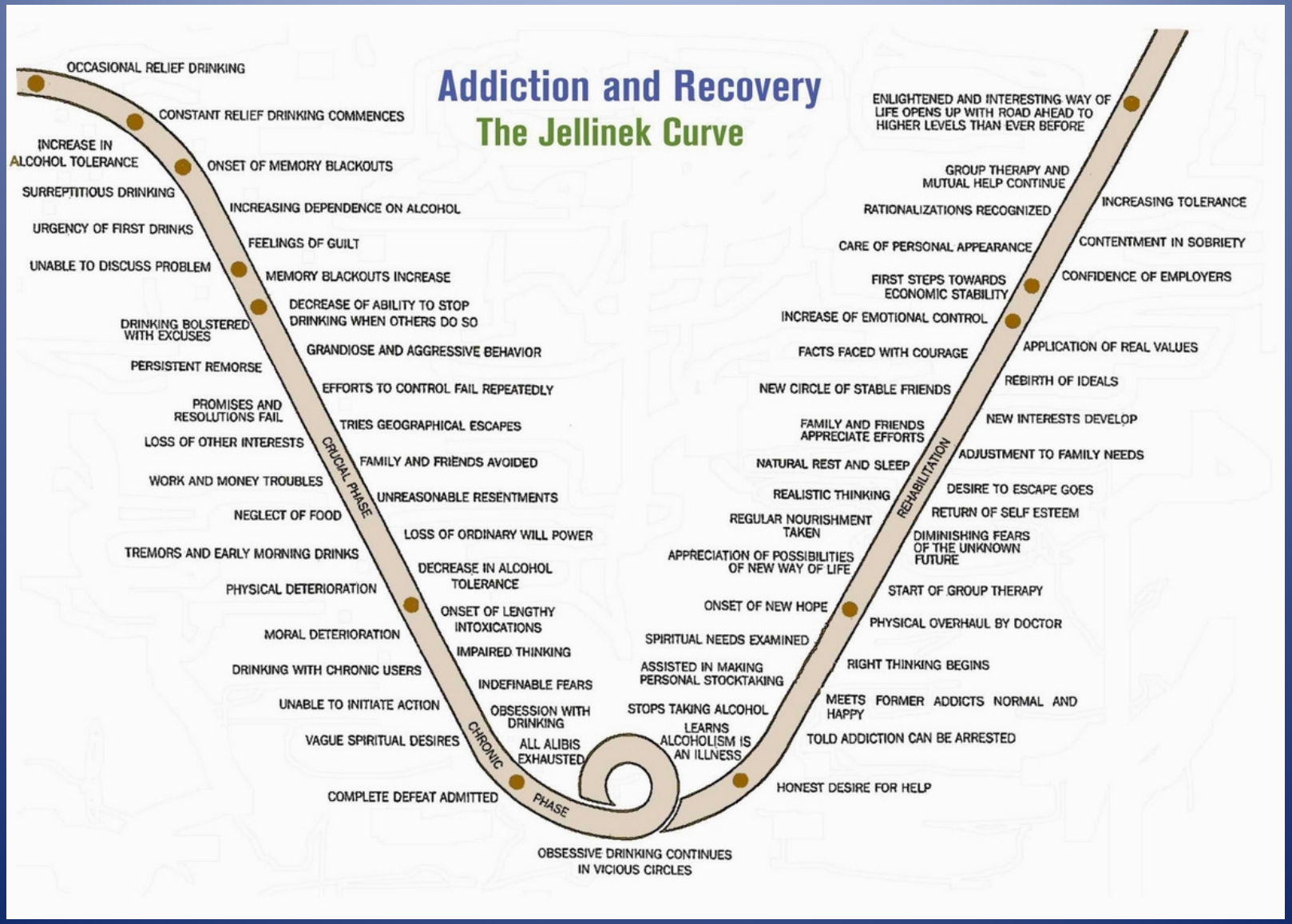
Jellinek's Criteria (1960)

- *Jellinek's 1960 magnum opus in fact tries to limit the scope of the "disease concept", stating that most of the types described might be alcoholics, but they are not diseased — because they do not suffer from "loss of control".*

History of Chemical Dependency

- Jellinek's initial 1946 study was funded by Marty Mann and R. Brinkley Smithers. It was based on a narrow, selective study of a hand-picked group of members of Alcoholics Anonymous (**AA**) who had returned a self-reporting questionnaire.
- *(Valverde opines that a biostatistician of Jellinek's eminence would have been only too well aware of the "unscientific status" of the "dubiously scientific data that had been collected by AA members".)*

"Jellinek" Curve 1980s



History of Chemical Dependency

- 1951: The Lasker Award
  - *The American Public Health Association presents…..to Alcoholics Anonymous in recognition of its unique and highly successful approach to that age-old public health and social problem, alcoholism….In emphasizing alcoholism as an illness….*

p. 571, BBAA, 4th edition

Definition of Alcoholism

"Alcoholism is a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by continuous or periodic: Impaired control over drinking, preoccupation with the drug alcohol, use of alcohol despite adverse consequences, and distortions in thinking, most notably denial."

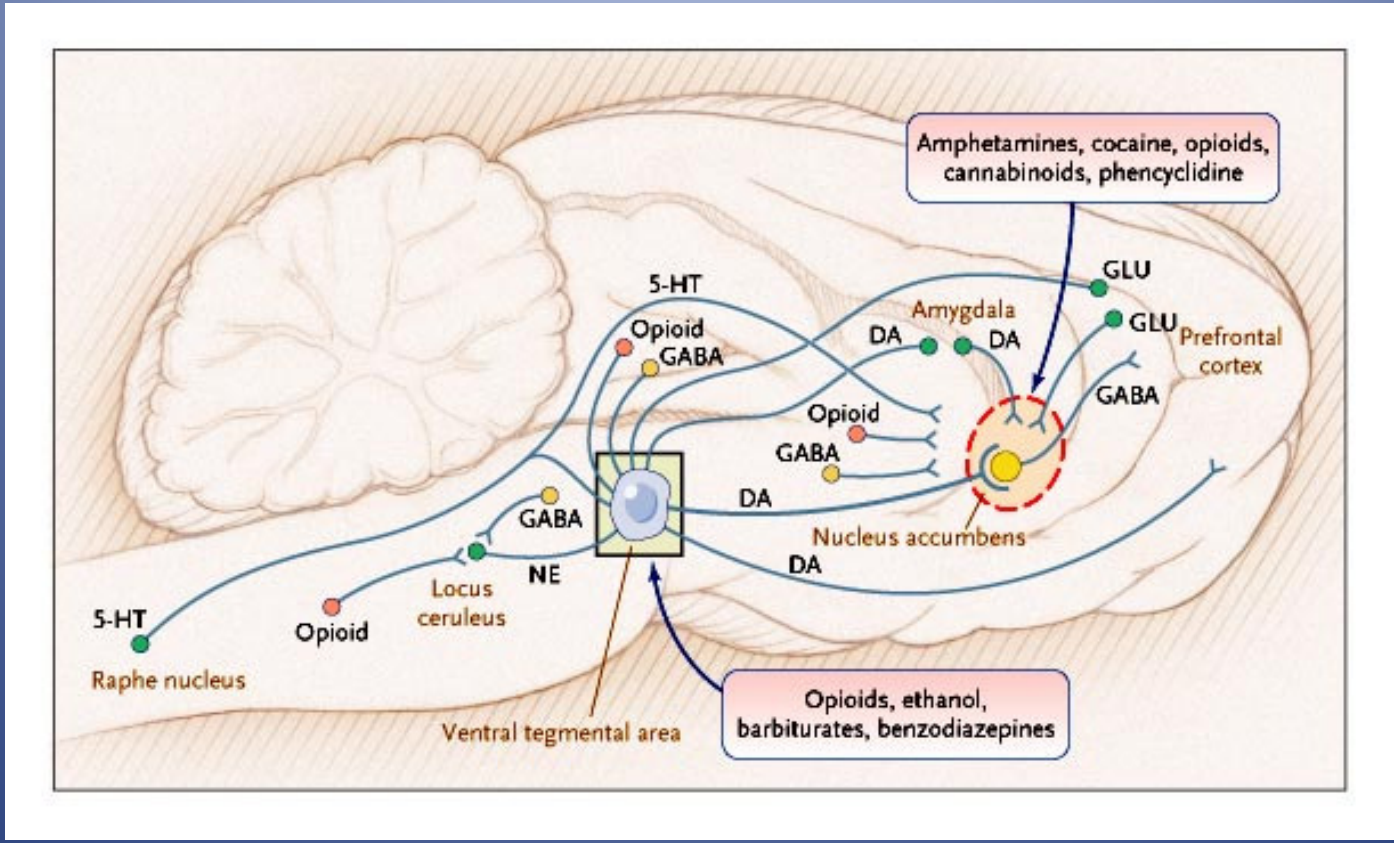
American Society of Addiction Medicine/NCADD (1992)

ASAM Definition of Addiction 2011

- Addiction is a *primary, chronic disease of brain reward, motivation, memory and related circuitry*. Dysfunction in these circuits leads to characteristic *biological, psychological, social and spiritual manifestations*. This is reflected in an individual *pathologically pursuing reward and/or relief* by substance use and other behaviors.
- Addiction is characterized by *inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships*, and *a dysfunctional emotional response*. Like other chronic diseases, addiction often involves cycles of *relapse and remission*. Without treatment or engagement in recovery activities, addiction is *progressive* and can result in disability or premature death.

Addiction: The Neurobiology

Neural Reward Circuits Important in the Reinforcing Effects of Drugs of Abuse



Camí, J. et al. N Engl J Med 2003;349:975-986

The NEW ENGLAND JOURNAL of MEDICINE

Addiction: The Genetics

Addiction: The Genetics

- The first adoption-study evidence for an important genetic contribution to alcoholism risk was produced in Scandinavia. In Copenhagen, Denmark, Goodwin and colleagues (1973, 1974, 1977) used official registries to identify biological parents who had histories of alcoholism and who had given up a child for early adoption by nonrelatives.

Addiction: The Genetics

- Results:
  - Rates of alcoholism were significantly elevated in both the adopted and nonadopted sons of alcoholics, results which were consistent with a genetic influence on alcoholism risk in men. Results for women were not significant. *(Found to be statistically significant in other, later studies)*
  - *First controlled scientific studies to separate out social vs. genetic, "nature vs. nuture"*

Known cellular, genetic markers with behavioral correlates

- Serotonin Transporter Gene (SLC6A4):
  - » Chromosome 17q11.2
- DRD2 receptor:
  - » Chromosome 11q22-q23
- Alcohol-induced hypothermia, consumption, amphetamine, morphine responses:
  - » Chromosome 9 (5-HT-1B)
- Susceptibility to effects of cocaine
  - » Chromosome 11p (DRD4)
- Opioid effects
  - » Chromosome 2 (opioid receptor)
- Flushing, initial serum load of alcohol, male vs. female differences, brain wave oscillations
  - » Chromosome 4q (alcohol dehydrogenase)
- Effects of alcohol, BZ, barbiturates
  - » Chromosome 4p (GABA-A, GABA-β1)
  - » Chromosome 15 (GABA-β3)
- Serotonin level
  - » Chromosome 11 (tyrosine hydroxylase)
- Severity of Alcoholism
  - » Chromosome 16

Breaking news from the Human Genome

- DNA regions with susceptibility genes:
  - *Chromosomes 1, 2, 7*
- DNA regions with protective genes:
  - *Chromosome 4*
- DNA regions affecting co-morbid depression:
  - *Chromosome 7*
  - *Depression alone*
    - *Chromosome 2*
- DNA regions affecting P300 electrophysiology:
  - *Chromosomes 2, 5, 6, 13*

- For further information from the Human Genome, see The Collaborative Study on the Genetics of Alcoholism (COGA):
  - http://www.niaaa.nih.gov/publications/arh26-3/214-218.htm

Addiction: The Family

Families in Stress

- Their problems
- Their feelings
- Their defenses
- Their self-worth
- Their behavior
- Their communication
- Their recovery program

Families in Stress: Their Problems

- Non-Alcoholic

  Identifiable – know the source of their distress or at least admit it when the source is brought to their attention.

- Alcoholic

  Denied – members show sincere delusion. “Alcohol has nothing to do with it.”

Families in Stress: Their Feelings

- Non-Alcoholic

  Painful, unexpressed and may be repressed

- Alcoholic

  Acutely painful and totally out of awareness – part of a larger pattern of denial and delusion.

Families in Stress: Their Defenses

- Non-Alcoholic

  Highly developed to protect individual members from even greater pain and low self-worth.

- Alcoholic

  Rigid and compulsive, repressed feelings locked in as attitudes:

  Anger becomes resentment

  Fear becomes withdrawal

  Guilt becomes avoidance

Families in Stress: Their Self-Worth

- Non-Alcoholic

  Low

- Alcoholic

  Even lower, because all the worth-destroying factors in the family are more intense, coupled with no insight into those factors.

Families in Stress: Their Behavior

- Non-Alcoholic

  Fixed in predictable patterns, assuming an array of defensive roles in an unconscious effort to survive, both individually and as a family unit

- Alcoholic

  Rigidly fixed and compulsive. Defensive roles are the same but members become locked into them because of the denial and compulsion that has set up.

Families in Stress: Their Communication

- Non-Alcoholic

  Restricted by family rules.

- Alcoholic

  Similarly restricted by family rules, but blocked totally in many areas by denial and delusion.

Families in Stress: Their Recovery Programs

- Non-Alcoholic

  Educational efforts can be *effective*.

  In spite of impaired communication, pain often motivates the family to be open enough to accept information from an outside source and so move toward change

- Alcoholic

  Education alone *ineffective.*

  More formal treatment is required.

  New information cannot penetrate the denial & delusion systems present.

  Members deny both their personal contribution to the pain and that alcohol is at the bottom of the problem.

Alcoholic Family Rules

- Don’t Talk
- Don’t Trust
- Don’t Feel

Alcoholic Family Roles

Dependent

Enabler

Hero

Scapegoat

Lost Child

Mascot

Alcoholic Family Roles: Dependent

- Motivating Feeling: *Shame*
- Identifying Symptoms: *Chemical use*
- Payoff:
  - For individual: *Relief of pain*
  - For family: *None*
- Possible Price: *Addiction*

Alcoholic Family Roles: Enabler

- Motivating Feeling: *Anger*
- Identifying Symptoms: *Powerlessness*
- Payoff:
  - For individual: *Importance; self-righteousness*
  - For family: *Responsibility*
- Possible Price: *Illness; martyrdom*

Alcoholic Family Roles: Hero

- Motivating Feeling: *Inadequacy & guilt*
- Identifying Symptoms: *Overachievement*
- Payoff:
  - For individual: *Positive attention*
  - For family: *Self-worth*
- Possible Price: *Compulsive drive*

Alcoholic Family Roles: Scapegoat

- Motivating Feeling: *Hurt*
- Identifying Symptoms: *Delinquency*
- Payoff:
  - For individual: *Negative attention*
  - For family: *Focus off Dependent*
- Possible Price: *Self-destruction, addiction**

** all family roles are at risk, this one more so*

Alcoholic Family Roles: Lost Child

- Motivating Feeling: *Loneliness*
- Identifying Symptoms: *Solitary, shy*
- Payoff:
  - For individual: *Escape*
  - For family: *Relief*
- Possible Price: *Social isolation*

Alcoholic Family Roles: Mascot

- Motivating Feeling: *Fear*
- Identifying Symptoms: *Clowning, hyperactive*
- Payoff:
  - For individual: *Humorous attention*
  - For family: *Comic relief*
- Possible Price: *Emotional immaturity & illness*

Families in Stress: Their Recovery Programs

- Non-Alcoholic

  Educational efforts can be *effective*.

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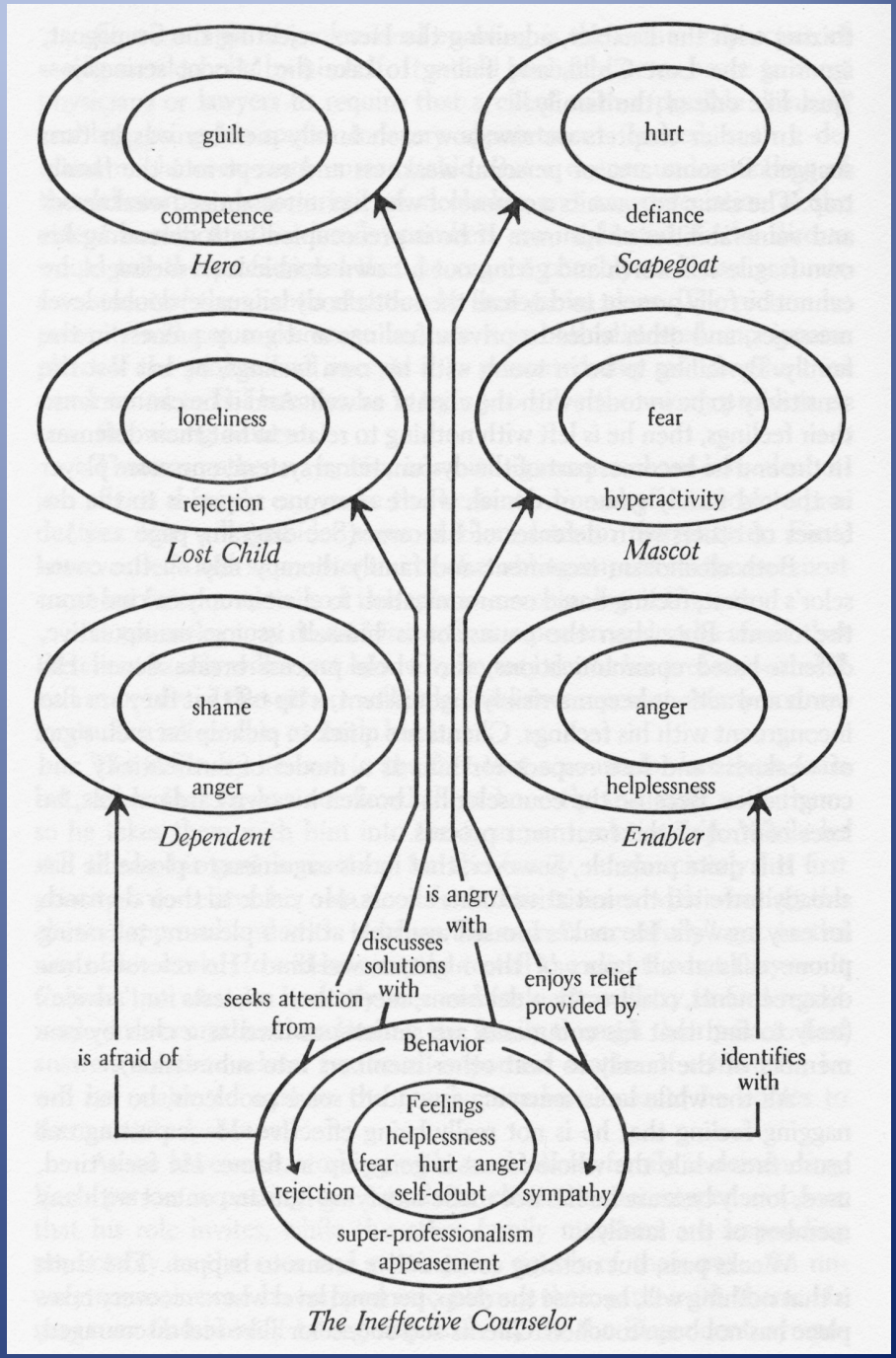
  Members deny both their personal contribution to the pain and that alcohol is at the bottom of the problem.

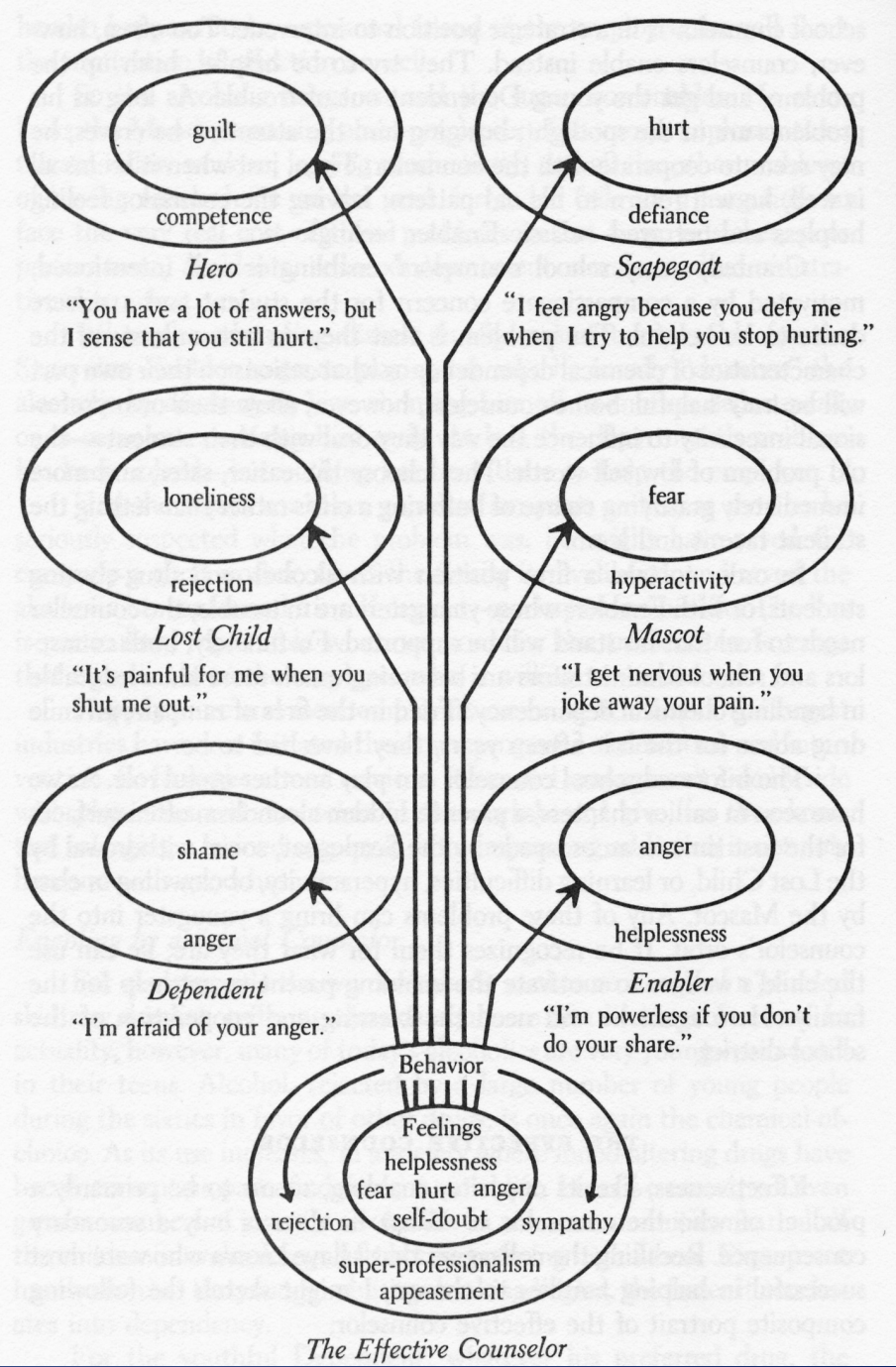
Chemical Dependency Treatment

- Must involve all family members.
- Counselors are trained specifically in chemical dependency in order to be effective.
- Most effective when combined with community-based ongoing support programs.
  - Alanon, CODA, ACOA, etc.
- Must continue in the absence of the chemical dependent.
- Recovery is a *life-time commitment*, one day at a time!

Ineffective Counseling



Effective Counseling



Recovery is a *life-time commitment*, *one day at a time!*

…….for both the individual and the family!