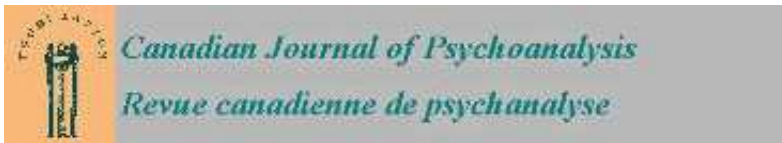


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Psychological Addiction, Physical Addiction, Addictive Character, and Addictive Personality Disorder: A Nosology of Addictive Disorders

Brian Johnson 

In order to establish a new nosology of addictive disorders, the neurobiology of withdrawal and craving are reviewed, followed by a review of the psychoanalytic literature on addictive neuropsychodynamics.

New information allows us to refine our understanding of addiction. One type of addiction is a character type; a second is a biological disorder. Addictive character is a repetitive, stereotyped response to helplessness via compulsive behaviours. Physical addiction is due to an upregulation of the ventral tegmental dopaminergic pathway with lifelong drug craving and drug dreams. Both disorders have overlapping features including idealization of the addictive behaviour, a denial system, and resort to addictive behaviours under stress. DSM-type diagnostic criteria are proposed.

The nosology helps to clarify the relationship of non-drug to drug addictions. For example, gambling or shopping addiction exists only as a psychological addiction, whereas alcohol or opiate addiction can be either psychological or physical or both. Use of the refined diagnostic concepts aids in treatment planning and in understanding the relationship of addictive disorders to other forms of psychopathology.

Afin d'établir une nouvelle nosologie des troubles de la dépendance, on examine d'abord la neurobiologie du sevrage et de l'état de manque, avec ensuite un survol des publications psychanalytiques sur la neuropsychodynamique de la dépendance.

De nouvelles données nous aident à raffiner notre compréhension de la dépendance. Un type de dépendance relève du caractère, alors

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qu'un deuxième relève d'un trouble biologique. Le caractère dépendant se manifeste par une réaction répétitive et stéréotypée à l'impuissance par des comportements compulsifs. La dépendance physique provient d'une régulation positive de la voie dopaminergique de la calotte antérieure, se traduisant par un état de besoin à vie de drogue et des rêves de drogue. Les deux troubles présentent des caractéristiques qui se chevauchent, notamment l'idéalisation du comportement de dépendance, un système de déni de la réalité, et le recours à des comportements dépendants en situation de stress. Des critères diagnostiques de type *DSM* sont proposés.

La nosologie contribue à mieux définir le lien entre la toxicomanie et les autres dépendances. Ainsi, la dépendance au jeu ou au magasinage n'existe qu'à titre de dépendance psychologique, tandis que la dépendance à l'alcool ou aux opiacés peut être physique, psychologique, ou les deux. L'application des concepts raffinés de diagnostic facilite la planification du traitement et la compréhension de la relation entre les troubles de dépendance et d'autres formes de psychopathologie.

Diagnosis is essential in guiding treatment. This paper will redefine four entities—psychological addiction, physical addiction, addictive character, and addictive personality disorder—using new developments in the psychoanalytic understanding of addiction, and developments in neuroscience. A clear understanding of the underlying issues involved in these categories of psychopathology will help us organize our understanding of the patients we see and will illuminate the relationship of addiction to other mental disorders.

Psychological Addiction and Physical Addiction: Literature Review

There has been general agreement that *psychological dependence* means “a compulsion to use a drug to produce pleasure or to avoid discomfort, despite negative consequences.” This is contrasted with *physical addiction*, where the threat of withdrawal from the drug with its characteristically painful abstinence syndrome militates towards constant use (Pradhan & Dutta, 1977, p. 5; Angres & Benson, 1985; Littleton & Little, 1994; Dodes, 2002). Cahalan (1988) defined psychological dependence on alcohol as satisfying 2 out of 5 possibilities:

1. Drinking to help when depressed
2. Drinking because of nervousness

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3. Drinking to forget everything
4. Drinking to help forget one's worries
5. Drinking to cheer one up when in a bad mood

With the development of increasingly sophisticated models of the neurobiology of craving, this distinction has become unclear and is in need of further clarification: Which phenomena are biological, which are psychological, and how might one be able to tell the difference (Littleton & Little, 1994)? We now understand that both withdrawal and craving are aspects of neuroadaptation to drug exposure. A brief review here will help clarify the concepts to be explicated later.

Withdrawal

Intoxication is always the opposite of withdrawal. For example, alcoholic drinking causes persistent inhibitory gaminergic hyperactivity, which opposes normal physiologic activity in driving systems such as norepinephrine and glutamate; alcohol slows you down. Persistent inhibition of these driving systems causes them to upregulate: to increase presynaptic neurotransmitter release, to increase the number of receptors at the post-synaptic membrane, and/or to increase the efficiency of transmitter/ receptor coupling in effecting depolarization of the neuron.

In withdrawal, the removal of alcohol-abetted gaminergic activity from the brain results in noradrenergic and glutamatergic hyperactivity, which accounts for the dysphoric and dangerous withdrawal symptoms (Tsai et al., 1998). The same basic concept is true of all addictive drugs that alter the homeostatic balance of neurotransmitter systems' functioning (Kasser et al., 1997).

The existence of physiological withdrawal may help to differentiate subgroups of addicted individuals. Withdrawal may be a key marker of severity of addiction, distinguishing between high and low abuse-liability drugs and helping to identify individuals in need of immediate treatment (Schukit et al., 1998).

Craving

Craving is the result of a process that affects a distinct system of the brain (Robinson & Berridge, 1993). Animals are endowed with a “wanting” system to ensure survival and procreation through the pursuit of water, food, and sex. The internal demand that animals pursue their goals is mediated through a discrete dopaminergic system, which originates in the ventral

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tegmentum, a midbrain structure with its most important projections to the nucleus accumbens and frontal cortex (Zhang & Xu, 2001).

With the “incentive-sensitization” model, Robinson and Berridge describe sensitization or “reverse tolerance” in this neural pathway when it is repeatedly exposed to an addictive drug (Robinson & Berridge, 1993). For example, in a situation where either placebo or small amounts of amphetamine are infused into subjects, there is no difference in eye-blink rate during initial exposure. With subsequent infusions of the same amount of amphetamine, eye-blink rate accelerates. The motor system involved has become sensitized to amphetamine. Thus the same dose of this addictive drug gradually causes an increased response within this pathway (Robinson & Berridge, 2000).

Berridge & Robinson (1998) have shown that wanting and liking are completely separate phenomena. (This division between wanting and liking is similar to the psychoanalytic literature on the motive for addictive behaviours. See Johns on,

1999.) Upregulation of the ventral tegmental pathway produces urgent wanting (craving) for the drug, which persists in an endless fashion. The onset of craving is accompanied by the onset of recurrent drug dreams (Persico, 1992; Flowers & Zweben, 1998; Johnson, 2001). The same ventral tegmental pathway, which is the motor for craving, is also the motor for dreaming (Solms, 2000). Unconscious craving can be made conscious by the recognition of the meaning of these dreams as manifestations of continuing irrational urges to use. Drug dreams may help patients stay sober (Persico, 1992; Johnson, 2001).

A new biological drive for addictive drugs is produced by repeated drug exposure (Bejerot, 1972; Shevrin, 1997). Whether or not the experience is pleasant, once people have been repeatedly exposed to a drug, they will urgently want the drug to which they have become physically addicted, whether or not withdrawal is a factor.

The neural system is complex, and objections have been made to the Berridge and Robinson model in a number of ways. Is the nucleus accumbens a more central structure in this pathway (Cornish & Kalivas, 2001)? Is serotonin an important neurotransmitter in the craving system (Sora et al., 1998)? As interrelated as all structures and neurotransmitters are, it seems that upregulation of the dopaminergic system originating in the ventral tegmentum initiates behavioural sensitization to drugs (Gelowitz & Berger, 2001). The Robinson and Berridge model is becoming a standard in the addiction field (Goldsmith, 2001).

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Addictive Personality: Literature Review

Some earlier psychoanalysts asserted that there was an “addictive personality.” For example, Meissner (1980), while not explaining exactly what he meant by “alcoholic and addictive personality” asserted, “Such personalities tend to show a predominance of oral traits and can often be classified under the narcissistic or schizoid character disorders... Because of the primitive nature of the addictive character and the predominance of orality, along with its attendant depressive pathology, alcoholic and addictive personalities are frequently poor risks for psychoanalytic treatment.”

Reading this description in the 21st century, one is struck by its vaguely derogatory nature: These are “personalities” not people, words like *oral*, *primitive*, and *poor risk* sound distasteful, and psychoanalysts are specifically warned away from treating these patients.

This view has given way to an absolute insistence both within psychoanalysis (Zinberg, 1975; Wurmser, 1995; Dodes, 2002) and in the addictions (Gendreau & Gendreau, 1970; Zimberg, 1985; Ludwig, 1988) that there is no way of delineating differences in the personalities of addicted persons from those of any other person. As you read this, the concept of “addictive personality” is a dead issue—no one believes in it. Of course, patients constantly say that they have an addictive personality—which makes one wonder why there should be a term in common usage that has no mirror in diagnostic parlance.

There has been an increasing delineation of the psychodynamics of addictive disorders as psychoanalysts engage with patients despite the previous view that analytic treatment was contraindicated. Drug abuse is accounted to have defensive and adaptive functions (Sabshin, 1995; Khantzian, 1999).

While the adolescent is undergoing separation from the family, the choice of addiction is determined by factors involving environment, social class, and gender (Johnson, 1993) and is often a response to underlying problems of psychological comorbidity (Khantzian, 1985, 1997). An “addictive search” ends when an addictive behaviour is chosen that solves a problem of overwhelming anxiety (Wurmser, 1974).

This description of addiction as a set of defences and adaptations that begin in adolescence and persist as an adult adjustment, has many attributes of a character style. The fact that there is an increased incidence of addictions in certain families, and a genetic component to the predisposition to alcoholism (Bohman, Sigvardsson, & Cloninger, 1981;

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Cloninger, Bohman, & Sigvardsson, 1981) should not dissuade us from positing an addictive character, since adaptation to genetic endowment is accorded an important place in the predisposition to character styles (Shapiro, 1965).

Dodes (1990, 1996) made a breakthrough in the psychoanalytic description of addiction. He was able to explain that addiction is a nearly indistinguishable cousin of compulsion. In his formulation, the addicted individual is predisposed to being overwhelmed by helplessness due to childhood experiences. The addicted person cannot respond directly and effectively. When the person makes the decision to perform his addictive act, however, he no longer feels helpless, because in making the decision, he has reassured a sense that he is in control, that he can act to alter his affective state. In addition, traumatic

helplessness is normally accompanied by rage, and Dodes noted that it is this rage at helplessness that both drives addiction and gives to it its powerfully insistent qualities. Finally, he pointed out that all addictions are displacements, in which a reversal of helplessness is achieved by the indirect, substitute action that is the addiction, instead of by a more direct response to helplessness. The aggressive urge needs to remain unconscious for dynamic reasons (as originally described for compulsive symptoms by **Freud, 1909**). Since addictions contain this internal compromise of displacement, Dodes concluded that they are indistinguishable from other symptoms, especially compulsions.

For example, a man who was asked by his boss to do an amount of work he felt was excessive responded by relapsing to alcoholic drinking (Dodes, **2002**, p. 17). His drinking was a displaced re-empowerment against an old helplessness. In his associations, he linked this demand for work to childhood experiences where he couldn't go out and play because his parents had made what he considered excessive demands for him to do housework.

Dodes's formulation of the psychodynamics of addiction is a breakthrough because it helps us to understand that addiction does not stand outside our way of understanding people, but rather positions addictive psychodynamics in the mainstream of psychoanalytic psychology. Khantzian's (**1985, 1997**) "self-medication hypothesis" can be understood as an elaboration of how a sense of helplessness is generated by affects. Addictive behaviours are often pursued in an expression of the panicked need to escape from this affect-generated helplessness. Terror of aloneness

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based on early experiences (**Johnson, 1993**), is also often responded to with addictive behaviours.

Cloninger (**Cloninger, Sigvardsson, & Bohman, 1988**) is a non-analytic researcher who has delineated a combination of innate temperament and character structure that predisposes to addictive behaviours. Specifically, children who are prone to addiction show temperamental traits of high novelty-seeking and low harm-avoidance in combination with character traits involving a lack of investment in spiritual/social issues.

Thus, the initial psychoanalytic formulation of addictive character structure, such as the description by Meissner, lacks specificity, and in addition carries a judgmental avoidance of a significant patient population. This paper asks if we have thrown the baby out with the bathwater, and whether it might not be more helpful to use our improved resources to reconsider this currently discredited diagnostic category.

Freud's Addiction

One more factor that may contribute to the status of addictive personality is that Sigmund Freud was ostentatiously and lasciviously addicted. In 1884 cocaine became a second problem in addition to his addiction to nicotine. He wrote to his fiancée Martha Bernays,

*And if you are forward (willful) you shall see who is the stronger, a gentle little girl who doesn't eat enough or a big wild man who has cocaine in his body. In my last severe depression I took coca again and a small dose lifted me to the heights in a wonderful fashion. I am just now busy collecting the literature for a song of praise to this magical substance. (Byck, **1974**, pp. 10-11)*

In 1886 he wrote Martha regarding his use of cocaine to treat social anxiety,

*I was quite calm with the help of a small dose of cocaine... and accepted a cup of coffee from Mme. Charcot; later on I drank beer, smoked like a chimney, and felt very much at ease without the slightest mishap occurring. (Byck, **1974**, pp. 164-165)*

Freud introduced the dream of Irma's injection (1895) with the following:

I was making frequent use of cocaine at that time to reduce some troublesome nasal swellings, and I had heard a few days earlier that one of my women patients who had followed my example had developed an extensive necrosis of the nasal mucous membrane. (Byck, p. 205)

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Of course, Freud's "troublesome nasal swellings" were probably caused by rather than relieved by cocaine insufflation, which by this point he had been practising for 11 years. You will see (below) that he used the same odd kind of denial regarding the irritation that tobacco smoke caused in his mouth.

When Freud stopped his use of cocaine is not known, but he most certainly died from his nicotine addiction. Romm (1983), a psychiatrist and ENT surgeon, wrote,

Smoking had (by 1900) been traditionally acknowledged as a causative factor in cancers of the head and neck region, and evidence suggests its implication in the genesis of Freud's lesion as well. Labeled a "heavy" user of tobacco, Freud smoked up to 20 cigars each day. Acknowledging his tendency to form leukoplakic plaques in his mouth—whitish flat patches with a high propensity to turn cancerous—he still dreaded the prospect of being told to abstain from tobacco. He actually claimed, five years previously, that abstinence from smoking unquestionably caused a sore to appear on his palate, the resolution of which could only be obtained by the resumption of nicotine indulgence.

Despite his doctors' frequent injunction to stop smoking because of the probable connection of tobacco and his disease, Freud evidently still hoped for their indulgence in not prohibiting his beloved habit. In fact, the appearance of leukoplakia seemed to bother him less than the advice to stop smoking.

At the time that basic concepts of hysterical, obsessional, paranoid, narcissistic character types—which have found their way through different versions of the *Diagnostic and Statistical Manual* into our current conceptualizations of psychopathology—were being formed, the founder of the study of character types was mortally ill with addiction. The possibility that there was a force within psychoanalysis militating against work on a character type that would have fit Dr. Freud is discussed below.

Toward a Definition of Addictive Character

The concept of addictive character relies on a strict differentiation between psychological and physical addiction. A character type is a style of response to internal and/or external stress during which stereotyped, repetitive defences are employed. The addictive character type is a style of relatedness.

Physical addiction can be created in any human or rat that is repeatedly exposed to an addictive drug. Physical addiction is a physical illness characterized

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by permanent upregulation of the ventral tegmental pathway, and resultant drug craving.

For personality concepts to be tested empirically, they must first be identified “theoretically” (Westen et al., 2002). I will use the method of Westen and Shedler (1999a) to give a “composite description” of these different diagnoses. I will then give clinical vignettes. *DSM* refers to the *Diagnostic and Statistical Manual* of the American Psychiatric Association (1994).

DSM-Style Criteria for Addictive Character

- o Has a denial system that allows persistent engagement in the addictive activity despite obvious harm
- o Shows evidence of three (or more) of the following:
 - * Responds with an addictive activity when feeling helpless (includes engaging in the addictive activity when experiencing intolerance of affect)
 - * Idealizes¹ the addictive activity
 - * Resorts to addictive activity in preference to interpersonal support
 - * When engaged in a relationship and conflict arises, resorts to addictive activity in place of effective interpersonal communication

If the patient meets criteria for a personality disorder, the diagnosis is “addictive personality disorder.” If the patient has a level of functioning above that of a personality disorder, the diagnosis is addictive character, neurotic level of functioning.

DSM-Style Criteria for Physical Addiction

- o Has a denial system that allows persistent drug use despite obvious harm
- o Persistent (lifelong) craving to use a drug (including alcohol) that has been caused by recurrent drug exposure. If this craving is not conscious, it is manifest in behaviour that heightens the danger of relapse (drinking sodas at a bar, visiting drug-using friends, etc.)
- o Craving is intensified by stress

- o Has persistent drug dreams
- o Idealizes the drug

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Withdrawal that results from physical dependence is now regarded as an epiphenomenon of physical addiction; it is important to treat medically during initial abstinence from drugs, but is simply a manifestation of the underlying changes in neurotransmitters and receptor activity.

Criteria for addictive character: Discussion

These descriptions of addictive character and physical addiction are similar. Active addiction is not possible without a denial system: a set of beliefs that facilitate the compulsive urge to act, despite the reality of negative consequences. Addictions are always idealized. Without denial and idealization the dangerous behaviour will stop.

But addictive character (psychological addiction) and physical addiction are completely different in terms of the mechanism that is driving them. An addictive character style is a set of defences that allow one to consistently manage difficult situations with aplomb. All one has to do is to displace other potential solutions into an addictive behaviour.

Why would this character style be idealized? The answer is that if one listens closely to patients in psychoanalysis, *all* character styles are idealized. People with obsessional neurosis will explain that keeping careful track of things, and counting them constantly, is important. A patient with a hysterical character (described below) explained to me that once one has been married for some years, it becomes a virtue to *not* discuss sex with one's wife, because you know each other so well that speaking about sex has become superfluous.

Nonetheless, it seems important to include idealization of addictive behaviours in our definition, since it is such a striking phenomenon. Patients have told me things such as, "I vomit silently and don't get dental caries," "Doctor, you will *never* be able to eat as much as me," or, "My friend and I both drank a case of beer, had sex with the same woman, and both got herpes. That is something you could *never* do." Idealization is also a part of the denial system that is an absolute requirement for a behaviour to be both self-destructive and appealing.

The denial system is complex and unconscious. There are a number of characteristic components that are different for each person and are adapted to their own life and behaviours. But they are variants of defences that allow the addictive behaviour to continue; defences such as rationalization ("After a day like today, I deserve a drink"), projection of responsibility ("My doctor wouldn't prescribe any more Oxycontin, so I had to start buying heroin"), minimization ("Ecstasy isn't such a bad

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drug"), denial ("Scratch tickets are cheap, so they really don't count as gambling"), etc.

One notices that in order for one to become "ready" to change, the denial system has to be rendered ineffective. This is the psychodynamic underpinning of the "stages of change" phenomenon (Prochaska, DiClemente, & Norcross, 1992). Clinicians do not have to wait passively for their patients' denial to mysteriously evaporate. An important part of the treatment of patients with addiction is to help them become conscious of the defences of denial that hold the addictive behaviours in place.

The two addictions now join other phenomena that appear to have both psychological and biological attributes. Depression can be a character style used to manage anxiety (McWilliams, 1994; Akiskal et al., 1980) as well as having possible adaptive advantages (Nesse, 2000). It can also be a biological disorder requiring treatment with medications. Anxiety can be a useful signal of internal danger (Freud, 1926) or it can be a biological disorder (social phobia, generalized anxiety disorder) treated with medications.

The issue of whether an addictive character is a diagnostic entity different from a biological addiction is exactly mirrored in a controversy over whether a depressive character is a diagnostic entity different from a biological depression. There is a long psychoanalytic tradition of understanding depressive character as a style of adaptation: depression as a way to avoid internally and externally generated anxieties and stresses. There is no doubt that there is also a biologically mediated endogenous depressive disorder that is ameliorated with medications. However, seeing that similar behavioural characteristics produced by separate mechanisms, combined with the "factor analytic" method of creating diagnostic categories by grouping symptoms derived from observation alone (and eschewing "theory"), makes it appear untenable to assert that there are

separate character and biological disorders (Ryder, Bagby, & Schuller, 2002). Symptoms of a depressive character and biological depression overlap in the same way as symptoms of addictive character overlap with physical addiction.

This observation that a psychological process and a biological process produce a similar-appearing constellation of behaviours helps us to understand the current confusion over the difference between psychological addiction and physical addiction. The *DSM* method of insisting on observing behaviours (symptoms) and renouncing “theory” in establishing diagnostic categories hampers our ability to use our expanding understanding of neurobiology to account for differences among illnesses

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that have overlapping symptoms. The similarity between the observed characteristics of psychological addiction and physical addiction renders them impossible to differentiate without reference to their origins (as is true of psychological and endogenous depression). A purely descriptive nosology fails. But a reference to underlying mechanisms allows an essential diagnostic separation.

Criteria for physical addiction: Discussion

As similar as physical addiction is to addictive character style, it has very important differentiating characteristics. It is the counterpart of the relationship of endogenous depression to depressive character style, or anxiety disorder to signal anxiety. There is no need to postulate any particular pre-morbid psychology, although of course addictive character is the most common pre-morbid character style. Rat studies show that character is irrelevant to the induction of this physical illness.

In physical addiction the midbrain is now driving the cortex (this aphorism is a simplification because in reality there are multiple input and feedback pathways). Whether an individual had a predisposing addictive character or simply experimented repeatedly with a drug until the ventral tegmental pathway upregulated, the brain is permanently changed by drug exposure. This new addictive drive provokes thinking that allows gratification of drive, and yet keeps important aspects of the drive unconscious. The ego (cortex) is responsible for developing a style of thinking (denial, idealization) that overwhelms the conflicting messages about the self-damaging nature of the drug, and allows drive (id) gratification.

Drug dreams will come up occasionally as part of psychological addiction, as would any important activity. But in physical addiction they are constant and persistent, and seem to document, in the standard Freudian manner, the persistent activity of drive on the sleeping brain (Freud, 1900). The wish for sex or food will come up in dreams. As a consequence of physical addiction, so will the wish for drugs. Dreams are the guardians of sleep (Freud, 1940). One goal of drug dreams apparently is to allow the physically addicted person to sleep on while pursuing her drugs in the delusion of the dream.

Another note on Freud

Returning to the criteria for psychological and physical addiction, one can see that my brief quotes from Freud show that he met the criteria for

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both disorders. Freud idealized cocaine, and he loved his cigars (as they killed him). One would guess that he was intuitively and unconsciously aware of this. “Sometimes a cigar is just a cigar,” must have functioned as a key aspect of his denial system. It humorously dismissed observers who might have said, “If you know so much about human psychology, why are you using a carcinogen, even in the face of precancerous lesions?” I believe that what is meant by this aphorism is that the psychodynamics underlying his addiction to drugs were never to be investigated.

Addicted persons often get angry when their denial system is questioned, and early psychoanalysts may have sensed that a realistic exploration of addiction might have incurred Freud's wrath or troubled his advocates. It is impossible to know for sure if Freud's problems were an important detriment to open consideration of the mechanisms of addiction, but there has certainly been an antipathy in psychoanalysis for considering addictive dynamics until recently. Khantzian's (1999, p. 375) summary of early psychoanalytic formulations on addiction is stated as “highly speculative and embarrassingly useless.” How many psychoanalytic articles have considered the dynamics of nicotine dependence, a ubiquitous illness?

Case Examples

Each patient's identity was disguised. Each then read the paper and functioned as a co-author, as described by Stoller (1988). Each gave verbal and written permission that the histories be used.

Addictive character with neurotic level of functioning

Ms. A. was a 35-year-old woman with a history of opiate and alcohol abuse for her entire adult life. She began by obtaining opiate pills from friends in high school. Ms. A. found that these pills energized her and helped her function. She married, had a child, and found ways to continually use prescription opiates. She added alcohol, had two near-death overdose experiences, and drove the car while she was intoxicated with her child in the back seat. She was also fired from two jobs for inability to function because of frequent intoxication. During a 3-month stay in a drug and alcohol rehabilitation facility, her husband informed her that he was seeking a divorce. She had never smoked cigarettes before rehab, but began smoking 10 a day during her residence there.

I diagnosed major depressive disorder, which quickly responded to an antidepressant and psychotherapy. She initially attended Alcoholics

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Anonymous (AA). However, she was a real estate broker and had sole physical custody of her son. She was frantically busy, her level of functioning remained high, and we had a sense that psychotherapy alone was sufficient treatment.

During the next 2 years of once- or twice-a-week psychotherapy, she was completely abstinent except for two occasions. In response to an industry downturn, she was laid off despite good job performance. Several weeks later she found herself in a dissociated state, taking opiate pills from a medicine cabinet during a party. Friends who knew about her addiction saw that she was intoxicated and immediately confronted her. There were no other consequences of her use. She and I agreed that her sense of helplessness, after she had performed well and yet was suddenly fired, resulted in her wish to do *something* (Dodes, 2002), and that something had been taking the pills.

My patient met a wonderful man, who told her, as I had, that her smoking cigarettes needed to stop. She became abstinent with minimal effort and craving. However, 4 months later, when she was suddenly forced to relocate her apartment by circumstances beyond her control, she responded by leaving her boyfriend in the apartment and smoking three cigarettes. Alarmed, he helped her throw the rest of the pack away, and she did not smoke again. Becoming resigned to the reality of her move, and beginning to ready her new quarters, she found her sense of helplessness diminished.

Addictive character with neurotic level of functioning and physical addiction to alcohol

Ms. B. was a 28-year-old woman whose frantic mother called me after she left a detoxification/rehabilitation inpatient stay and had been drinking for several days in a nearby hotel. Ms. B. had showed significant hyperad-renergic withdrawal symptoms during detoxification. She had an unsteady gait and proximal leg muscle weakness—findings consistent with alcoholic myopathy. She had a refractory depression, which remitted after several antidepressant trials.

Her first year of twice-a-week psychotherapy featured several relapses to alcoholic drinking and another admission for detoxification. Nonetheless, drinking seemed to her a romantic, sophisticated activity. She studied glossy magazines and longed to be an elegant hostess serving elegant cocktails.

Ms. B. had recurrent drug dreams such as, “We are drinking a champagne

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toast. Then I begin to go around the room and drink leftover champagne from glasses. Then I am on my fourth glass of red wine and I forget to cover up my drinking. My mother says, ‘Have you been drinking? Tell the truth.’”

Any attempt at drinking turned on her craving, and she had several harrowing experiences after drinking herself into a blackout. She became convinced as we analyzed her denial system that her alcoholism had progressed to the point where any use of alcohol would likely lead to another episode of blackout drinking.

After 6 months of sobriety Ms. B. was employed in a professional job and had been remarkably effective in repairing the relationship with her husband, who also attended Al-Anon and psychotherapy. A major focus of her psychotherapy was recognizing and responding to subtle hostility from friends and family. She recognized that feelings of helplessness before these attacks had previously been handled by staying intoxicated. Ms. B. attends Alcoholics Anonymous three times a week. While

she does not feel that she is a die-hard committed member, she feels that AA helps her not drink, despite the frequent craving for alcohol, which continues no matter what else is going on in her life.

Addictive character with a borderline personality organization and multiple psychological addictions

Mr. C. was a 40-year-old man who called initially asking if I would prescribe medications for his depression without any psychotherapy. In our initial engagement I discovered that the reason for his unusual treatment request was that a previous male therapist had felt it necessary to fill hours with discussions of his wife's illness, and a previous female therapist had gotten into a bitter dispute with him over his opinions about news reports of her son's career. He had been sober from alcohol for 12 years after an initial 6-month half-way house stay and attendance at AA for 5 years. He had met a severely and persistently mentally ill woman at the end of his fourth year of sobriety and he married her 4 years later.

Mr. C.'s working life involved 12 hours a day, 6 or 7 days per week efforts (workaholism) for an ungrateful boss who ridiculed him. He met the *DSM-IV* criteria for both avoidant and paranoid personality disorder. After multiple medication trials, his depression is in complete remission.

We agreed that the severity of his character pathology would not respond to psychotherapy, and he began psychoanalysis 4 days per week, after a summer break. Dramatically, during his first analytic hour, he

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related that one week before, he had gone to a park and had anonymous sex with a man for the first time ever. He simultaneously began compulsive calls to 900# sex lines, which, over several years, resulted in thousands of dollars worth of credit card bills. During the first 4 years of psychoanalysis we have understood that he had alcohol/drug addiction, work addiction, codependence, and sex addiction. We watched him employ one or more addictions defensively (as shown in the example below), except that he continued to be completely abstinent from alcohol and drugs.

His avoidance of engagement in relationships and his paranoid rages—because he was mistreated by everyone in his life—led to a pervasive sense of hopelessness in me about my efficacy within our relationship. This feeling was broken by my insistence that he return to AA. I was convinced that without an effective ego ideal, he was untreatable, that he required the “spiritual awakening” Jung suggested for recovery from alcoholism (W., 1955; for the relationship of spiritual awakening to ego ideal, see [Johnson, 1993](#)).

AA has become a major theatre in which Mr. C. can use the insights of psychoanalysis to practise relating to people. Consistent support from a loving sponsor who understands the concept of “substitution” of work, codependence, and sex addictions for alcoholism has helped Mr. C. to become abstinent from all addictions.

As he was becoming abstinent from all his addictions, Mr. C. became furious that a new boss seemed to be demanding excessive work. He found himself in a parking lot after work. A man approached his car, said nothing, and pulled out his penis. Mr. C. thought to himself, This is no way to behave towards me. He drove off. In the next analytic hour we understood that he had responded in an addictive way to his sense of helplessness, and that an alternative response was to ally with his coworkers to politely explain to the boss that the work requirements were too much.

Physical addiction without addictive character structure

Dr. E. was a 40-year-old pathologist who entered psychotherapy for drinking. However, he hardly drank, except just before he would make love with his wife. On those occasions, he would premedicate with a pint of vodka. We eventually understood that he had hysteria-based sexual problems relating to his wife, and inhibitions about being aggressive in his career. Dr. E. easily stopped drinking, but began to have sex less frequently, which he blamed on something to do with our relationship.

He initially denied using cigarettes, but after a year of psychotherapy

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admitted that he had smoked three per day for 25 years. As we investigated his feelings about his smoking, he denied the impact on himself and his family.

It turned out that Dr. E. smoked many more than three per day. His 10-year-old son watched him smoke and expressed an ambition to smoke cigarettes like his father, as soon as he was old enough. Dr. E. initially denied any worries about the health

consequences of his addiction. When I pressed him, he told me that he had just seen a lytic bone metastasis from cigarette-induced lung cancer that morning and had thought about whether that would happen to him.

In a dissociated way, he had romantic feelings about smoking. He pictured himself in a coffee house smoking a cigarette and reading a philosophy treatise—his fantasy of being a “deep” intellectual.

Dr. E.'s denial system required about 10 visits to undermine via interpretations. Then he stopped smoking.

Applications of the New Model of Addiction

The distinction between addictive character style, addictive personality disorder, and physical addiction helps in conceptualizing treatment. Psychological addiction and physical addiction are two completely separable problems, which are sometimes comorbid illnesses. Psychological addiction is a character style with a typical set of defences. As Dodes has written (1990, 1996, 2002), the core intolerance of helplessness, with addictive defences, can be analyzed. Physical addiction is a biological illness and has craving at its core.

Twelve-Step, cognitive behavioural, and psychoanalytic treatments compared and contrasted

One notices that in each of the case histories psychological treatments are employed, but they are employed with different purposes. Ms. A., Ms. B., and Mr. C. all use addictive behaviours to ward off helplessness. Because her use of alcohol became so pervasive, Ms. B. has also contracted physical addiction to alcohol. For these first three patients, the psychoanalytic therapy focused on tolerating helplessness while considering non-addictive responses to internal or interpersonal dilemmas.

Dr. E. does not have an addictive character style. He is a hysteric. But because of his physical addiction, Dr. E. needed the denial system, which permitted his cigarette use to continue. Because he was blessed with a

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healthy level of functioning, it was relatively easy to undermine his denial system via interpretations.

Use of Twelve-Step programs is especially desirable where patients face perpetual craving. Ms. B. feels grateful to often be reminded how catastrophic the result would be of a return to drinking alcohol.

Although a program like Gamblers Anonymous reminds addicted individuals that they will always be tempted to resort to their addictive defences, gambling is a psychological addiction. As discussed above, there may well be genetic and temperamental predispositions to the adoption of any character style, but there is not a disease specifically within the ventral tegmental dopaminergic pathway. Character analysis may be a more specific and helpful treatment for a psychological addiction such as gambling.

However, insightful individuals who have created and continually modified Twelve-Step programs have intuitively noticed the psychological addiction, which often has led an individual to also develop physical addiction. The Twelve Steps were developed in consultation with an early AA member who had been through psychoanalysis with Carl Jung (W., 1955) and are organized to lead to character change (Johnson, 1993). Sobriety is regarded as only the initial step in a lifelong recovery.

Cognitive-behavioural treatment of addiction is similar in focus to Twelve-Step and psychoanalytic treatments in that consciousness of craving, the adaptive nature of addictive behaviours, and unconscious determinants of behaviours, which propitiate relapse, are foci of treatment. Because there is no word in cognitive behavioural therapy for “unconscious,” this word is called a “seemingly irrelevant decision” in the workbook for cognitive behavioural therapists (Carroll, 1998).

Since the language of each of these treatment modalities has developed in a separate place and has its own history, it is often helpful to translate it back and forth. My experience in reading these diverse literatures is like reading French, Spanish, and English: Many words are common, others need translation. For example, the above-mentioned alcoholic relapse in which Dodes analyzed his patient having an addictive response to anger at being asked to do a second project after exhaustive work on a first, might be covered in AA as “Don't let yourself stay hungry, angry, lonely, tired (HALT).” In cognitive-behavioural language, the decision to stay late at work (before drinking) would be labelled a “seemingly irrelevant decision.”

Whether to employ one or another modality of treatment might be

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considered a tactical and practical decision. Twelve-Step meetings cost nothing and give the participant many advantages such as intensive support, a social network, and an arena for altruistic activities. Cognitive-behavioural treatments are brief and may help in stabilizing a patient before engaging in longer treatments (**Carroll, 1998**). Psychoanalysis is specific to each person, helps in general character change, and may also be essential for those patients who have failed at shorter, less expensive treatments (**Johnson, 2001**).

As is the case with many patients with borderline personality organization (**Westen & Shedler, 1999b**), Mr. C. has multiple personality dynamics (he would have met the *DSM-IV* criteria for avoidant and paranoid personality disorder) and multiple psychological addictions. Initially, he had significant difficulty functioning within AA because of these character traits. However, to my surprise, as his analysis progressed, AA formed an ideal group of like-minded people with whom he could practise relating and altruistic behaviours. AA also helped him to stabilize during his early sobriety and facilitated his recovery to the point where he would be available years later for psychoanalysis.

The relationship of addiction to other forms of psychopathology

Addiction belongs on Axis I and on Axis II of the *DSM*. On Axis I there should be separate categories for drug withdrawal and physical addiction. These are now understood as two separate processes. Withdrawal is a physical illness that has a characteristic course over days and weeks. Physical addiction is a permanent condition.

Physical addiction may be related to other psychopathology as follows:

1. Physical addiction to drugs (including alcohol) frequently follows psychological addiction to drugs.
2. Physical addiction follows cultural exposure to addictive drugs. This would account for the increased incidence of addiction in certain groups; for example, the addiction subculture that provides relatively easy exposure for users of one drug to another, or patients with schizophrenia who spend time with nicotine-addicted patients in treatment programs probably suffer more nicotine exposure.
3. It is difficult or impossible to stop using a drug to which one is physically addicted when one has an active comorbid Axis I disorder such

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as a mood disorder, anxiety disorder, or psychotic disorder; resisting craving requires an intact mind.

Psychological addiction may be related to other psychopathology as follows:

1. Childhood or adolescent mood, anxiety, and attention-deficit hyper-activity disorders contribute to distress, which may be solved during adolescence by the adoption of addictive character style. Adolescents may search for psychotropic drugs in an effort to correct psychological distress and dysfunction, without having the words to describe their trouble, and being unwilling to admit that they need help. For example, nicotine has weak antidepressant properties, alcohol is an anxiolytic, stimulants may be adopted to help with the distress of ADHD (**Khantzian, 1997**).
2. The stress of functioning with an addictive personality disorder may result in breaking down into mood or anxiety disorders (**Westen et al., 2002**).
3. At a borderline level of character functioning, addictive personality disorder is probably comorbid with many other *DSM-IV* personality disorders, since multiple disorders are the rule, rather than the exception (**Westin & Shedler, 1999b**). The combination of addictive personality disorder and other comorbid personality disorders such as narcissistic, antisocial, borderline, avoidant, and schizoid, along with physical dependence, and frequently comorbid anxiety, affective, and psychotic disorders, results in the type of patients who give "addiction" a bad name. These severely ill patients tend to be recurrently admitted to detoxification centres and psychiatric facilities. The outcomes typical of such patients can be discouraging unless one considers how inadequate brief treatments are in the face of massive psychopathology.

Prognosis

Until now, even authorities within the field of addiction treatment have been confused and divided on the prognosis of alcoholism: Should persons with alcoholism be invariably advised never to drink again, or should a more flexible stance be the starting point of an evaluation (**Owen & Marlatt, 2001; Marlatt, 2001**)?

One can use the new nosology to formulate a definitive answer in each individual case. For example, if a patient has only a psychological addiction

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to alcohol, substantial improvement in character functioning through long-term intensive psychoanalytic therapy can in some cases lead to a safe resumption of the use of alcohol (Johnson, 1992). If patients have sustained the permanent brain change of physical addiction, they will never be able to use alcohol or other drugs in safety again (Johnson, 2001).

This description of physical addiction allows us to understand why some individuals can have an occasional cigarette without becoming daily smokers: They never have a brain change. On the other hand, we now know why once someone has become addicted, allowing herself even a single cigarette after years of abstinence so often leads swiftly to resumption of her previous level of nicotine use.

In a similar fashion, it helps us understand the risk a recovering opiate-addicted person runs in receiving opiates for pain. While opiates are not inappropriate in certain acute medical settings, they may inflame the ventral tegmental craving pathway. If the person has a stable recovery, with substantial character change, and takes the intensification of craving consciously into account, she or he may do fine with a brief course of opiates for acute pain. However, it allows us to understand why so many sober opiate-addicted persons relapse to active addiction when they are exposed to pain medication by ignorant physicians or dentists who focus only on their pain and disregard their addiction.

Conclusion

Twelve-Step, cognitive-behavioural, and psychoanalytic treatments have their places in addiction treatment. Each in its own manner works on the underlying neuropsychodynamics. In the case of pure physical addiction, the denial system will have to be analyzed until patients become aware of how much of their behaviour is driven by craving. They must accept that their brain has been permanently changed and that they will never again be able to use the drug they love in a recreational manner. Patients with addictive character styles require much more substantial treatments where the focus is on responding to conflicts and stresses without resorting to addictive behaviours.

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Note

¹ *Idealization* is used in the Kleinian sense that a dangerous activity is magically aggrandized to defend against (omnipotently deny) the fear of being destroyed.

References

- Akiskal, H. S., Rosenthal, T. L., Haykal, R. F., Lemmi, H., Rosenthal, R. H., & Scott-Strauss, A. (1980). Characterological depressions: Clinical and sleep EEG findings separating "subaffective dysthymias" from "character spectrum disorders." *Arch. Gen. Psychiat.*, 37, 777-783.
- American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.
- Angres, D. H., & Benson, W. H. (1985). Cocainism: A workable model for recovery. *Psychiatric Medicine*, 3, 369-388.
- Bejerot, N. (1972). *Addiction: An artificially induced drive*. Springfield, IL: Thomas.
- Berridge, K. C., & Robinson, T. E. (1998). What is the role of dopamine in reward: Hedonic impact, reward learning, or incentive salience? *Brain Research Reviews*, 28, 309-369.
- Bohman, M., Sigvardsson, S., & Cloninger, C. R. (1981). Maternal inheritance of alcohol abuse: Cross-fostering analysis of adopted women. *Arch. Gen. Psychiat.*, 38, 965-969.
- Byck, R. (1974). *Cocaine papers: Sigmund Freud*. New York: New American Library.
- Cahalan, D. (1988). *Understanding America's drinking problem*. San Francisco: Jossey-Bass.
- Carroll, K. M. (1998). *A cognitive-behavioral approach: Treating cocaine addiction* (NIH Publication No. 98-4308). Rockville, MD: NIDA.
- Cloninger, C. R., Bohman, M., & Sigvardsson, S. (1981). Inheritance of alcohol abuse: Cross-fostering analysis of adopted men.

Arch. Gen. Psychiat., 38, 861-868.

Cloninger, C. R., Sigvardsson, S., & Bohman, M. (1988). Childhood personality predicts alcohol abuse in young adults. *Alcohol: Clinical and Experimental Research*, 12, 494-505.

Cornish, J. L., & Kalivas, P. W. (2001). Cocaine sensitization and craving: Differing roles for dopamine and glutamate in the nucleus accumbens. *Journal of Addictive Diseases*, 20, 43-54.

Dodes, L. M. (1990). Addiction, helplessness, and narcissistic rage. *Psychoanal. Q.*, 59, 398-419. [→]

WARNING! This text is printed for the personal use of the PEPWeb subscriber and is copyright to the Journal in which it originally appeared. It is illegal to copy, distribute or circulate it in any form.

- 156 -

Dodes, L. M. (1996). Compulsion and addiction. *J. Amer. Psychoanal. Assn.*, 44, 815-835. [→]

Dodes, L. M. (2002). *The heart of addiction*. New York: HarperCollins.

Flowers, L. K., & Zweben, J. E. (1998). The changing role of "using" dreams in addiction recovery. *Journal of Substance Abuse Treatment*, 15, 193-200.

Freud, S. (1900). The interpretation of dreams. Standard Edition, 4/5. [→]

Freud, S. (1909). Notes upon a case of obsessional neurosis (The Rat Man). Standard Edition, 10, 153-320. [→]

Freud, S. (1926). Inhibitions, symptoms and anxiety. Standard Edition, 20, 87-172. [→]

Freud, S. (1940). An outline of psychoanalysis. Standard Edition, 23, 144-207. [→]

Gelowitz, D. L., & Berger S. P. (2001). Signal transduction mechanisms and behavioral sensitization to stimulant drugs: An overview of CAMP and PLA2. *Journal of Addictive Diseases*, 20, 33-42.

Gendreau, P., & Gendreau, L. P. (1970). The "addiction-prone" personality: A study of Canadian heroin addicts. *Canadian Journal of Behavioural Science*, 2, 18-25.

Goldsmith, R. J. (2001). What's the big deal about sensitization? *Journal of Addictive Diseases*, 20, 1-5.

Johnson, B. (1992). The psychoanalysis of a man with active alcoholism. *Journal of Substance Abuse Treatment*, 9, 111-123.

Johnson, B. (1993). A developmental model of addictions, and its relationship to the twelve-step program of Alcoholics Anonymous. *Journal of Substance Abuse Treatment*, 10, 23-34.

Johnson, B. (1999). Three perspectives on addiction. *J. Amer. Psychoanal. Assn.*, 47, 791-815. [→]

Johnson, B. (2001). Drug dreams: A neuropsychanalytic hypothesis. *J. Amer. Psychoanal. Assn.*, 49, 75-96. [→]

Kasser, C., Geller, A., Howell, E., & Wartenberg, A. (1997). Detoxification: Principles and protocols. In *Topics in Addiction Medicine*. Chevy Chase, MD: American Society of Addiction Medicine.

Khantzian, E. J. (1985). The self-medication hypothesis of addictive disorders: Focus on heroin and cocaine dependence. *Am. J. Psychiatry*, 142, 1259-1264.

Khantzian, E. J. (1997). The self-medication hypothesis of substance use disorders: A reconsideration and recent application. *Harvard Review of Psychiatry*, 4, 231-244.

WARNING! This text is printed for the personal use of the PEPWeb subscriber and is copyright to the Journal in which it originally appeared. It is illegal to copy, distribute or circulate it in any form.

- 157 -

Khantzian, E. J. (1999). *Treating addiction as a human process*. Northvale, NJ: Jason Aronson.

Littleton, J., & Little, H. (1994). *Current concepts in ethanol dependence*. *Addiction*, 89, 1397-1412.

Ludwig, A. M. (1988). *Understanding the alcoholic's mind*. New York: Oxford University Press.

Marlatt, G. A. (2001). Should abstinence be the goal for alcohol treatment? Negative viewpoint. *American Journal on Addictions*, 10, 291-293.

McWilliams, N. (1994). *Psychoanalytic diagnosis*. New York: Guilford Press.

Meissner, W. W. (1980). Theories of personality and psychopathology: Classical psychoanalysis. In H. I. Kaplan, A. M. Freedman, & B. J. Sadock (Eds.), *Comprehensive textbook of psychiatry* (3rd ed.). Baltimore: Williams & Wilkins.

Nesse, R. M. (2000). Is depression an adaptation? *Arch. Gen. Psychiat.*, 57, 14-20.

Owen, P., & Marlatt, G. A. (2001). Should abstinence be the goal for alcohol treatment? Affirmative viewpoint. *American Journal on Addictions*, 10, 289-291.

Persico, A. M. (1992). Predictors of smoking cessation in a sample of Italian smokers. *International Journal of Addictions*, 27, 683-695.

Pradhan, S. N., & Dutta, S. N. (Eds.) (1977). *Drug abuse: Chemical and basic aspects*. St. Louis: C. V. Mosby.

Prochaska, J. O., DiClemente, C. C., & Norcross, J. C. (1992). In search of how people change: Applications to addictive behaviors. *Am. Psychol.*, 47, 1102-1114.

Robinson, T. E., & Berridge, K. C. (1993). The neural basis of drug craving: An incentive-sensitization theory of addiction.

Brain Research Reviews, 18, 247-291.

Robinson, T. E., & Berridge, K. C. (2000). The psychology and neurobiology of addiction: An incentive-sensitization view.

Addiction, 95(Suppl. 2), 91-117.

Romm, S. (1983). *The unwelcome intruder*. New York: Praeger.

Ryder, A. G., Bagby, R. M., & Schuller, D. R. (2002). The overlap of depressive personality disorder and dysthymia: A categorical problem with a dimensional solution. *Harvard Review of Psychiatry*, 10, 337-352.

Sabshin, E. (1995). Psychoanalytic studies of addictive behavior: A review. In S. Dowling (Ed.), *The psychology and treatment of addictive behavior* (p. 7). Madison, CT: International Universities Press.

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- 158 -

Schukit, M. A., Smith, T. L., Daepfen, J-B., Eng, M., Li, T. K., Hesselbrock, V. M., Nurnberger, J. I., & Bucholz, K. K. (1998).

Clinical relevance of the distinction between alcohol dependence with and without a physiological component. *Am. J.*

Psychiatry, 155, 733-740.

Shapiro, D. (1965). *Neurotic styles*. New York: Basic Books.

Shevrin, H. (1997). Psychoanalysis as the patient: High in feeling, low in energy. *J. Amer. Psychoanal. Assn.*, 45, 841-864. [→]

Solms, M. (2000). Dreaming and rem sleep are controlled by different brain mechanisms. *Behavioural and Brain Sciences*, 23, 843-850.

Sora, I., Wichems, C., Takahashi, N., Li, X-F., Zeng, A., Revay, R., Lesch, K-P., Murphy, D. L., & Uhl, G. R. (1998). Cocaine-reward models: Conditioned place preference can be established in dopamine and in serotonin-transporter knockout mice.

Proceedings of the National Academy of Science, 95, 7699-7704.

Stoller, R. T. (1988). Patients' responses to their own case reports. *J. Amer. Psychoanal. Assn.*, 36, 371-391. [→]

Tsai, G. E., Ragan, P., Chang, R., Chen, S., Linnoila, V. M. I., & Coyle, J. T. (1998). Increased glutamatergic neurotransmission and oxidative stress after alcohol withdrawal. *Am. J. Psychiatry*, 155, 726-732.

W., Bill. (1955). *Three talks to medical societies by Bill W., co-founder of Alcoholics Anonymous*. New York: AA World Services.

Westen, D., & Shedler, J. (1999a). Revising and assessing Axis II, Part 1: Developing a clinically and empirically valid assessment method. *Am. J. Psychiatry*, 156, 258-272.

Westen, D., & Shedler, J. (1999b). Revising and assessing Axis II, Part 2: Toward an empirically based and clinically useful classification of personality disorders. *Am. J. Psychiatry*, 156, 273-285.

Westen, D., Heim, A. K., Morrison, K., Patterson, M., & Campbell, L. (2002). Classifying and diagnosing psychopathology: A prototype matching approach. In L. Beutler, M. Malik (Eds.), *Rethinking the DSM: Psychological Perspectives*. Washington, DC: APA Press.

Wurmser, L. (1974). Psychoanalytic considerations of the etiology of compulsive drug use. *J. Amer. Psychoanal. Assn.*, 22, 820-843. [→]

Wurmser, L. (1995). Compulsiveness and conflict: The distinction between description and explanation in the treatment of addictive behavior. In S. Dowling (Ed.), *The psychology and treatment of addictive behavior* (p. 43). Madison, CT: International Universities Press.

Zhang, J., & Xu, M. (2001). Toward a molecular understanding of psychostimulant actions using genetically engineered dopamine receptor knockout mice as a model system. *Journal of Addictive Diseases*, 20, 7-18.

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- 159 -

Zimberg, S. (1985). Principles of alcoholism psychotherapy. In S. Zimberg, J. Wallace, S. B. Blume (Eds.), *Practical approaches to alcoholism psychotherapy*. New York: Plenum Press, p. 5.

Zinberg, N. E. (1975). Addiction and ego function. *Psychoanal. St. Child*, 30, 567-588. [→]

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