



REVIEW ARTICLE

Contextual Perspectives on Heroin Addiction and Recovery: Classic and Contemporary Theories

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Abstract

Drug use and recovery have received considerable attention from social scientists over the past few decades. Earlier theoretical explanations of drug abuse evaluated constructionist paradigms of stratification, labeling, and Marxist theories [1-3]. However, many studies involving heroin use continue to focus on person-centered risk factors surrounding use and, to a lesser extent, recovery processes [4-7]. There is a need to further develop contextual approaches that include theoretical processes, opportunity structures, and behavioral economic factors. In this article, two classic criminological theories (differential opportunity and subcultural) are reviewed as well as the more recent Social Research Theory. These theories have helped better understand the microeconomic behaviors of heroin users, and those recovering from heroin addiction. This article provides a review of the application of these theories for researching heroin use and recovery.

Since 2000, opioid and heroin use has continued to escalate in the United States. About 22.5 million citizens have a substance abuse disorder, and 7 million American use opiates [8], which now represent the leading cause of accidental death in the United States. The alarming increase in heroin-related deaths each year necessitates renewed ways of interpreting and understanding extant heroin and opiate research and theory. Given the perspectives associated with heroin and opiate use, it is possible that heroin use and recovery show different patterns than what prior research and theory has shown with alcohol and other illicit drugs [9]. Multidisciplinary investigations using theories that include contextual factors could help provide a better understanding of heroin addiction and recovery.

Considerable research that has involved heroin use

and recovery have focused on the proximal factors immediately preceding or most directly linked to substance use behaviors, and have tended to clinical, linear, and person-centered in nature. When distal causes have been investigated, they used these broader concepts to explain drug and alcohol use more generally, rather than in application to a specific drug-using group (i.e. heroin users). Yet, when using a distal lens, the causes of individual drug use can become more difficult to establish, particularly as one considers such issues as economic inequality and stigma [10]. Further, the research on substance use and, more specifically heroin abuse, has not reduced the number of heroin users, or heroin-related deaths in the United States. Thus, it is possible that a different approach is needed, using a more contextual perspective, to delineate the functions by which individuals sustain abstinence, and multidisciplinary approaches provide researchers with the tools to consolidate contextual theoretical approaches.

Theories describe, explain, and predict phenomena. Most frequently, theories are used to describe a phenomenon, and this first effort at description can then be used to explain why the phenomenon occurs, allowing for possible inferential predictions. Good theories also provide guidance about under which circumstances and conditions a given set of propositions apply [11]. In terms of the field of sociology, macro-level theories focus on society- or group-level causes and processes, and this in contrast to micro-level theories which address individual-level processes [12]. There is a need to incorporate more of these macro-level approaches in the study of heroin addiction. As such, this article aims to assess the usefulness of three established theories in



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order to build upon and add to theoretical contextual conceptualizations of behaviors of heroin users.

Differential Opportunity Theory

Among the most widely quoted theories of anomie and strain in reference to theories of criminality involves the work of Robert Merton [13]. In addition, Messner and Rosenfeld's [14] theory of institutional anomie added to Merton's conception of anomie and showed how institutions can influence criminality. Further building on these ideas, Cloward and Ohlin's [15] theory of differential opportunity focused on the fact that those using criminal and illegal means of opportunity require a set of learned skills, just like those that are involved in legitimate means. They suggest that people's access to both legitimate and illegitimate means are socially structured. This means that there is a "differential opportunity" to reach economic goals by legitimate means, but that there is also a "differential opportunity" to use illegitimate means to reach those goals. This theory focuses on the discrepancy between what marginalized groups want, and what is available to them.

One way to better understand differential opportunities is by examining the microeconomics of substance use through behavioral economics [16], social cognitive [17,18], and psychosocial lenses [19]. These all have implications for differential opportunity theory. Established routes to the marginalization and disenfranchisement of substance users are unemployment [20], a lack of marketable skills, and barriers to economic opportunities and mobility [21]. For example, unemployment is related to drug use and relapse. Data from 405,000 people, in the 2002 to 2010 U.S. National Survey on Drug Use and Health, compared substance outcomes among unemployed and employed persons. Strong associations were found between unemployment and drug and alcohol use, and this relationship was not diminished by race or gender [22].

Other studies have consistently found employment to be a moderator of the relationship between treatment and length of sobriety [23], a mediator of treatment setting effect and sustained abstinence [24], a predictor of sustained abstinence in a longitudinal study of alcohol and drug users [25], and an outcome of longer length of stay in recovery housing [21]. Employment aids in preventing relapse by providing reinforcement to people in order to discourage use of drugs [26,27].

Though employment is central to sustained recovery, people with a history of heroin use encounter challenges with obtaining employment due to social and personal deficiencies [28]. Again, the notion of differential opportunity appears to be critical. Given the rising number of heroin users and related deaths each year [29], it is important to focus on the socioeconomic characteristics of these users and their environments. This

aids in developing strategies to both prevent heroin use and reintegrate current users back into mainstream society. As an example, a life-course model has been used to explore the embedding of heroin users into a drug lifestyle [30]. They found this lifestyle lead to even more marginalization. Many social routines such as criminal behavior to generate income and substance use further reinforce social marginality. They view addiction along a continuum of the use of the drug itself, and the lifestyle that accompanies and sustains the drug use. The results from this study imply that social resources and differential opportunity facilitate the use of illegitimate means to reach income-generating goals. There have been studies which have identified employment as a key contributor of sustained abstinence [31], and employment is an important factor in rehabilitation of those in treatment for heroin dependencies [32].

These notions of opportunity theory have been supported by a number of studies. For example, Dekel, Benbenishty, and Amram [33] studied heroin addicts from three therapeutic communities 15 months after leaving the programs. At follow-up, about half of the clients were abstinent, and of importance, over 90% of those who completed the program were abstinent. Gendreau, Grant, and Leipziger [34] found treating self-esteem in correctional settings was of importance, as changes in self-esteem during incarceration were predictive of recidivism after release. Koo, Chitwood, and Sánchez [35] found that employed users were less likely to use crack cocaine than unemployed users, suggesting that there is a need to find ways to increase and sustain opportunities for employability of persons who misuse heroin, as this functions to enhance human and social capital. Roddy, Steinmiller, and Greenwald [36] found that participants indicated they would significantly decrease heroin due to strong environmental changes involving a loss of income such as family/friends no longer paid their living expenses. These studies are directly related to differential opportunity theory and indicate the importance of treatment services and economic support for these at-risk individuals.

As a subpopulation of drug users, heroin users have needs for employment services [9]. It is of importance to differentiating heroin users who represent a subgroup of substance users is important, and this might allow us to better meet the needs of these individuals rather than making statements that are overgeneralizations about those that use drugs. We need to be aware of this in order to develop policies that deal with the issues heroin users confront.

As another example of the importance of opportunity theory, Callahan, LoSasso, Olson, Beasley, Nisle, Campagna, and Jason [37] found heroin users reported lower mean employment income and were less likely to be employed than non-heroin users. These users were also significantly more likely to engage in illegal income-gen-

erating activities, and outcomes showed higher illegal income. Because unemployment increases the likelihood of heroin use, as indicated earlier, treatment efforts need to conceptualize employment services within a continuum of care. Our efforts to help individuals following treatment should provide employment services to combat the engagement in illegal activities.

Broadening this argument, Cloward and Ohlin [15] claim there are disparities in opportunities to learn, and opportunities to perform due to the social structure of a community. Like Merton [13], Cloward and Ohlin focus on social-structural factors that facilitate income-generating crime and create barriers to economic and class mobility. Though critical, a more complete theory would incorporate micro-level social structures that involve subcultural theories, which could involve access to resources to investigate behavior changes when presented with legitimate income generating opportunity, and/or access to social and human capital and resources. Thus, there is a need to explore changes in patterns of income generating behaviors of substance users, specifically heroin users, when presented with increased opportunities for economic learning and performance from a subcultural perspective.

Subcultural Theory

Subcultural theories build upon the work of Merton [13], as these contextual theories suggest that deviance is the result of individuals conforming to the values and norms of a social group to which they belong. In other words, if one belongs to a social group whose norms differ from those of the main society, then one will become likely remain a part of that sub-populace. This provides a subcultural basis for the study of heroin use and recovery.

Significantly, Baumrind [38] criticized the claim that marijuana use causes heroin use, and suggested these strong, causal claims are often made from a rather weak version of the regularity model of cause. Too frequently, as Reuband [39] points out, those with substance use disorder are described as individuals escaping from the problems of everyday life through their drug use. Furnham and Thomson [40] examined implicit theories of heroin addiction, and found moralistic, psychosocial, sociocultural and drug treatment domains, which reflect coherent views on the nature of heroin addiction. Heroin addiction was perceived as due to psychological and social pressures, but not biological, or a lack of morality. The results also suggest a more psychological model of addiction treatment.

In contrast, subcultures have been theorized as distinct from and in opposition to the dominant culture and ways of thinking about drug initiation [41]. Subcultural theories have been used by sociologists and criminologists to understand deviant behavior and it has often been applied to youth cultures. For example, Kaplan, Martin, and Robbins [42] tested a model of the

adoption of substance use by adolescents and investigated self-derogation, peer influence, weakening of social controls, and early substance use. They found four theoretical perspectives complemented each other in terms of predicting subsequent adoption of drug use. For these theorists, drug use and addiction not just the experience of using but many other environmental factors need to be considered.

In other words, heroin users have demonstrated specific social routines and activities that have a greater significance to the actual drug-using behavior. Heroin use occurs within a cultural context establishing a sub-populace; therefore, there is a need to articulate central aspects regarding this relationship. Further, this extension of subcultural theory is primarily based on an empirical literature review on heroin use in the United States. These theories provide a critical analysis of subcultural theories regarding crime and addiction. For that reason, there is a need to refine the general subpopulation theory of crime and delinquency to provide a concise framework that integrates many contextual features of heroin use in order to identify important understudied topics and to formulate policy recommendations.

Recently, attention has been gravitating toward a more subcultural perspective, in contrast to older models and theories explaining drug use [43]. For example, Best, Irving, and Albertson [44] explored the concept of recovery involving changes in personal identity that required not only internal changes in values, but also recognition by the surrounding social environment. Lempens, Van de Mheen, and Barendregt [45] used the subcultural theory in order to explore why some substance users are homeless and others are not, as they described their immediate social environment. These researchers found homeless users often had no identity papers, no health insurance, and had serious deficits in basic services. The researchers concluded social care centers and assistance were crucial in reducing homelessness and substance use.

In another study, Friedman and Alicea [46] examined 30 heroin/methadone users, using a resistance and subcultural framework. Their study helped illustrate how women rejected gender and class expectations, helping them reinterpret their experiences with drugs. Gourley [47] found subcultural theories of deviance provided an important understanding of ecstasy use, which needs to consider the broad social involvement in a subculture of drug use. Therefore, she recommended that when researchers are looking at why individuals use substances, they should take into consideration the context, behavioral norms and the subculture assigned to the drug of choice.

Gorsuch [48] suggested that disruption of normal child-parent relationships, lack of involvement in organized groups, and few effective peer relationships could predispose some individuals to initiate use of illicit drugs.

Other important family-cultural factors in initial use included socialization to nontraditional norms, parental modeling of illicit drug use, involvement with drug-using peers, and positive experiences with drugs. As accounts of youth culture have downplayed more class-based accounts of young people's experiences, Shildrick [49] suggested that neighborhood residence and other structural factors can shape the cultural identities and experiences of some youth. According to Golub, Johnson, and Dunlap [50], the subcultural basis of drug use needs to understand drug subcultures with identity development. Subcultures affect drug popularity, and subcultures do change over time due to historical events and individual choices. This perspective helps us better understand drug epidemics and how drug generations emerge. Martin [51] even suggests that subcultural and social movement studies can learn from each other and be employed in empirical research. Calluori [52] suggests that youth subcultures are collective solutions to the contradictions and pressures youth experience due to their socioeconomic class and age. These subcultures provide strategies for surviving the degradations of everyday life in society.

In summary, subcultural theory considers macro-level matters, such as social structural issues [53]. This recognition suggests that it is necessary to have theories that focus more on drug subcultures instead of individual addicts, and in doing so, the consequence is the introduction of more macro-level matters, such as economics, social inequality, and cultural values.

Social Resource Theory

A different contextual perspective is offered by those subscribing to a Social Resource Theory (SRT), which focuses on the resources embedded within a social network and has its origins in economic sociology [54]. Social environments, as manifested in friendships among dyads, can be represented by a social network. Using this approach, researchers have a much better understanding of the role of peer affiliations in substance use among adolescents [55,56], for whom schools provide natural social laboratories. Using the SRT approach, different ties can enable a person, who is called an ego, to reach connections or associates, that are called alters, different types of resource that an individual might need to meet his or her needs [54]. There are mutual expectations that are assumed within social relationships for this type of support and access to resources. Such resources are collectively called "social capital". This resource has been found to aid those finding employment and increasing economic opportunities [57].

Three propositions have been formulated in SRT: 1) Resources accessed in social networks affect outcomes such as employment; 2) This subsequently affects social resources; and 3) The employment of weaker as opposed to stronger ties affect access to social resour-

es. These three propositions focus efforts on better understanding access to resources embedded in social networks, and allow a better understanding of how resources embedded in social networks can help provide educational, employment, and social opportunities. Furthermore, network resources, education, and initial positions are expected to affect attained statuses such as employment or earnings. In addition, SRT encompasses social capital, the use of social contacts and the resources in searching for jobs. In SRT analyses, it is possible to also add other factors such as age, gender, and race/ethnicity as opportunity/constraint factors.

Prior research has investigated the social capital of individuals in the labor market. In one study, better access to social capital was found to aid in the employment process [58]. Strong ties increased optimism about jobs, which in turn intensified the job search, leading to more and better jobs. Participants with better social capital among strong ties also had better employment outcomes. The Sprenger, et al. [58] study also found that those with more education tended to have better social capital. Boxman, De Graaf and Flap [59] found both education and social capital had direct effects on income, and that men had higher income and employment.

Other studies grounded in SRT have found demographic groups vary in the types and number of ties in their personal social networks. Wegener [60] found this influences the effectiveness of social ties for obtaining employment. We know that men tend to have weak ties whereas women have stronger ties in their networks. We also see an outcome that involves limiting access to new information, and an example of this involves African-Americans having less diverse networks than Caucasians [54]. One unfortunate consequence of these social networks is that women and minorities tend to receive fewer job leads than white men [61].

Increasing attention has been provided to these types of social networks in the field of addiction. A number of studies have examined the networks of those in substance use recovery, and have established their relevance as facilitators of treatment entry [62,63] and also serve as mediators of ongoing sobriety [64-67]. From adolescence to young adulthood, Hahm, et al. [68] were able to find an association between social network characteristics and binge drinking. In another study, Weerman, et al. [69] found that leaving or joining informal street-oriented youth groups had a substantial effect on changes in delinquency. As another example, Mercken, et al. [70] found that similarity in smoking behavior among adolescent friends could be caused by selection of friends on the basis of behavioral similarity, or by influence processes, where behavior is changed to be similar to that of friends. Thus, social network methodologies have been used to measure and explain the dynamic interplay among friendship and mentoring relationships and recovery-supporting attitude and

behavior change. These types of studies can simultaneously identify the active possible social ingredients of recovery, as well as proposing changes to broaden the beneficiary population.

Social resources embedded in social networks affect the outcomes of employment and are affected by the demographics of an ego. Social resources are also affected by the use of weak and strong ties. SRT has been applied to employment attainment in the general population, but little is known about these associations in mutual-help settings. Additionally, there are few studies that specifically look at heroin users through an SRT lens. Given the role of employment for recovery from heroin addiction, it is important to understand these relationships in recovery communities.

Recovery Homes as a Case Example

People in recovery from substance use disorders, particularly those with heroin addiction, face many obstacles to maintaining a drug free lifestyle [71]. Many relapse within a few months of finishing substance use treatment [72]. This phenomenon may be due to the lack of community-based housing and employment support [73]. Many self-help organizations such as Alcoholics Anonymous (AA) provide support for people in recovery. However, these programs do not provide much needed safe and affordable housing or access to employment. For these needs, a variety of professionally-run and resident-run residential programs are available in the United States [74]. Although such recovery programs are important sources of housing and employment support, they do not work for everyone [75,76], and it is important to understand the reasons for these differential outcomes. Dropout from recovery homes often occurs when a resident has not been able to become integrated into the house community [77]. These theoretical dynamics involve social networks which evolve based on network members' characteristics.

Recovery homes benefit those in recovery similar to AA involvement, as both provide new friendships and opportunities for advice and support. Relationships within the recovery homes would be important to investigate. Relevant relationships would be those that promote discussion of recovery-threatening topics such as negative feelings like stress, anxiety, and loneliness. Such people, which could be called confidants, are also important as a source of interactive problem-solving that is less likely in 12-step meetings.

Some recovery houses, such as Oxford Houses, do provide comprehensive social environments for residents. Oxford Houses are the largest single network of recovery houses in the United States, with more than 10,000 individuals in some 2,200 houses at any given time [78]. As an example of this approach with heroin users, Callahan and Jason [9] studied five women who

had been heroin users and followed their changes in social networks over a two year period of time after entering recovery homes called Oxford Houses. This study found an increase in the number of alters of a two year period, while the number of heroin users in their networks decreased. The percent of the network of family members was also found to increase as the number of alters increased. When the researchers examined the social networks of two of these women, at baseline, one participant had few connections with members of her network. However, by the end of the study, this person was more connected to other network members. For the second woman, at baseline, this person had been actively using heroin and had several sex partners, but two years later, this person was abstinent and more connected to family and friends in recovery.

Therefore, the work of Callahan and Jason [9] is an example of Social Network Theory, as behaviors are determined in part by the aspects of their social relationships. This study suggests Oxford Houses influences network density and in a positive way, helps provides individuals access to supportive networks and also provides insights about the retention of family members that provide resources for people in recovery.

Discussion

As is evident in this review, social resources and differential opportunity can influence the use of illegal ways to generate income. And because heroin users use illegal means for their primary source of income, it is critical to understand employment as a mediator to sustained abstinence [31]. If successful rehabilitation is to occur, opportunity theory points to employment as a necessary goal to achieve. Those who use heroin adopt a hazardous lifestyle revolving around drugs. It is important to embrace theories that integrate many of the most important features of heroin addiction in context, and subcultural theory of heroin use has considerable appeal in understanding a broader notion of recovery. Finally, SNT also has considerable appeal in both graphically and mathematically demonstrating the importance of context of both initiation and continuation of heroin use.

These theories all bring in the notion of context, which has also been at the forefront of the field of Community Psychology. This discipline emerged at the 1965 Swampscott meeting, attended by about three dozen psychologists including John Glidewell, Barbara Dohrenwend and James Kelly [79]. In one of the key addresses at this meeting, Glidewell [80] commented that we needed to shift the attention of psychologist's individual's interactions within small groups, as well as small groups and social organizations. It was within these types of inter-connections that Glidewell argues we have the potential to alter values and feelings that shape behavior and adaptation. Similar work had been

occurring in sociology (e.g., Homans) [81], and in social psychology, which saw group contexts as good ways to study attribution and social exchange (e.g. Festinger, Schachter, & Back) [82]. But the field of community psychology has tried to go beyond groups to study communities as a geospatial/geosocial entity, and this work had direct relevance to the study of heroin use, as indicated in this article. Approaches reviewed have involved context, whether it was within differential opportunity, subcultural or social resource theory, in an effort to better understand heroin use disorders.

The important point is that complex contextual factors and systems surround heroin use, and theories that incorporate these issues could provide enormous benefits for addressing those with heroin use disorders. Jason, Stevens, Ram, Miller, Beasley, and Gleason [11] found that the field of Community Psychology has also encountered significant challenges in testing and evaluating theories, and many of its theories are too broad and thus have difficulties in allowing for testable propositions. So, just as with the field of Community Psychology, there is a need for more discussion about contextually specific theories for those with substance use disorders, and in particular, those using heroin.

Vaillant [83] has noted that cultural and environmental factors may be key contributors to abstinence following treatment. The amount and type of support for not using drugs is critical to successful recovery. Individuals who take part in aftercare services are able to maintain abstinence for a longer period of time [84,85]. Schaefer, Cronkite and Hu [86] found that each additional month spent in aftercare led to a 20% increase in the odds of continued abstinence. Unfortunately, many individuals who complete substance use treatment are released back into the community without the types of environmental supports needed to solidify their abstinence. Community-based support groups such as AA do offer immediate psychological and/or spiritual support, but they usually do not provide needed housing, employment, or reliable sober-living environments. From a theoretical position, they might not provide the context and support that are needed to change the social ecology and employment opportunities for many within the heroin subculture.

Moos and Vaillant [87,88] offer rationales for why integration into the social system should be important to recovery effectiveness, such as monitoring and rewarding alternatives to using, as well as advice and outlets for dealing with negative emotions and stress. Because relationships within the environment (and/or in the personal network) are likely to be vehicles for these processes, integration can be viewed as relationship formation processes. Furthermore, as Vaillant explicitly noted, many of these recovery-supportive processes are likely to be active in new, recovery-supportive friendship and mentoring relations, which of course is based on SRT

theory. This explains our focus on processes whereby relationships form in the social environment, or support their formation in the personal networks, and especially how friend and mentor relationships affect recovery outcomes.

These theories fit well within community-based efforts to reduce addiction and heroin use. There is now a need to focus on the ways that social environments affect health outcomes, and how theory can help set the direction for this work [89]. This research could contribute to reducing health care costs by improving the effectiveness of the recovery systems in the United States by restructuring and improving community-based recovery settings [90]. Mutual help systems can facilitate access to supportive networks in order to make friends and to promote a new lifestyle and altruism [91]. From a theoretical point of view, what is needed is low cost, but effective, ways of replacing those social networks with ones that feature individuals who do not use drugs and alcohol, and who are employed in legal activities [92]. Community network-based solutions include recovery settings where individuals can seek support with others for their addictions [93].

There are a number of limitations in this article, and below we review several of them. First, Differential Opportunity may explain only a small fraction of the relapse potential even following treatment. In addition, while it is true that unemployment keeps people within the heroin use ecology, in terms of generating illicit money through abusers selling street drugs and becoming housed in a subcultural environment, there are many more neurobiological and mental health reasons that may keep them from seeking and finding a better life. For example, Reward Deficiency Syndrome (RDS) provides in-depth neurogenetic information of a common neurogenetic rubric linked to a hypodopaminergia and subsequent heroin seeking behavior including a other drug and non-drug behaviors [94-96]. While our article covered heroin use, dependence, prevalence, abstinence, prevention, recovery, and relapse as physical and emotional problem; and more biological aspects were not reviewed, such as research by Blum, et al. [97] who found that carriers of the DRD2 A1 allele bind together like "birds of a feather flock together" showing that there is even biological evidence for the importance of friendship networks. In addition, although we focused on employment issues, educational level [98] as well as religiosity [99] also have important implications for understanding this area. Also, many of the articles refer to psychoactive substances and are not specific to heroin. Finally, this article does not indicate the direction of the causality of the proposed relationships (e.g., unemployment to drug abuse vs. drug abuse to unemployment), and this is in part because both relationships might be operating in bidirectional ways.

This article reviewed three prominent theories that can be applied to those using heroin. In general, oppor-

tunity theories do provide considerable help in understanding why individuals both begin and continue use. But it is the subcultural theory that helps explain that deviance is the result of individuals conforming to the values and norms of a social group to which they belong; if one belongs to a social group whose norms differ from those of the main society then one will become and likely remain a part of that sub populace. SRT provides some of the most convincing evidence about the social behaviors and routines that can impart a greater significance to the actual drug use itself. Thus, all three theories help us better understand heroin use that occurs within a cultural context. Multiple methodologies have provided strong evidence, including that from epidemiology, qualitative and ethnographic observation. The key features of heroin addiction need to include context, and theories that have tapped into this rich approach could be used to help us restructure and improve community-based recovery settings.

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