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Michelle Anne Parsons
Anthropology Department
Northern Arizona University (E-mail: michelle.parsons@nau.edu)

Thinking about Social Determinants of Health through the Relationality of Work and Drug Use

Public health often frames drug use and addiction as destructive and antithetical to productive citizenship, particularly formal employment. Anthropologists show how drug use emerges in specific institutional, social, and political economic contexts. This attention to context suggests that the relationship between drug use and work may not be as stable as epidemiology models it. There is a multiplicity to the relationality of work and drug use. These results are based on in-depth interviews conducted in 2018 and 2019 with 16 individuals undergoing addiction treatment at a residential facility in northern Arizona. In some cases, drug and alcohol use led to losing work. In other cases, drug and alcohol use made work more possible. The entanglements between work and drug use fluctuated through time. Social determinants of health are relationally brought into being, part of larger assemblages, and dynamic. [substance use, work, employment, relationality, social determinants of health]

In 2017 and 2018 I began driving from Flagstaff to Prescott, Arizona, to conduct an ethnographic case study of rising mortality in the United States. I traveled from the ponderosa forest, dropping over the Mogollon Rim into the Verde Valley, passing a gambling addiction billboard and casino, before climbing the Black Hills and driving through the rolling piñon-juniper shrubland to Prescott.

In Prescott, I often headed to a warehouse that had been converted into an emergency homeless shelter. The warehouse backed onto a dry creek bed and, over a footbridge, a rundown neighborhood. The shelter was fronted by a large parking area; to one side was an addiction treatment center. Inside the shelter, I joined other volunteers preparing for a cafeteria-style lunch served through sliding windows in the sidewall of the warehouse. I chatted with guests I knew who gathered outside to eat lunch. If I had previous contact and felt it was appropriate, I asked shelter guests if they would like to do an interview about their lives, either inside or outside.

Will, a 40-year-old White man, was in charge of the lunch service, ordering supplies and preparing the meal, which might be stew or chicken sandwiches. He was from Alabama with a strong southern accent and the habit of addressing others as "Sir" and "Ma'am," but was living in Prescott while he received addiction treatment

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at the center across the way. As he watched me interview shelter guests, he asked if I would be interested in interviewing him and others in addiction treatment, some of whom I already knew as shelter volunteers.

In a subsequent interview, Will described his work and drug use:

W: I was a kitchen manager for [a bistro] and I've been doing food and beverage ever since.
MP: You're still doing food management.
W: Yeah, yeah, kind of. Smaller scale …
MP: Different …
W: Yes ma'am. But through that time, I started selling cocaine and doing it every day. But I never lost any of those jobs. I just, I don't know, do both.
MP: You'd do it at work?
W: Yeah, I did it all the time, but I can hide it. Well, I've always been a highly functioning addict. Like it's pretty hard to tell.

As he talked more, it turned out it was not quite the case that Will had "never lost any of those jobs," but when he did lose a job, he was able to find another. He told me he had "worked really hard for my addiction" for 18 years. Now he wanted to leave restaurant work. I asked him why.

W: Well, one: Drugs are super prevalent in [the] restaurant industry. I mean, I'd say like 80 percent of people in the restaurants I worked do drugs. Two: I worked over 60 hours a week—salary, so you get screwed. Three is super stressful. It's late hours. It's a young crowd.

Much later, when I read over interview transcripts with Will and others in addiction treatment, I noticed how drug use was often entangled with work. In some cases, interviewees had lost work due to their drug use, but in many cases the relationship was not simple or static, as when a woman told me about using meth to help her focus while she cleaned houses and a man said that he thought he was better at his job as an instructor of construction code—more fun—when he drank.

In this article, I explore the relationality between drug use and work using data from interviews with individuals in drug addiction treatment. The relationality is multiple and dynamic, belying social determinants of health models that assume that the social is stable and antecedent to health. Health and the social emerge relationally.

Background

Public health literature reports that substance use is associated with higher levels of unemployment (Alexandre and French 2004; Bryant et al. 1996); recent overdose deaths are associated with unemployment (Aram et al. 2020). Longitudinal studies provide epidemiological evidence for a bidirectional relationship between drug use and unemployment: Drug use leads to unemployment and unemployment leads to drug use (Hoffmann et al. 2007; Hoffmann and Larison 1999). "Employment recovery capital" (Sahker et al. 2019) is regarded as part of successful addiction

treatment. A comprehensive review (Henkel 2011) finds higher rates of drug and alcohol use among the unemployed, although this association is more pronounced for men than for women. The association depends on population, type of drug, patterns of drug use, definition of unemployment, length of unemployment, gender, age, mental health status, incarceration, sample, survey questions, construction of variables, and statistical methods. Henkel suggests that more attention be paid to place, policy, and drug accessibility and cost, in addition to the sociodemographic and political economic structure of unemployment and drug use in particular places and times.

An appreciable 13% of full-time employees have used illicit drugs in the past month (SAMHSA 2020). Some studies suggest that lower levels of use have positive effects on employment (MacDonald and Shields 2001). Job insecurity and work stressors among the employed are also related to higher rates of substance use (Puls et al. 2008 in Henkel 2011; Milner et al. 2019) and overdose mortality varies by occupation (Aram et al. 2020). Arria et al. (2013) found persistent drug use in college was associated with unemployment post-college, yet, remarking on the finding that many full-time employees in their sample met criteria for substance use disorders, the authors call for "more attention related to assessing the presence of substance-related problems among recent college graduates who have secured employment" (p. 29). Nonetheless, interpretations reveal assumptions of researchers and their models—about competition, productivity, and opportunity. For example: "In light of the increasingly competitive job market for college graduates, the importance of understanding the possible role of drug use in narrowing graduates' employment opportunities cannot be overstated" (Arria et al. 2013: 29).

Equivocal findings across studies suggest that the relationship between substance use and formal employment is unstable, highly variable, and contingent on context. The complexity of the epidemiologic evidence converges with anthropological perspectives of substance use, addiction, and work.

In some critical medical anthropology, the posited relationship between drug use and employment is similar to that in the public health literature, although it is theorized differently. Singer's review highlights how the transformation of work under global capitalism and the need for passive labor led to the commodification of drugs and alcohol (Singer 2012). In his classic article "Why Does Juan García Have a Drinking Problem?," Singer (1992) points to colonialism in the Caribbean, dispossession of land, alienation of rural workers, economic migration, masculinity, and the loss of factory work in New York City to trace how drinking becomes debilitating. He writes, "unemployment … is a clear correlate of problem drinking in Puerto Rican men" (Singer 1992: 99). Use and addiction are related to the governance of surplus labor and insults to identities formed under regimes of extractive and industrial capitalism.

Bourgois (1995), in his ethnography of crack among Puerto Ricans in East Harlem in the 1990s, points to economic restructuring, which reduced manufacturing jobs in New York City. In *Righteous Dopefiend*, heroin addiction in San Francisco is tied to deindustrialization, housing, and stark income inequality (Bourgois and Schonberg 2009). Parsons (2014) links alcohol deaths during the Russian mortality crisis of the 1990s to the dissolution of the Soviet state, neoliberal "shock

therapy," and the transformation of work and social exchange practices. Addiction, drug and alcohol use, and work do not exist separately from history, politics, economics, and social exchange practices.

The lives of Juan García (Singer 1992), Primo (Bourgois 1995), and others (Newman 1988; Walley 2013) are linked through deindustrialization in the United States, which occurred first in cities such as New York, Detroit, and Chicago, where it affected Black and Hispanic populations before non-Hispanic white ones. Recent mortality among U.S. non-Hispanic Whites (Case and Deaton 2015), largely attributable to suicides and drug- and alcohol- related deaths, is the continuation of a racially stratified economic transformation that began decades earlier in the 1950s and 1960s—at the time when the appliance factory where Juan García worked moved out of New York City to the Midwest. Epidemics of drug use among Black and Hispanic populations, such as crack cocaine during the 1990s, ensued. Sociologist McLean ties recent rising overdoses in the Rust Belt to the overprescription of opiates, poverty, and social isolation in the "the post-industrial periphery" (McLean 2016). Of course, the meanings ascribed to drug and alcohol use and the social responses to use are racialized. As others have noted (Hansen and Netherland 2016; Mendoza et al. 2016; Netherland and Hansen 2015, 2016), increases in drug use among Black and Hispanic populations have historically been met with punitive responses that focus on individual and community criminality and responsibility. Only recently have responses been geared more toward treatment than punishment. Drug use and social interventions are wrought through broad political, economic, and cultural histories in particular places and times.

Garcia (2010) relates drug addiction in northern New Mexico to a history of dispossession and the resultant loss and longing. Her account, though, resists "definitive conclusions about the nature of addiction" (p. 35), embracing the uncertainty and instability of addiction. This turn toward theoretical multiplicity is echoed in Garriott and Raikhel's review:

> Indeed, we suggest that to understand addiction as an object "in the making" is to hold at bay the idea that these tensions can be definitively resolved by any single conceptual framework. Rather than asking which interpretive framework more closely "carves nature at its joints," perhaps the better question is, "Which is best suited for the particular purpose at hand?" […] We might see a certain epistemic multiplicity and disunity as constitutive of addiction as both a concept and a research field. (Garriott and Raikhel 2015: 486)

Medical anthropology's embrace of indeterminacy and multiplicity presents potential conflicts with public health literature, which relies on models and methods to identify risk factors for drug and alcohol use, even as some epidemiologic evidence suggests indeterminacy and multiplicity. Medical anthropology has shown how aspects of use and addiction may be productive (Garriott and Raikhel 2015), but public health largely ignores this possibility. This is perhaps related to public health's focus on risks, deficits, and harms (Morgan and Ziglio 2007; Panter-Brick 2014) but it is also a reflection of broader cultural ideas about "illegal" drugs and

moral assumptions about their embodied and social effects (Metzl and Kirkland 2010).

I argue that drug use has multiple meanings and effects that emerge in relations between the substance and the conditions and experiences of work, in turn embedded in larger assemblages (Marcus and Saka 2006; Ong and Collier 2005) particular to place and time. I use the relationality of drug use and work to make a broader point about how social determinants of health models may elide complex and shifting social dynamics, and in so doing foreclose possibilities for research and intervention.

Methods

This article is based on research conducted as part of a larger NSF-funded ethnographic case study of rising mortality and social distress in Yavapai County in northern Arizona. In analyses of drug and alcohol deaths among non-Hispanic Whites since 1998, mortality increased first in the southwest before spreading to other areas of the United States (Case and Deaton 2017), particularly affecting small metro and rural areas. Yavapai County has a population of around 200,000 people. Compared to the total U.S. population, the county has an older and less diverse population and a high proportion of veterans. Increasing rates of suicides and deaths related to drugs and alcohol contribute to rising mortality (Parsons and Barger 2019). The county is also a nationally known substance use recovery destination with many sober living homes and recent moves to regulate them (Stone 2016a, 2016b).

The design of the research incorporated interviews with a wide variety of social service providers in the county (40); ethnographic participant observation and interviews with guests at an emergency shelter (14); interviews with individuals in an addiction rehabilitation program (16); and individuals in a reentry program for those recently released from prison or jail (five). The research was approved by the Northern Arizona University Institutional Review Board and the emergency shelter where I conducted most interviews with service recipients. In this article, I focus on interviews with those in a six-month addiction treatment program.

Each interviewee went through a consent process and signed written consent forms. I gave interviewees $25 dollars to compensate for their time. I followed a semi-structured interview guide, but also allowed interviewees to lead. I introduced new questions to follow themes introduced by interviewees. Interviews generally lasted about an hour but ranged between about 30 minutes and two hours.

I asked each interviewee four demographic questions at the beginning or end of the interview. Table 1 gives demographic characteristics of the subsample, indicating that the interviewees were largely non-Hispanic white men in their 20s from the Midwest with some college education. Nine of the individuals came from Michigan and Indiana. Although I cannot be sure, this probably reflects addiction treatment networks. Many of the interviewees reported being referred to the Prescott center from shorter-term addiction treatment programs. These interviews were with individuals who had substantial histories of alcohol and drug

Table 1. Demographic Characteristics (n=16)

Characteristic	Number
Age	10
18–29	5
30–39	1
40–49	
Gender	12
Man	4
Woman	
Ethnicity	2
Hispanic	14
Non-Hispanic	13
Race	3
White	
White/multi	
Education	5
High school/GED	8
Some college/technical college	2
College degree	1
Post-graduate degree	
Residence (before treatment)	0
West	11
Midwest	4
South	1
Northeast	

use, detoxification, and rehabilitation that had led to a six-month treatment program. Yet even for these individuals, the relationship between use and work is not stable.

Results

Below I present three cases. These three interviewees are non-Hispanic white individuals from the Midwest in their mid-20s. Almost all interviewees talked about work experiences in relation to their substance use, as in the opening vignette. Although some mentioned quitting work or getting fired because of their addiction, it was striking that work was often not opposed to but entangled in use. One said, of working in an airplane parts factory, "That whole time I was addicted to coke." Another worked at bars, staying afterward and drinking. Yet another, working at a photography studio, would drink with the owner and later at DJ shows he photographed. Another said drugs gave him energy and focus for his construction job.

The three below were among those who elaborated most on the relationality between work and drug use. All three are high school graduates; one of them had taken some college courses. Their work experiences—factory worker, farm

worker, automotive mechanic, oil rig worker—represent some of the work available to high school graduates outside of the service sector. There are times where substance use resulted in the loss of work, but others where drug or alcohol use enabled these individuals to stay awake, to focus, and to manage a harsh working environment.

Ben

Ben, a 23-year-old from the Midwest with a high school degree, had been bullied and diagnosed with autism spectrum disorder in childhood. "Didn't fit in quite well. They diagnosed me with autism. Autism spectrum disorder which is like … I didn't really understand. But the reasoning behind it was I was little bit different than other kids. I hung out with adults."

There were five children in his blended family. His mother worked in sales and his father in construction—"labor for the union," as Ben put it. As a child, Ben fished and rode dirt bikes with his father. When Ben was 12, his brother was sentenced to prison for attempted murder. His father became more distant. "The father relationship really changed. So, I mean I was depressed, fighting in school."

> I had a lot of that coming toward me to be honest. Because I started problems […] problems at home became problems at school. It was a lot. It was intense. So, after freshman year I finally got into a fight and I got arrested. Then I went back to [junior high school] and believe it or not it got better. […] I got honors in automotive and got a job in senior year.

Ben said he missed high school, particularly his automotive teacher:

> I just miss the teacher I had. He died … died right after I got out of school. […] It's almost like a dream of going back there. It's just weird. […] The teacher was my automotive teacher. He wound up having cancer the whole time, I didn't know until last year. I was there because I took two years in the course and he had cancer. I don't know what kind, but he got sick. I was helping him out. Not a co-dependent relationship but it just made me feel good. And he taught me a lot about automotive and got me, helped me get a job at Sears. I turned out to be one of the better—or not the best—but one of the better students that went to Sears.

Ben described the job as "sweet"—"It's just something I just love to do, something I was passionate about."

He was laid off when the Sears store closed. He then worked at a farm and a metal extrusion factory, where he worked over 80 hours a week. He found the factory work hard and dull. "I was pretty much wasting my time for what I was doing." "Over and over again. It was consistent which is one thing I liked, but it was over overwhelming. Because there was such a turnover. If there wasn't such a turnover at a factory it wouldn't be so super hard."

> They would hire roughly about 15 people on a Monday, by the end of the week there would be maybe two left. [….] They were hiring a lot of people from work release and they would hire anybody. They were just hired. Hire, hire, hire. I don't know the exact reason--it was either it was hot in there or they just didn't like the work. That was a job. I had to work. Everybody had to work. It wasn't like sit there, do nothing.

He was using Vicodin at the time for arthritic pain in his feet, at first as prescribed and then not—"The tolerance wasn't just right. And I started taking them during work. Then I was introduced to heroin. […] I actually went looking for it to be honest. I saw [a coworker] messed up on it one day and that's why I wanted it." Eventually, Ben was using heroin every day and quit. "I just got irritated. One day I was withdrawing hard and just walked out." He had two subsequent overdoses and went through various periods of detoxification and 30-day treatments. One day, as he was being kicked out of his parents' home, he called the police, threw a cell phone at the police car, and was charged with disorderly conduct. "It sounds messed up. […] I was trying to get somewhere to stay."

I asked him about his hopes for the future:

> I hope when I get back I can work on a relationship with my father. I hope I can get a job, get through court. I mean the worst-case scenario l do probably six months in jail. I'm not really stressing it. I don't want to take too far into it. I mean, get a decent job back there, get an apartment, or rental house.

The relationality between Ben's drug use and work had a history. He worked as an auto mechanic until he was laid off. He then worked on a farm and in a metal extrusion factory. In the factory, he used Vicodin for foot pain and then heroin. One day, "withdrawing hard," he quit. His first experience at the auto center, where he thought he was "one of the better" ones and enjoyed the work, influenced his experience of subsequent work that he described as "harder work" and "overwhelming." The loss of his automotive high school teacher and then his auto shop job haunted his narrative. Ben's heroin use in the factory did lead to him quitting factory work, but his narrative also highlights the role of earlier loss of work as an auto mechanic. His drug use, first prescription opiates and then heroin, increased in the factory as he dealt with pain, monotony, and hard work.

Beth

I met Beth, a 25-year-old woman with some college education, a few days before she was returning home to the Midwest. Over coffee, she told me that she grew up with her mother and a violent stepfather. Her father and grandmother were both drug users. In middle school, she began getting into fights, moving between schools and her parents' homes. In eighth grade, she had dental surgery and was prescribed opioids for the pain.

> After the pain wore off and I kept taking them, I realized what they did to you. And that's when my obsession for them started because it was like the

> greatest feeling ever. […] It felt like someone … It felt like love. That's the only way I can describe the opiate feeling. Like everything's okay no matter what's going on. You feel like you're. … You feel like you finally found where you belong or something, you know. It's just relief, complete relief.

In high school, living with her father and grandmother, she began to use more. "At the beginning of high school when I lived with my dad and my grandma, they didn't care what I did. So I smoked weed with them. I drank with them. I stole pills from my grandma all the time. I stole meth from her. I didn't even know what it was yet." She graduated from high school:

> And then reality hit me. And I had to get a job if I wanted to survive. So I just started working at a factory. And I kept doing drugs. I would get like three or four roommates to live in this tiny little house with me so I could afford to pay bills and do drugs. It went like that for a while. And then I started relying on men more. Getting into really bad relationships. Bad relationships which eventually led me to heroin. Heroin was just like that first high again. You were like, "Oh, there you are."

Beth remembered one particular fight with a boyfriend where she ended up in the hospital with broken ribs and a concussion:

> He was mad that I came home late. Like that's when we started fighting. So in the middle of it, I was like, "Look, I went into the city and got drugs for us. C'mon. We can just do them and everything can stop." So he mixed it all up, stuck it in a needle, and shot me up. And he kept beating the crap out of me. So I couldn't even defend myself. And that … that … that really messed me up, just that whole situation.

Beth told me after that, she "just couldn't figure out any reason to stay alive." She tried to intentionally overdose and was found by a friend's mother who administered CPR until the paramedics arrived.

> And somehow they revived me. But when I was in the hospital, after I woke up, my parents were there. They were like, "You need to go to rehab. You need to do this." I was like, "I'm not a drug addict. I just don't want to be alive." And then, that's what landed me in the psych ward for two weeks. And that's when the first rounds of rehab started.

She returned to the relationship with the abusive boyfriend. "When he didn't have money, I had it. When I didn't have money, he had it. When he couldn't find drugs, I could." During this time, her brother and a close friend both died of overdoses. She described receiving her paycheck one day:

> So, I got my check for $700. I didn't even get to see a penny of it because I owed my drug dealer money. And so finally I was like, "What are we doing? When are we going to be normal people? When are we going to stop using

> drugs?" And he [her boyfriend] just laughed at me. He said, "I don't ever plan on stopping using drugs. I hope it kills me." I was like, "Okay." I went to pay my dealer. I went to my mom's house and said, "This is what has been going on. I'm a drug addict. I'm about to go into some pretty nasty withdrawals. And I need your help."

Beth cycled between rehabilitation programs and relapses, using heroin and methamphetamine, sometimes selling Suboxon strips to buy them. I asked her if she enjoyed her work in the factory:

> The minimum wage is really low. There aren't a lot of jobs for people who haven't gone to college. So to make the most amount of money that I possibly could, I had to work at a factory. And working at a factory is so exhausting that one of my relapses was just going to work. And having to go to work, I started taking Adderall. That turns into meth and meth is too strong. So, that turns into heroin. And factory settings are so filled with drugs. It's ridiculous.

Beth was about to return home after six months:

> And like I didn't even know how to have a job without doing drugs because I didn't think I could stay awake for that long. And I had to prove to myself all of these things that I didn't think I could do. It just really … it just gives me. … Before rehab and all this I didn't see the future. I didn't think there was anything there. And now, I feel like I can do anything that I want to do. Like, I have dreams for my future. There are things that I want to accomplish in my life. And I never thought I would feel that way ever again.

She thinks about becoming a mother and an architect or a substance abuse counselor:

> I want to be a mother so bad. I've always promised myself that I won't have children if I'm not ready. And now that I'm sober it's something that I can look forward to. It's something I can look towards. And so I just want to get there. I want to be an architect. I want to be planning houses and building houses. […] But now I'm torn. After going through this program, I kind of want to be a substance abuse counselor. I don't know.

Beth first used opiates after a routine dental procedure, an experience she shared with other interviewees whose use was entangled with opiate prescriptions. For Beth, opiates were "like you finally found where you belong" but in the factory she needed a different effect. She used Adderall and then methamphetamine to stay awake and do her job. When methamphetamine was too strong, she moderated the effects with heroin. There is an attunement between Beth's use of multiple substances and her factory work. Both Ben and Beth described factory work as, respectively, "overwhelming" and "exhausting"; they used heroin and other substances to manage the embodied experiences of working in factories. The factory is a site of production,

but also a site of drug use as workers dose themselves to withstand the conditions of production.

Jake

Jake was a reserved 25-year-old, admitting that he tended to "hold stuff in." The oldest of six kids, he was homeschooled until middle school. He was an avid hockey player who planned to play in college until his senior year of high school.

> I just had too many concussions, so I wasn't … I'm really not supposed to do contact sports whatsoever. So I had to kind of stop doing that, which I don't know … I played hockey since I was two. It was kind of a bummer. Yeah, that's pretty much. … I did summer hockey every year. So really, my whole year was made up of hockey.

Also during his senior year, Jake's parents separated after Jake discovered his mother was having an affair. His dad's new house didn't have a room for him and he slept in a tree fort. He was mad at his mother and drinking and using marijuana. He was arrested for possession in front of his teammates at the ice rink—telling me it was "almost like I got PTSD over the deal." After he graduated, he began using Adderall. "I started working on the oilfield. I was working night shift and stuff. And I don't know, it just kept me awake."

He described the work:

> I actually worked on a workover rig it's called. I worked 20 days on 10 days off, 12-hour shifts. And I also did flowback it's called. Basically it's when oil comes out of the wellhead and flowback is just when it separates the gas from the oil from the water. So that's pretty much what it does—it goes into a big manifold and the oil goes into a tank, the water shoots into a tank and then the gas. Basically, it's a flare stack—starts the gas on a fire [and] burns it off into the air

> MP: And did you enjoy that?

> Yeah, I did. I did it for three years and then after that the oil went down in North Dakota. Because when I got out of high school it was at like a hundred bucks a barrel and when it shot down everyone started losing their jobs. I ended up just quitting and started to go farm.

Jake told me he had been making over a $100,000 a year with the truck rate, per diem, mileage for a six-hour commute, and overtime. But he was getting very little sleep:

> I was slapping myself in the face half the time I was driving home at night. Yeah, there were kids rolling their vehicles and dying all the time, but I stayed on Adderall for a really long time and then up until probably, six

> months. […] Six months ago I tried meth for the first time. And I started putting it in little capsules and eating it like Adderall.

He didn't always like the effects of methamphetamine, in part because he could not get things done:

> Adderall makes you really focused and stuff like that; I got a lot of stuff done on Adderall to be honest with you—like I probably needed it. And meth, when I would take it, for instance, [I would] go into my garage and take apart the lawnmower and sit there and get stuck on it for six hours. On one little screw or trying to figure out how to put it back together. Just weird. You're just stuck.

Jake, like Beth, wanted to have children. Although he liked farm work—"there's nothing more peaceful than just being in a tractor out by yourself"—Jake told me that he'd like to be a real estate agent, selling farmland.

> I'd love to be a dad and just have a normal. … You know what I mean, have a family. I'm definitely not going to be in trouble. I want to own my own business. And just stay clean. I had a really good life growing up as a kid. You know what I mean—my parents' house, church every Sunday. I guess they did everything for us. So I want to do the same thing. Kind of give it back. I'd love to get married and have kids and be a normal person. Normal part of society. I think it's time.

Jake used Adderall when he needed to stay awake long hours working 12-hour shifts with a six-hour commute. He felt he was productive: "I got a lot of stuff done." Methamphetamine, however, was different. He described being stuck on one lawnmower screw for hours on meth. His use emerged as part of a constellation of factors ranging from his own embodied experiences of drug effects and work, cultural values of productivity, and the oil industry in North Dakota.

The oil fields in North Dakota where Jake worked, along with other work settings interviewees talked about, separated workers (primarily men) from their families and communities, sometimes facilitating use. The conditions of work shaped drug use—the type of drug and the pattern of use. Drug use also influenced the work these individuals engaged in. Factories and oil fields pay relatively well for individuals with lower levels of education; wages support drug use. The roteness of factory work also allows more use. The relationship between drugs and work cannot be reduced to a bidirectional one between unemployment and substance use. Drug use is complexly entangled and attuned with work; the relationality between work and use is multiple and dynamic.

The relationality of drug use and work is continually enacted in the context of larger assemblages of mental and physical health, health care, family, social and intimate relations, housing, schooling, sports, and the medical and legal systems. These things were not necessarily traumatic; they included routine dental surgeries, sports and sports injuries, strained relationships, and life disappointments. Many in the sample traced the origin of their use to prescription medications, particu-

larly opiates for pain after dental surgeries and injuries and stimulants for attention deficit disorders. These assemblages extend to structural processes of deindustrialization, economic transformation, pharmaceutical marketing, biocapitalism, and the generation of surplus health (Rajan 2007). These processes are classed, racialized, and gendered. Assemblages are constantly shifting, affecting the relationality between work and drug use, and even the categories and meanings of "legal" and "illegal" substances.

Medical anthropology has shown how aspects of use and addiction may be productive (Garriott and Raikhel 2015); in some literature, this is conceptualized as functional and instrumental use (Lende and Smith 2002; Müller and Schumann 2011). One function of use is to make certain forms of labor more tenable. In an article on methamphetamine use in Atlanta (Lende et al. 2007), one respondent, who reported having "attention deficit syndrome" and not being "able to hold a job," thought use helped him work—"I have a job now, you know, my life is completely turned around because of it"—although what type of work is not specified. Another respondent found use helped her sew: "I work drugged." There is literature on substance use and overdose mortality by occupations, including truck drivers, factory workers, medical professionals, and others (Aram et al. 2020; Macdonald et al. 1999). Functional use emerges through assemblages of user, substance, labor, institution, industry, and broader political, economic, biomedical, and cultural contexts—"use ecology" in public health (von Mayrhauser et al. 2002). Drug use is not an aberration at odds with the regime of productive citizenship, but an integral part of it.

When interviewees spoke of their hopes for the future, they mentioned work, partners, and children. It is striking the degree to which work is so central in these desired futures. In the past, drugs were used to attain these values. Ben turned to Vicodin and then heroin to make factory work with foot pain possible—at least for a time. Beth used Adderall, methamphetamine, and then heroin to work in the factory. In her recovery she said, "And like I didn't even know how to have a job without doing drugs because I didn't think I could stay awake for that long." Jake's use of Adderall helped him work in the oil fields, commute home, and earn a salary many times the average for a high school graduate in the United States. In this sense, the use of drugs is not deviance; it is an attempt to achieve values around family, work, and belonging. The lives of these interviewees reveal how drug use is entangled with dominant cultural ideals of work and productive citizenship.

Medical Anthropology on the SDH

Recent anthropological critiques of the social determinants of health (SDH) emphasize the impossibility of reducing health to discrete determinants and advocate for material–semiotic indeterminacy.

> The social determinants framework does not enable us to adequately think about the many layered connections between […] social, political, economic, and environmental processes and individuals' lives. These are far more unpredictable, chaotic, and dynamic. (Chenhall and Senior 2017: 178)

> Material–semiotics departs from the linear, determinant modeling of the social determinants framework by insisting on the importance of attending to feedback loops, gaps in the model, and even how modeling comes to shape the way that problems are framed and intervened on. (Yates-Doerr 2020: 387)

To be fair, multiplicity and indeterminacy are recent theoretical turns in anthropology. Ethnographic and qualitative methods may reveal multiplicity and indeterminacy more readily than epidemiologic ones because less is predetermined in study design, data may more thoroughly unsettle assumptions, and findings are often particular rather than generalizable. Nonetheless, epidemiologists have mounted piercing critiques of their own methods and assumptions, down to the bedrock assumption of causality (Krieger 1994, 2008). Epidemiology has methods for modeling complex bidirectional relationships and provides its own evidence for indeterminacy and multiplicity.

In terms of drug use and work, SDH models may be less the root of the problem than assumptions about the effects of using certain substances. This is a material determinacy—that a substance's effects are determined by its chemical properties alone[1]—that is anterior to the SDH model and research, shaping the interests, questions, measures, and interpretations of researchers. Thus, studying the relationship between drug use and unemployment enacts the relationship (Adams 2016; Biruk 2018) and attendant morality and stigma (Metzl and Kirkland 2010), simultaneously circumscribing health and the social. Material determinacy, however, is subject to critique from STS and neuroscience perspectives (Dwyer and Moore 2013; Hart 2013). Other assumptions are built into SDH models through categories such as (un)employment, which could usefully be interrogated and expanded, as has been done in some public health (Webster et al. 2007) and anthropological literature (Kwon and Lane 2016).

If the relationality of substance use and work is fluid and multiple, then possibilities for research and intervention expand. There are questions for both epidemiologists and ethnographers on the relations between drug use and specific occupations, conditions of work, institutions, and industries. Neurobiologists could further investigate the instability and multiplicity of drug effects, expanding concepts of set and setting (Hartogsohn 2017; Robins et al. 2010; Zinberg 1984) and attending to functionality in particular work–use ecologies. Life histories and longitudinal studies shed light on the lifecourse and temporal dimensions of use and work. Macro histories reveal entanglements of substance use, institutions, political economic regimes (Courtwright 2002; Rasmussen 2009), and global capitalism (Gootenberg 2008; see Mintz 1986). Multiplicity calls for multidisciplinary approaches and interventions, along with a critical stance toward intervention doctrine, sometimes applied through categories of best practice, evidence-based, or scaled-up (Adams 2013; Lambert 2013; Nichter 2013). Addiction treatment tends to focus on the level of the individual and, to varying degrees, their social relations. Harm reduction interventions, such as injection sites, needles exchanges, "Good Samaritan" laws, and the distribution of naloxone, while necessary, are not sufficient. There is a need for interventions particular to employment sectors, industries, institutions, and workplaces (Holtyn et al. 2021). McLean's Rust Belt interviewees talked about the need for higher level

interventions for a region beset by the "economic and social ruin of deindustrialization" (2016: 26). These are interventions at the level of policies, law, and economy that do not reduce complexity or humanity, but offer alternatives that attend to the myriad and changing arrangements in which people live their lives.

Yates-Doerr, along with many others, recognizes, "There is a difference between what we treat and what people suffer from" (2020: 389). While there is something hopeful in the fact that Beth, in her recovery, believes she can stay awake at the job without drugs, there is something troubling about the fact that so much work available to Beth is dull. We need to expand our political and economic imaginaries when we think about work and how to give it more meaning and/or make it more satisfying for more people. At the same time, there is a need to loosen cultural norms that narrowly link human deservingness and worth to formal employment (Weeks 2011).

Conclusion

Public health often frames drug use and employment as antithetical, while medical anthropology points to productive and functional drug use. Interviews with individuals in addiction treatment reveal a more complicated relationality between drug use and work. Drug use is attuned to the embodied experiences and conditions of work, and, in some cases, makes work more bearable. The relationality of drug use and work is multiple, a part of dynamic assemblages of intimate and social relations, biocapitalism, economic transformation, and political economy. Multiplicity is not merely of anthropological interest. It opens up new ways of thinking about health and health interventions, suggesting the need for a multiplicity of interventions and a critical stance toward intervention doctrine.

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References Cited

Adams, V. 2013. Evidence-based Global Public Health. In *When People Come First: Critical Studies in Global Health*. Princeton, NJ: Princeton University Press.

Adams, V., ed. 2016. *Metrics: What Counts in Global Health*. Durham: Duke University Press.

Alexandre, P. K., and M. T. French. 2004. Further Evidence on the Labor Market Effects of Addiction: Chronic Drug Use and Employment in Metropolitan Miami. *Contemporary Economic Policy* 22: 382–93.

Aram, J., N. J. Johnson, M.-L. T. Lee, and N. Slopen. 2020. Drug Overdose Mortality Is Associated with Employment Status and Occupation in the National Longitudinal Mortality Study. *American Journal of Drug and Alcohol Abuse* 46: 769–76.

Arria, A. M., L. M. Garnier-Dykstra, E. T. Cook, K. M. Caldeira, K. B. Vincent, R. A. Baron, and K. E. O'Grady. 2013. Drug Use Patterns in Young Adulthood and Post-college Employment. *Drug and Alcohol Dependence* 127: 23–30.

Biruk, C. 2018. *Cooking Data: Culture and Politics in an African Research World*. Durham: Duke University Press.

Bourgois, P. 1995. *In Search of Respect: Selling Crack in El Barrio*. Cambridge: Cambridge University Press.

Bourgois, P., and J. Schonberg. 2009. *Righteous Dopefiend*. Berkeley: University of California Press.

Bryant, R. R., A. Jayawardhana, V. Samaranayake, and A. Whilhite. 1996. The Impact of Alcohol and Drug Use on Employment: A Labor Market Study Using the National Longitudinal Survey of Youth. *Discussion Paper no. 1092-96*. Madison: Institute of Research on Poverty.

Case, A., and A. Deaton. 2015. Rising Morbidity and Mortality in Midlife among White Non-Hispanic Americans in the 21st Century. *Proceedings of the National Academy of Sciences* 112: 15078–83.

Case, A., and A. Deaton. 2017. Mortality and Morbidity in the 21st Century. *Brookings Papers on Economic Activity*. Spring: 397–476.

Chenhall, R. D., and K. Senior. 2017. Living the Social Determinants of Health: Assemblages in a Remote Aboriginal Community. *Medical Anthropology Quarterly* 32: 177–95.

Courtwright, D. T. 2002. *Forces of Habit: Drugs and the Making of the Modern World*. Cambridge, MA: Harvard University Press.

Dwyer, R., and D. Moore. 2013. Enacting Multiple Methamphetamines: The Ontological Politics of Public Discourse and Consumer Accounts of a Drug and Its Effects. *The International Journal on Drug Policy* 24: 203–11.

Garcia, A. 2010. *The Pastoral Clinic: Addiction and Dispossession along the Rio Grande*. Berkeley: University of California Press.

Garriott, W., and E. Raikhel. 2015. Addiction in the Making. *Annual Review of Anthropology* 44: 477–91.

Gootenberg, P. 2008. *Andean Cocaine: The Making of a Global Drug*. Durham: University of North Carolina Press.

Hansen, H., and J. Netherland. 2016. Is the Prescription Opiod Epidemic a White Problem? *American Journal of Public Health* 106: 2127–29.

Hart, C. 2013. *High Price: A Neuroscientist's Journey of Self-discovery that Challenges Everything You Know about Drugs and Society*. New York: Harper-Collins Publishers.

Hartogsohn, I. 2017. Constructing Drug Effects: A History of Set and Setting. *Drug Science, Policy and Law* 3: 1–17.

Henkel, D. 2011. Unemployment and Substance Use: A Review of the Literature (1990–2010). *Current Drug Abuse Reviews* 4: 4–27.

Hoffmann, J., M. Dufur, and L. Huang. 2007. Drug Use and Job Quits: A Longitudinal Analysis. *Journal of Drug Issues* 37: 569–96.

Hoffmann, J., and C. Larison. 1999. Drug Use, Workplace Accidents and Employee Turnover. *Journal of Drug Issues* 29: 341–64.

Holtyn, A. F., F. Toegel, M. Arellano, S. Subramaniam, and K. Silverman. 2021. Employment Outcomes of Substance Use Disorder Patients Enrolled in a Therapeutic Workplace Intervention for Drug Abstinence and Employment. *Journal of Substance Abuse Treatment* 120. https://www.journalofsubstanceabusetreatment.com/article/S0740-5472(20)30417-7/pdf (accessed January 1, 2022).

Krieger, N. 1994. Epidemiology and the Web of Causation: Has Anyone Seen the Spider? *Social Science & Medicine* 39: 887–903.

Krieger, N. 2008. Proximal, Distal, and the Politics of Causation: What's Level Got to Do with It? *American Journal of Public Health* 98: 221–30.
Kwon, J. B., and C. M. Lane. 2016. *Anthropologies of Unemployment: New Perspectives on Work and Its Absence*. Ithaca, NY: Cornell University Press.
Lambert, H. 2013. Plural Forms of Evidence in Public Health: Tolerating Epistemological and Methodological Diversity. *Evidence & Policy* 9: 43–48.
Lende, D. H., T. Leonard, C. E. Sterk, and K. Elifson. 2007. Functional Methamphetamine Use: The Insider's Perspective. *Addiction Research and Therapy* 15: 465–477.
Lende, D. H., and E. O. Smith. 2002. Evolution Meets Biopsychosociality: An Analysis of Addictive Behaviour. *Addiction* 97: 447–58.
Macdonald, S., S. Wells, and T. C. Wild. 1999. Occupational Risk Factors Associated with Alcohol and Drug Problems. *American Journal of Drug and Alcohol Abuse* 25: 351–69.
MacDonald, Z., and M. A. Shields. 2001. The Impact of Alcohol Consumption on Occupational Attainment in England. *Economica* 68: 427–53.
Marcus, G. E., and E. Saka. 2006. Assemblage. *Theory, Culture & Society* 23: 101–6.
McLean, K. 2016. "There's Nothing here": Deindustrialization as Risk Environment for Overdose. *International Journal of Drug Policy* 29: 19–26.
Mendoza, S., A. Rivera, and H. Hansen. 2016. The Prescription Opioid "Crisis" among Middle- class White Americans. *Transcultural Psychiatry* 53: 465–87.
Metzl, J. M., and A. Kirkland, eds. 2010. *Against Health: How Health Became the New Morality*. New York: NYU Press.
Milner, A., A. J. Scovelle, T. L. King, and I. Madsen. 2019. Exposure to Work Stress and Use of Psychotropic Medications: A Systematic Review and Meta-analysis. *Journal of Epidemiology and Community Health* 73: 569–76.
Mintz, S. W. 1986. *Sweetness and Power: The Place of Sugar in Modern History*. New York: Penguin Books.
Morgan, A., and E. Ziglio. 2007. Revitalising the Evidence Base for Public Health: An Assets Model. *Promotion & Education Supplement* 2: 17–22.
Müller, C. P., and G. Schumann. 2011. Drugs as Instruments: A New Framework for Non-addictive Psychoactive Drug Use. *Behavrioral and Brain Sciences* 34: 293–347.
Netherland, J., and H. Hansen. 2015. White Opioids: Pharmaceutica Race and the War on Drugs that Wasn't. *BioSocieties* 12: 217–38.
Netherland, J., and H. Hansen. 2016. The War on Drugs that Wasn't: Wasted Whiteness, "Dirty Doctors," and Race in Media Coverage of Prescription Opiod Misuse. *Culture, Medicine and Psychiatry* 40: 664–86.
Newman, K. S. 1988. *Falling from Grace: The Experience of Downward Mobility in the American Middle Class*. New York: The Free Press.
Nichter, M. 2013. The Rise and Transformation of Evidence-based Medicine. *American Anthropologist* 115: 647–49.
Ong, A., and S. J. Collier, eds. 2005. *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*. Malden, MA: Blackwell Publishing.
Panter-Brick, C. 2014. Health, Risk, and Resilience: Interdisciplinary Concepts and Applications. *Annual Review of Anthropology* 43: 431–48.
Parsons, M. A. 2014. *Dying Unneeded: The Cultural Context of the Russian Mortality Crisis*. Nashville: Vanderbilt University Press.
Parsons, M. A., and D. Barger. 2019. The US Mortality Crisis: An Examination of Non-Hispanic White Mortality and Morbidity in Yavapai County, Arizona. *Journal of Community Health* 44: 661–67.
Rajan, K. S. 2007. Experimental Values: Indian Clinical Trials and Surplus Health. *New Left Review* 45: 67–88.

Rasmussen, N. 2009. *On Speed: From Benzedrine to Adderall*. New York: NYU Press.
Robins, L. N., J. E. Hlezer, M. Hesselbrock, and E. Wish. 2010. Vietnam Veterans Three Years after Vietnam: How Our Study Changed Our View of Heroin. *The American Journal on Addictions* 19: 203–11.
Sahker, E., S. Rasheed, and S. Arndt. 2019. Employment Recovery Capital in the Treatment of Substance Use Disorders: Six-month Follow-up Observations. *Drug and Alcohol Dependence* 205: 107624.
SAMHSA. 2020. *Results from the 2019 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: U. S. Department of Health and Human Services.
Singer, M. 1992. Why Does Juan Garcia Have a Drinking Problem? The Perspective of Critical Medical Anthropology. *Medical Anthropology* 14: 77–108.
Singer, M. 2012. Anthropology and Addiction: An Historical Review. *Addiction* 107: 1747–55.
Stone, W. 2016a. A Small Town Struggles with a Boom in Sober Living Homes. https://www.npr.org/sections/health-shots/2016/08/22/490526943/a-small-town-struggles-with-a-boom-in-sober-living-homes (accessed January 1, 2022).
Stone, W. 2016b. Residents Call for Regulation of Sober Living Homes in Arizona. https://www.npr.org/2016/08/22/490969839/residents-call-for-regulation-of-sober-living-homes-in-arizona (accessed January 1, 2022).
von Mayrhauser, C., M.-L. Brecht, and M. D. Anglin. 2002. Use Ecology and Drug Use Motivations of Methamphetamine Users Admitted to Substance Abuse Treatment Facilities in Los Angeles: An Emerging Profile. *Journal of Addictive Diseases* 21: 45–60.
Walley, C. J. 2013. *Exit Zero: Family and Class in Postindustrial Chicago*. Chicago: University of Chicago Press.
Webster, J. M., M. Staton-Tindall, J. L. Duvall, T. F. Garrity, and C. G. Leukefeld. 2007. Measuring Employment among Substance-using Offenders. *Substance Use & Misuse* 42: 1187–205.
Weeks, K. 2011. *The Problem with Work: Feminism, Marxims, Antiwork Politics, and Postwork Imaginaries*. Durham: Duke University Press.
Yates-Doerr, E. 2020. Reworking the Social Determinants of Health: Responding to Material–Semiotic Indeterminacy. *Medical Anthropology Quarterly* 34: 378–97.
Zinberg, N. 1984. *Drug, Set and Setting: The Basis for Controlled Intoxicant Use*. New Haven, CT: Yale University Press.