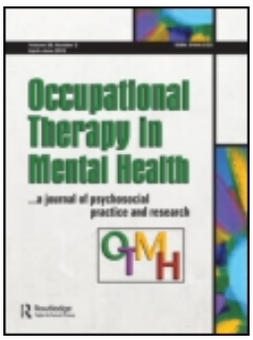

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Work Strain, Social Isolation and Mental Health of Long-Haul Truckers

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ABSTRACT

Commercial driving is associated with myriad work strains. An ethnographic approach is used to examine how chronic, excess work strains impact the overall mental health of U.S. long-haul truckers. Social isolation and inherent difficulties of establishing and maintaining meaningful social ties during long stretches on the road are found to take a toll on drivers' mental health. Truckers struggle with loneliness and are overstressed from work pressures and weak support systems. Therefore, commercial driving urgently needs policies designed to curb trucking's harmful effects on driver mental health and public safety and occupational therapy programs designed to improve mental health.

KEYWORDS

Commercial drivers; ethnography; mental health; social isolation; work strains

Introduction

Commercial driving has been widely recognized as a detrimental occupation for the well-being of truck, bus, coach, and other types of drivers (Krueger, 2013). Long-haul truck drivers, in particular, operate in a work environment characterized by excess work hours, erratic schedules, disrupted sleep patterns, extended social isolation, and extreme time pressures. These exposures have been linked with a wide array of chronic comorbidities and disorders for truckers, along with road traffic accidents that are often fatal for drivers and the public at large (Krueger, 2012). Truck driving has also been connected with chronic symptoms of stress, anxiety, burnout, psychological distress, substance misuse, depression, and other psychiatric disorders that can exacerbate the foregoing health ramifications, and that appear to be endemic to the transport sector (Shattell, Apostolopoulos, Sönmez, & Griffin, 2010).

This article is grounded on two assumptions: (1) mental disorders are largely overlooked when studying transport worker behavior (Apostolopoulos, Peachey, & Sönmez, 2011) and (2) commercial driver mental health problems have potentially grave ramifications for personal and public safety. Within this framework, the authors examine how U.S. long-haul truckers' chronic

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and immediate work strains that create a chronic state of transience and social isolation and are consequently linked with weak professional and community support systems, as well as substance misuse—influence their overall mental health, particularly during traumatic life events. These strains are exacerbated by perpetual mobility and chronic isolation. The ultimate goal of this article is to provide commercial trucking, stakeholders, and regulatory agencies the information needed to implement policies designed to curb the harmful effects of trucking on driver mental health and public safety and to recommend occupational therapy programs designed to improve mental health of drivers and equip them with effective coping mechanisms.

Long-haul trucking: Work conditions and driver well-being

Endemic risks associated with long-haul truck driving deprive drivers of their basic life satisfactions. Over the years, spurred by deregulation and exacerbated by hours-of-service, trucking has become fiercely competitive, generating increasingly intense pressures on drivers. These pressures are manifested in the form of strict on-time pickup-and-delivery expectations and excessive work hours. Other stressors on drivers include irregular schedules, disrupted sleep patterns, excess physical and psychological workload, little to no job control, declining job satisfaction, lack of health-supportive resources, and a solitary and sedentary lifestyle (Apostolopoulos et al., 2011).

Truckers operate in obesity enabling work environments that include truck stops, trucking terminals, warehouses, and truck cabs, where drivers spend nearly all of their time (Apostolopoulos et al., 2011). Because of their perpetual mobility, truckers are both dependent upon these settings and vulnerable to their limitations. Unlike members of most occupational cohorts, long-haul truckers spend extensive periods of time away from their homes; therefore, policies, resources, and amenities of their work environments have a significant impact on their well-being (Apostolopoulos et al., 2012a). Not surprisingly, the foregoing stressors lead to a number of comorbidities that are reflected in diminished life expectancy for truck drivers. This is estimated to be 16 years lower than that of the general U.S. population (Ferro, 2010). Additionally, associated with the above noted work stressors are excess rates of obesity, cardiometabolic diseases, and an array of musculoskelet al and sleep disorders (Apostolopoulos, 2012). Health strains of truckers—that also include pulmonary comorbidities and cancer associated with carcinogenic diesel exhaust fumes that they are exposed to in trucking environments—also affect the safety of the motoring public (American Cancer Society, 2012). Obese drivers in particular—approximately 53.4% of long-haul drivers—are associated with up to 63% higher crash rates compared with drivers of normal weight (Anderson et al., 2012; Apostolopoulos, Sönmez, Shattell, Gonzales, & Fehrenbacher, 2013).

Embedded within a distinct trucking subculture, these interacting work-related stressors can potentially induce or exacerbate various forms of reckless behavior (Apostolopoulos & Sönmez, 2007). Evidence from research conducted at truck stops in Alabama, Arizona, Florida, Georgia, North Carolina, and New Mexico reveals that some truckers engage in risk-laden sexual transactions with female sex workers as well as casual and often unprotected sexual encounters along the highways with other women as well as men. These already risky encounters are often combined with various illicit substances used to stay awake during long drives, relax at the end of exhausting days, or to party during downtimes (Apostolopoulos & Sönmez, 2006; Lichtenstein, Hook, Grimley, Janet, & Bachmann, 2008; McCree et al., 2010).

Occupational exposures and the mental health of commercial drivers

Depressive, mood, and anxiety disorders present a profound public health burden in the United States (Fan et al., 2012; P. S. Wang, Berglund, & Kessler, 2000), where $26 billion are spent annually in direct medical costs, while $31–52 billion are lost each year in work productivity (Fan et al., 2012). Populations, which appear to be most susceptible to adverse mental health disorders, include minorities, those with lower educational attainment, people aged 18–24, those without health insurance, and people who are separated, divorced, or widowed (Centers for Disease Control and Prevention, 2010).

The Whitehall studies—among the first to examine the impact of occupation on psychosocial health—have continued to examine job strain as a potential determinant of mental illness (Clougherty, Souza, & Cullen, 2010). Numerous other studies have illustrated disparities between diverse occupational groups in relation to debilitating mental health conditions (Fan et al., 2012; Krieger, 2010; Sanne, Mykletun, Dahl, Moen, & Tell, 2003; Stansfeld, Rasul, Head, & Singleton, 2011). Occupations that place workers at increased risk for mental distress have been found to share certain characteristics, such as excessive demands, irregular or long work hours, little control over work, and conditions that isolate people (Fan et al., 2012; Kasarek, Baker, Marxer, Ahlbom, & Theorell, 1981; Krieger, 2010)—all of which are prevalent in long-haul truck driving.

Studies comparing traditional blue collar jobs (e.g., construction, manufacturing) with white-collar jobs (e.g., administration, management) have identified factors that potentially contribute to the significance of one's occupational status, such as societ al recognition, income and other forms compensation, and the existence of a support system and culture within the profession (Clougherty et al., 2010). In studies examining links between depression and the role of social capital in the workplace (e.g., social support, co-worker/supervisor support, mutual trust, access to resources; Kouvonen

et al., 2008) individual perceptions were found to influence mental health, with a 20–50% higher rate of depression among those employees reporting lower levels of social capital compared with those enjoying higher levels of social capital.

Commercial drivers are often considered a vulnerable population when it comes to mental health. Excessive workload (long hours, delivery pressures), repetitive tasks, many miles driven, chronic time pressures, irregular work schedules, insufficient rest breaks, and extended periods of time away from drivers' personal support systems have been associated with a range of mental health problems (Apostolopoulos, Sönmez, Shattell, & Belzer, 2010; da Silva-Junior, de Pinho, de Mello, de Bruin, & de Bruin, 2009; Renner, 1998; Shattell, Apostolopoulos, Collins, Sönmez, & Fehrenbacher, 2012; Shattell et al., 2010). When compared to members of other occupational segments, truckers exhibited considerably higher rates of depression and more frequent bouts with mental distress. Even more worrisome is the finding that many cases of distress either remain unreported and untreated, or if they are acknowledged, they do not receive workplace accommodations (Fan et al., 2012; J. Wang, Patten, Currie, Sareen, & Schmitz, 2011). Truckers also experience depression disproportionately more than the general population—drivers at highest risk include younger truckers, those with lower educational attainment, and those who work longer hours, have less control, and earn less pay when compared to self-employed drivers who enjoy greater freedom and self-determination, as well as those who use stimulants (da Silva-Junior et al., 2009; Orris et al., 1997).

Methods

Data collection

Data reported in this article are part of an ethnoepidemiological study that examined connections between substance use, sexual behavior, and potential infection and transmission among long-haul truckers and members of their social relationships in inner-city Atlanta, Georgia in the southeastern United States (Apostolopoulos & Sönmez, 2006). The first two phases of the study included (1) onsite observation and sociospatial mapping of research settings and (2) focus groups with truckers, female sex workers, and drug suppliers to deconstruct the full gamut of risk settings and exchanges, and to help develop interview guides to be used in the final phase. Interview guides were grounded in ecosocial, social capital, and social networks theoretical frameworks (Kawachi, Subramanian, & Kim, 2008; Krieger, 2001; Smith & Christakis, 2008). In the last phase of the study, the authors used respondent-driven sampling (Morris, 2004) to collect network-informed data through in-depth interviews with 60 long-haul truckers, 24 female sex workers, and six intermediaries (individuals who facilitate

diverse risk transactions involving sex or drugs between truckers and various members of their risk networks), totaling 90 people clustered into 11 separate chains. From these 90 people, the authors also collected blood and urine samples to screen for various sexually transmitted infections (STIs); however, results of STI screening are not reported in this article.

Data analysis

Key categories of data reported in this study are: (1) individual background characteristics such as sociodemographics and trucking and health history; (2) sexual and substance-use history and current behaviors; (3) psychosocial factors such as professional pressures, life trauma, coping mechanisms, and mental health challenges; (4) trucker network properties such as dyadic sexual partnerships and relationships with drug contacts, and bridging potentially risk-carrying (e.g., human immunodeficiency virus [HIV]/STI positive) and risk-vulnerable populations by way of mobility and repetition of sexual and drug-use behaviors in new environments; concurrency of sexual partnerships, and type and strength of relationships and patterns; (5) spatial domains such as truck driving pathways, trucking settings, and locales surrounding truck stops; and (6) sociostructural issues such as health care access, trucking operations, and work stressors.

Ethnographic data were transcribed and entered into NVivo 7 (Quality System Regulation International [QSR], 2007) for textual analysis. Preliminary thematic coding was used to establish measures of relationships between truckers and their contacts within various trucking milieux. An open coding approach was used to bracket text sections into themes (Emerson, Fretz, & Shaw, 2011). The nature of the data warranted multilayered coding of text into several themes following the establishment of inter-coder reliability and validity (Manning, Cullum-Swan, Denzin, & Lincoln, 1994), which was repeated as new coding categories of inquiry emerged. Once preliminary thematic bracketing was completed, analysis aimed to complete four sequential tasks: (1) axial coding and memoing to explore themes and their relationships for trucking milieux; engagement of trucker networks with these milieux; and relationships and interactions between and among network members and their consequences; (2) thick descriptions of social network settings; (3) explanations of how trucking milieux and conditions influence sexual interactions and drug transactions and expose populations to risk; and (4) conceptual mapping to graphically explore relationships among foregoing themes.

Results and discussion

Transience and work strains

Interviewed truckers were found to routinely experience a multitude of strains on a daily basis as part of their jobs: chronic isolation from friends and family

and absence from their homes for extended periods of time, frequently missing important family events; dealing with long work hours and stressful driving conditions caused by traffic and bad weather; experiencing significant stress resulting from a combination of mile-based pay and ongoing delivery pressures; often facing physical risks and dealing with accidents and illnesses without the protection of health insurance or easy access to medical resources; being burdened by a combination of chronic fatigue, financial strains, and family issues; and experiencing discrimination that exacerbates their loneliness, anxiety, and depression. When asked about the stress they experience on the job, truckers' responses essentially confirmed the foregoing:

> The diesel, no money, the loads don't pay no more. … Truckers ain't got no insurance. They ain't got no health. You know, we got truckers been out there for 60 years ain't got nothin' to show and … and we carry everybody else's load. If truckers stop, United States stop.

> Well, one of the pressures of this job is schedules … and you only have X-amount of hours to get your load off, you've only got X-amount of hours to sleep, you've only got X-amount of hours to do things and still get the job done … so there's lots of pressure.

> It's terrible … I stay on the road all the time … I do lots of regional runs but lots of it is like you go out and you stay gone for a week. And sometimes when you come back, you drop a trailer and you pick another one up … and you might drop something in Texas and from there you go out to California and pick up produce … that's the kind of job I got.

> I have long grueling hours … being on the road much too much. You know, sometimes you get so … uh … tired that you don't even know how tired you are until afterwards.

> It's rough and rugged … it's hard and it's stressful. You know, maybe that's why I turn to drugs, I don't know. It's not the type of life I really want to live but, you know, it gives me what I need to maintain my family and to maintain me and my lifestyle.

Some drivers articulated the immense stress and fatigue they experience on an ongoing basis, not only physically but also emotionally, as a result of their work conditions and loneliness:

> I've been out there about 4-and-a-half years … truck driving leaves you lonely. It leaves you … um … soul searching, looking in the wrong places for things that you already, you know, have!

> Uh, you're alone all the time. I mean, you talk to people you don't know. Um, you're just out there by yourself, and pushed very hard … [laughs] … dealing with issues when you're thousands of miles away … dealing with the stress, the weather, tiredness, fatigue.

In addition to endemic difficulties of trucking that exert stress on drivers, various instances of discrimination and ill treatment that drivers encounter make their jobs and lives even more difficult. Interviewed drivers described

discrimination by the general population that they feel is rooted in their occupation and the perceived social status of truckers. Drivers offered a variety of reasons to explain their ill treatment, which they attributed sometimes to their socioeconomic status, sometimes to race, and sometimes to what they believe is an unflattering public image of truckers:

> Well, I think the general population thinks we're a piece of shit … you know … that truckers are sleazy … scum … nasty … stinky … don't bathe. Yeah.

> Oh they [public] think truckers are losers or low-life or trailer-park people … they think we're rednecks [laughs].

> Uh … some people are like … truckers are … trash … don't have a stable home, got thousands of women in each city … they think we're a bunch of whores, you know.

> Well, you hear people on the CB [Citizen's Band Radio] calling other drivers … uh … niggers … I been called that all over the country.

Surprisingly, some drivers shared instances of ill treatment by those they interact with during the course of their work. In particular they referred to the shipping and receiving staff they see when they pick up or deliver their loads:

> Um well … when you go to the shipper receiving the load, they uh, have a stigma against truck drivers. They don't have no respect. They think it's a low-life job. It is a disgrace that we are treated this way in this day and age.

> Oh yeah … when you go through the shippers and receivers … I've gone to places and I've had to use the restroom and they've said no … because I was a driver I couldn't use the bathroom. Pissed me off. That just blows me away. It's like, because I'm a driver?

Physical and safety risks are an added stressor for truckers. Drivers expressed their ongoing fear about driving in unsafe neighborhoods making deliveries in crime-riddled urban industrial neighborhoods, navigating in cities and towns they are unfamiliar with, or stopping at unfamiliar truck stops with dangerous elements. Others described physical threats of violence directed at them by others and recounted witnessing acts of violence or fatal traffic accidents. Drivers' remarks clearly indicate their concern over various risks involved in trucking, including accidents leading to injury or death:

> Well, you know, late night drops … you know, going into cities … and warehouses and unsecured areas.

> Well I was on the road, driving, and a guy wanted to get around me, uh … finally he got to go around me and he waved his gun at me.

> If we're not being robbed or hijacked or having sleeping cars or other trucks hitting us, we got prostitutes slitting our throats. I hear they carry razor blades in their fingernails. People find drivers dead in their trucks 2 or 3 days later. You hear about that.

> I watched another tractor trailer run over this car, you know, and he [automobile driver] was killed. Well, I hate to see people killed … it was a man, a woman, and two kids. … Yeah it affects me. When I'm going down the road I think that same thing, you know. I mean, I don't want to run over nobody like that.

Traumatic life experiences

Similar to findings from previous research with truckers (Apostolopoulos et al., 2010; Shattell et al., 2010, 2012) and other populations (Kendler, Karkowski, & Prescott, 1999; Kessler, 1997; Tennant, 2002; Tracy, Norris, & Galea, 2011), many drivers reported the negative psychological impact of traumatic life events that they experienced, including death of a family member, strained or failed marriages, personal experiences with violence and traffic accidents, or prolonged separation from their families. Not only do traumatic life events deeply affect drivers but coping with tragic or distressing experiences becomes even more difficult because of their lifestyles and ongoing work demands. The feeling of constant sadness and hopelessness and, in some cases, even thoughts of suicide were echoed by a number of drivers:

> Uh-huh … I had mildly retarded children that I adopted and our trailer caught on fire, and we couldn't get them out … then my father died about 2 months after that … it's so hard on you, you know, you think about family members that you lose that you love.

> When my mom died I realized how precious life is and … so, I took it upon myself to make sure that the people are important to me I try to make sure I call them or let them know how important they are to me ….

> Oh, gosh … the divorce affected everything. I've lost 40 pounds … uh, I don't sleep. Uh, it's affected me tremendously. I tried to kill myself … now I'm trying to find little things to live for.

Social isolation, social support, and social networks

Social isolation caused by truckers' jobs emerged as a recurring theme in all interviews. The prolonged periods of loneliness have significant impacts on drivers while also having a detrimental effect on family dynamics, as drivers miss out not only on important events but more importantly on the day-to-day interactions so vital for family bonding. Drivers expressed the huge strain that their jobs put on their relationships as a result of these prolonged absences:

> My relationship with my family? It's on and off. First time I seen my family was—I seen them at Christmas, but the last time I seen them before that was Thanksgiving.

> My relationship with my children ain't really that strong because I haven't been in their life. I mean, I've been in their life, but you know, they see me rarely … you know what I mean?"

I have a good relationship with my family and friends. Like I'm always over the road … I talk to them on the phone a lot um, I see them … well, I see them almost every year.…Yeah … every New Year's, we always get together and, you know, funerals and stuff like that?

Honestly … the reason drivers have this persona of being loners is because they are so lonely … you don't interact with folks much … I've gone weeks without talking to somebody.

Well, I see my wife every 24 days to every 60 days. Let's just say from every month to every 2 months and I'll spend 4 or 5 or 6 days at home.

I have two kids … a boy and a girl. One is 18 and one is nine. Umm, I see them approximately about twice a month.

Uh … I hear about weddings and funerals … [laughs] … that's about it. Anything in between—I miss. It was just a fantasy to travel and see the world. I didn't know the solitude of it then when I was a kid with my father. I was with him all the time. Now I'm the one that doesn't have a kid with me. I'm always alone.

Being on the road for extended periods of time and being isolated from their families and friends allow truckers ample time to reflect and sometimes dwell on aspects of their family life that they greatly miss because of work obligations. Strained relationships were noted by some drivers as reasons for turning to substance use.

Trucking leaves you … um, lonely and bitter … yeah. Problems get big inside that truck, you know … like you got a little problem at home … it stays in your head all the time and it just keeps growing—it really makes it seem like it's worse than it really is.

You know, pretty much … uh [driving] kept me busy and apart from my family … it's put a strain on everything … uh you know being homesick … it'll get to you after a while.

Now … my wife … being with an old driver … phew, it's rough. Usually the divorce rate, y'all find out, it's really high. It just takes a special person, a special woman to stay married to a trucker.

Well … it's kind of rough on my family. I see my 19-year-old probably three or four times a year. The other ones, if I'm lucky and blessed, I might see them once a year. Sometimes I don't even get to see them then.

Okay … uh, the 15-year-old daughter, she uh, I guess she hates me because I'm gone. If I'm home, she love for me to be home you know because she's close to me. My 10-year-old son, he's the one that breaks my heart every time I get ready to leave the house, you know, because he wants me there.

When I'm on drugs … I really don't stop to think. I don't care about it and I'm just … the drugs and just being in a bad place in my life right now.

In the face of excessive work and personal stressors, strong support systems are considered among the most effective coping mechanisms. Truckers were

asked about their source of support to determine their coping mechanisms for the difficulties they encounter on an ongoing basis, either personally or professionally. Although their work takes them away from their families for long periods of time, truckers most frequently identified wives, children, and other family members as their primary sources of support. These drivers went on to say that life would be very difficult without their family members —even if they do not see them as often as they would like. They added further that despite the difficulties of maintaining a family over frequent and long periods of separation, they were still exerting great effort to do so:

> Well, mostly my grandmother and my wife. They help me with better judgment … you know, take it easy, pray and ask the lord and everything will be all right.

> [Laughs] … believe it or not, my ex-wife … mental and emotional support. Without her support … it'd be rough. I'd be very depressed.

Several drivers pointed to other truckers in the same situation and the sense of camaraderie they have developed with them. Some drivers rely on religion and their devotion to their beliefs while others have no support system whatsoever and are unable to develop any meaningful relationships because of their constant mobility. In fact, too many drivers expressed the total absence of any type of social support in their lives.

> [Very long silence] … my inner self … I just tell myself things are going to get better.

> When I get a chance, I do try to go to church because I do believe in God, you know what I mean? I started building that relationship with God, you know and uh … that has really made the difference in my life. You know it's like I finally found what I was looking for and it wasn't none of those things 'cause most of those things like car or girl it's like a dope, a quick hit, a good fix, you know.

> Uh … don't really have much support … other than when you stop to eat or something you might stop with another driver and say "Hey, let's get something to eat." And you both stop at the same place and shoot the shit with each other and tell lies, you know.

> I don't have one [family] really … [laughs] … I mean, I'm never there … like days a month.

> Who do I get support from? Nobody … I mean *nobody* [emphasis added].

> I don't feel like anybody's close to me … I'm alone.

> Nowhere … I'm by myself in everything I do. I'm by myself … I work by myself. I'm at home by myself. Uh … as a kid I was left at home by myself till 2 or 3 in the morning because my mom worked in clubs. So I'm just used to being alone. I've been divorced 10 years.

> No one. My wife is there, but she's … she has real issues. My life is my own. It's always been that way. No, no, no, no. I don't have anybody to help me emotionally or morally or financially. So if I get down and broke … I'd be down and broke and

do what I got to do. I guess I'd go back to the soup kitchen. I've been there before, shit [laughs].

As drivers move through various stopping points along their routes, they interact with numerous people who form a loose social network. With some they meet along the way, they might establish fleeting relationships that might involve simple conversation, while in higher risk situations, substance use or some type of sexual transaction might be involved. Although these relationships do not last, they do provide some level of comfort to those involved. The authors asked drivers about the number of people they meet on a typical trip, who they interact with, the duration of such relationships—lasting from a few minutes or hours to a day or longer periods—and what meaning these relationships held for the drivers:

It's just part of the job. You know, you meet somebody. Y'all hit it off, casual conversation, any type of topic come up. You know, I like your company, you like mine … you know, we stick together.

Uh … when people are friendly back to you … you know … it makes the job a little easier.

I want to be able to get along with the next human being and know that I'm a person that uh … stays tolerable.

Five or six people … yeah, we're friends. For about an hour. Some of them you never see again.

Are these relationships important to me? Yes and no. Yes they are because you get to meet new people, but no because you're going to forget them in 2 weeks. There are some girls I'll sit and have conversations with for a while that I personally like a little bit.

Not surprisingly, these relationships hold different meanings for different drivers. Particularly for those truckers who do not have a family or friends, these human connections offer some level of comfort; on the other hand, for some drivers they signify nothing more than passing the time during a layover. Although a trucker on the road may meet a handful of new people each day, these transitory relationships are often formed at truck stops and are very brief:

Usually they [relationships] last as long as that route lasts. And then sometimes I've left a couple years and come back and there they are.

Probably … high end … probably 10 minutes at that. Five minutes. That's why I don't get personal.

Only long enough for me wherever I stop at and leave for my next destination.

Nah … not very long, maybe a couple of months or so, you know, people always lose contact, you know.

> You very seldom run across somebody you know for 2 years out there. You might see a person you've known for like 6 months or whatever. We run to the same stops, the same places, you know?
>
> Most times, the person that you just meet … don't really know enough about you to offer any moral support.
>
> Uh … to be honest with you, nothing really … there's no relationship on the road … we're not family, you know, so … just acquaintances.
>
> It's seldom that you'll meet somebody out there … that a relationship will actually last more than just that one particular time you're talking to them … you ain't out there exchanging telephone numbers unless, you got the same interest at heart, and there's something you guys can offer each other.
>
> Sometimes I'll hang out at the truck stop and just talk to other truckers. Socialize a little bit. Not much. Because there's a lot of other guys in there who haven't talked to anybody for days and they corner you and talk your head off.

When describing their social networks, truckers often referred to these relationships as friendships, noting that while they did not often provide moral or emotional support and were not important to them, they still had some value. Their primary value was in preventing boredom, providing advice, or helping to pass the time. Socializing at a truck stop may help a trucker to feel less lonely in the moment, but at the end of the day he may often be thousands of miles away from the family members back home who provide meaningful emotional, moral, and/or social support. This distance from people who provide social support, exacerbates drivers' chronic feelings of isolation, contributing to depression. Loneliness and distance from home have previously been documented as occupational stressors of the trucking industry (Shattell et al., 2010). It is at these crucial moments when drivers feel alone, isolated, and vulnerable that drugs and commercial sex workers offer them opportunities to temporarily cope with their negative feelings (Apostolopoulos & Sönmez, 2007; Apostolopoulos, Sönmez, Shattell, & Kronenfeld, 2012b).

Drug use and infectious disease risk

Previous research has highlighted the association between psychosocial factors, depressive symptoms, and alcohol, drugs, and risk-laden sexual behaviors (Elkington, Bauermeister, & Zimmerman, 2010; Shrier, Harris, Sternberg, & Beardslee, 2001; Stall et al., 2003; Wingood & DiClemente, 1998). Seeking an escape from their negative life events and work conditions, truckers are susceptible to linking with other people they meet on the road and engaging in risk-taking, such as alcohol and drug misuse in addition to unsafe sexual practices; this is particularly commonplace when trucking work settings are in close proximity to urban areas (Apostolopoulos & Sönmez,

2007; Apostolopoulos et al., 2010, 2011). When asked about reasons for drug use, one driver shared the following:

> To escape trouble … uh … work … personal trouble. Just to get—just to escape. To relax, get away from your worries.

Truckers revealed vast information regarding their relationships with drug suppliers and sex workers within close proximity to truck stops and surrounding venues. Routinely truckers described how their networks are oftentimes formed through a sex contact that then leads to a drug contact or vice versa. When asked how he was first introduced to crack, one driver explained:

> The same way … whores [laughs]. Okay? You know? I mean … shit [laughs].

Drivers were asked further about the size of these social networks spontaneously formed en route and the number of people involved in drug or sex transactions:

> On a typical trip … how many different drug dealers? Man … I would say, in my situation, probably five … in my situation. But, for a normal truck driver, any and everybody.

> To tell you the truth, I might hook up at every stop. I'm going to say it like this, every time I stop.

Discussions with drivers—including those where were married or in committed partnerships— revealed engagement in sexual activity with sex workers while on the road. Upon being probed further about his sexual risk taking behaviors, one driver openly acknowledged:

> Uh … 90%—maybe even higher—95% of my sex comes from prostitutes.

Interviewed truckers spoke candidly about their unsafe sexual experiences and their fears of acquiring HIV or other STIs. Several truckers reported sporadic use of condoms while others indicated preferences for never using them; some drivers cited drug use as an explanation for ignoring safe sex practices whereas the simple need for human contact was a particularly poignant reason for not using condoms. Regardless of the reason, in moments of clarity, drivers acknowledge that they have taken risks along the way:

> Yeah because sometimes I worry that I gave … received blow jobs from girls without condoms … and I realize people are like, "You can't get AIDS that way." Well these girls aren't the healthiest girls in the world.

Other mental health concerns

Some drivers accepted the view that they would prefer to have a different source of income, but were essentially trapped in their situation by their lack of skill or education and thus unable to change their jobs even though it kept

them away from home to the detriment of the family. Drivers are often unable to even start a family because of their occupational lifestyles. Whatever the problem or the reason might be, the clear threat that the trucking occupation poses to driver mental health is undeniable. Many drivers themselves are clearly aware of their depression and desperation; however, they feel trapped and helpless to find solutions, as can be seen by the following responses:

> I'm always alone, man … I'm always alone. You know … it's just that I know I can do more but what do I do to make the money that I make? I'm sacrificing pretty much my sanity … my ability to talk to people. What it is—is total isolation. It's very lonely.

> Uh … I get depressed … lonely … especially when I go long distances and can't get back home that often. Yeah, I get mentally fatigued … I get emotionally tired … and cry.

> Uggghhh … I just feel fucked up, man … uggghhh. Well, you know, it's a whole lot of stress and doing shit. I'm alone. I want children and house and the wife and all that shit, and I can't get it on account of, you know, driving trucks and being out on the road all the time.

> Feelings of anxiety, loneliness, depression … all of these … [laughs] … emptiness, sadness, helplessness … yeah. The depression is just what's keeping me down right now.

Aside from their chronic occupational strains, drivers cope with the personal stress, loneliness, and depression that are often the outcome of prolonged periods of time away from loved ones. In those cases when drivers do not have families, their loneliness and depression are even more profound.

Conclusion

The authors have provided an initial examination of a highly neglected public-health issue: long-haul truckers' mental health risks and the multifaceted ramifications. The critical nature of overall driver health for both work productivity and public safety magnifies the importance of the mental health of commercial drivers. Findings support the statement that social isolation and inherent difficulty of establishing and maintaining strong social ties while on the road exact a heavy toll on drivers' mental health. Truckers struggle with loneliness, particularly related to the lack of reliable support systems, and they are overstressed as a result of their work pressures, excess physical and mental overload, the need to maintain constant vigilance, and associated sleep problems (Apostolopoulos et al., 2011). This intense and chronic work-life conflict can potentially affect drivers' effectiveness and productivity, while it increasingly leads to high levels of labor turnover in the trucking sector. Integrative and dynamic interventions are urgently needed, which take into account the entire gamut of the commercial driving work environment,

with an emphasis on stakeholders including truck drivers, unions, trucking companies, truck stops, government bodies, and regulatory agencies.

The nature of commercial driving is clearly linked to the work strains and social isolation that impact the mental health of long-haul truck drivers. There are nearly 1.5 million long-haul truck drivers in the United States alone (U.S. Bureau of Labor Statistics, 2015). Changing the structure of commercial driving to significantly improve work conditions for these millions of truck drivers requires the honest evaluation of factors that have created the current situation, a genuine commitment to improvement, and above all the involvement of multiple public and private-sector stakeholders. There is a growing body of literature shedding light on challenges faced by commercial drivers with potential to initiate much needed improvements, however, it is clear that change of this magnitude will take time and require resources. In the meantime, there are occupational therapy measures that can be implemented to minimize social isolation for drivers, which emerges time and again as one of the most difficult aspects of the job—as seen in the earlier excerpts from these interviews with truckers. It is not only important for occupational therapists to be aware of the need for their skills in commercial driving, but also to design creative interventions that transport companies can begin to implement for the well-being of their employees.

Strong support systems emerge as the most effective coping mechanism to manage personal and work stressors. Some drivers implement more effective coping mechanism than others through connections with their family and friends, church, and co-workers. Far too many other drivers, however, resort to harmful coping mechanisms in the form of drug use and risk-filled casual sexual relationships in the absence of any type of social support in their lives. Others simply struggle in their isolation and find no solution to their deep and ongoing problems whatsoever.

The American Occupational Therapy Association (2014) describes "achieving health, well-being, and participation in life through engagement in occupation" as central to both the domain and process of occupational therapy. To move toward this and begin to address varying needs of long-haul truck drivers, certain interventions can be implemented and tracked to determine their effectiveness. For example, the following interventions focused on developing a support system for commercial drivers are suggested.

Counseling: transport companies should consider hiring counselors trained in mental-health to work with drivers who are particularly distressed and isolated due to the lack of social support. Drivers can be periodically screened to determine risk for depression, anxiety, or distress. Counselors can remain in close contact with drivers as needed—not only being available for their calls but to reach out to (particularly at-risk) drivers from time to time to check on them and to offer confidential support during difficult periods and discuss healthier coping mechanisms to combat their isolation.

Company hotline: a confidential 24/7 hotline can be provided to drivers that can be used to reach out for help at the most crucial moments, which is particularly important for those drivers who even contemplate suicide from time to time.

Internal support network: transport companies can support the establishment of a formal internal support network to connect their drivers to each other using social media (via company Facebook, Twitter, LinkedIn accounts) to create a stronger sense of camaraderie and as a more sophisticated and expanded version of CB communication that truck drivers have historically engaged in with other drivers.

Social media: Today nearly all truck drivers use smartphones or other mobile devices and/or have Internet access and many are already utilizing various social media platforms, which can include their company's internal support network. With over 74% of online adults using social networking sites (Pew Research Center, 2014), engagement in social media has been linked with social isolation. In the case of truck drivers who battle social isolation because of the nature of their profession, however, the use of social media might possibly have the opposite impact by connecting drivers to family, friends, co-workers, and company support networks while on the road. A growing number of software applications in addition to Skype, Windows Live Messenger, and FaceTime (e.g., Viber, WhatsApp, WeChat, ICQ, Slack, Tox) allow instant messaging and video chats. Companies can work with drivers to inform them about these tools, provide webcams or mobile devices (installed in truck cabs) as needed, and assure that drivers can have access in their truck or at various work environments (with WiFi access) to keep them in touch with friends, family, and company counselors. These opportunities would provide truck drivers much-needed social connections during layovers, while waiting to load/unload their trucks, any other non-driving periods, or during emergencies.

Truckstop Ministries, Inc. (https://www.truckstopministries.org/) is a non-profit trans-denominational ministry that has been serving commercial drivers since 1981. They are currently located at over 82 truck stops in 29 states but envision establishing a chapel at every truck stop across the country to serve drivers 24/7. Staffed with volunteers, they offer a radio program, a 24-hour trucker prayer line, and a 24-hour call-in devotional line. In 2014, Truckstop Ministries recorded over 31,000 attendees at various chapels, but their attendance has peaked at over 46,000 in past years. Trucking companies can develop a stronger relationship with this organization and inform their drivers of available resources, which can be an added support system for those drivers who rely on their religious beliefs as a coping mechanism for loneliness and isolation.

These measures would convey to drivers that their company cares about them, that they can reach out to a counselor or hotline when they need to or use various technologies to connect to a family member or friend, and above all that they are not alone. Any costs incurred in providing these support mechanisms would be far outweighed by the benefits of drivers better able to deal with the challenges of the nature of their work.

In conclusion, the authors suggest that members of the trucking sector consider a cooperative public relations campaign to improve the negative image

of drivers in the public's eye. Improvements in how truck drivers are perceived will benefit the experience of commercial drivers and possibly minimize the added challenges of ill-treatment they experience on their jobs. The foregoing occupational therapy interventions need to be tracked in order to determine their effectiveness and offer opportunities for future research.

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References

American Cancer Society. (2012). *Diesel exhaust*. Retrieved from http://www.cancer.org/cancer/cancercauses/othercarcinogens/pollution/diesel-exhaust

American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain & process (3rd ed.). *American Journal of Occupational Therapy*, *68*(Suppl. 1), s1–s48.

Anderson, J. E., Govada, M., Steffen, T. K., Thorne, C. P., Varvarigou, V., Kales, S. N., & Burks, S. V. (2012). Obesity is associated with the future risk of heavy truck crashes among newly recruited commercial drivers. *Accident Analysis & Prevention*, *49*, 378–384. doi:10.1016/j.aap.2012.02.018

Apostolopoulos, Y. (2012). *Work organization and the epidemiology of commercial driving: From monocausal to multilevel approaches*. Center for Worker Health Seminar Series. Winston Salem, NC: Wake Forest University School of Medicine.

Apostolopoulos, Y., Peachey, A. A., & Sönmez, S. (2011). The psychosocial environment of commercial driving: Morbidities, hazards, and productivity of truck and bus drivers. In J. Langan-Fox & C. L. Cooper (Eds.), *Handbook of stress in the occupations* (chapter 21, pp. 431–447). Northampton, UK: Edward Elgar Publishing.

Apostolopoulos, Y., Shattell, M., Sönmez, S., Strack, R., Haldeman, L., & Jones, V. (2012a). Active living in the trucking sector: Environmental barriers and health promotion strategies. *Journal of Physical Activity & Health*, *9*(2), 259–269.

Apostolopoulos, Y., & Sönmez, S. (2006). *Trucker networks, drug use, and transmission of sexually transmitted and bloodborne infections: Preliminary findings from the first epidemiological investigation in North America*. Atlanta, GA: Emory University School of Medicine.

Apostolopoulos, Y., & Sönmez, S. (2007). Tracing the diffusion of infectious diseases in the transport sector. In Y. Apostolopoulos & S. Sönmez (Eds.), *Population mobility and infectious disease* (pp. 131–156). New York, NY: Springer.

Apostolopoulos, Y., Sönmez, S., Shattell, M., & Belzer, M. H. (2010). Worksite-induced morbidities among truck drivers in the United States. *AAOHN Journal*, *58*(7), 285–296. doi:10.3928/08910162-20100625-01

Apostolopoulos, Y., Sönmez, S., Shattell, M., Gonzales, C., & Fehrenbacher, C. (2013). Health survey of U.S. long-haul truck drivers: Work environment, physical health, and healthcare access. *Work*, *46*(1), 113–123.

Apostolopoulos, Y., Sönmez, S., Shattell, M., & Kronenfeld, J. (2012b). Sex work in trucking milieux: "Lot lizards," truckers, and risk. *Nursing Forum*, *47*(3), 140–152. doi:10.1111/j.1744-6198.2012.00272.x

Centers for Disease Control and Prevention. (2010). Current depression among adults—United States, 2006 and 2008. *Morbidity and Mortality Weekly Report*, *59*(38), 1229–1235.

Clougherty, J. E., Souza, K., & Cullen, M. R. (2010). Work and its role in shaping the social gradient in health. *Annals of the New York Academy of Sciences*, *1186*(1), 102–124. doi:10.1111/j.1749-6632.2009.05338.x

da Silva-Junior, F. P., de Pinho, R. S. N., de Mello, M. T., de Bruin, V. M. S., & de Bruin, P. F. C. (2009). Risk factors for depression in truck drivers. *Social Psychiatry and Psychiatric Epidemiology*, *44*(2), 125–129.

Elkington, K. S., Bauermeister, J. A., & Zimmerman, M. A. (2010). Psychological distress, substance use, and HIV/STI risk behaviors among youth. *Journal of Youth and Adolescence*, *39*(5), 514–527. doi:10.1007/s10964-010-9524-7

Emerson, R. M., Fretz, R. I., & Shaw, L. L. (2011). *Writing ethnographic fieldnotes*. Chicago, IL: University of Chicago Press.

Fan, Z. J., Bonauto, D. K., Foley, M. P., Anderson, N. J., Yragui, N. L., & Silverstein, B. A. (2012). Occupation and the prevalence of current depression and frequent mental distress, WA BRFSS 2006 and 2008. *American Journal of Industrial Medicine*, *55*(10), 893–903. doi:10.1002/ajim.22094

Ferro, A. S. (2010, May). *Remarks by Anne S. Ferro, FMCSA Administrator*. Paper presented at the Sleep Apnea and Trucking Conference, Baltimore, MD.

Kasarek, R., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job decision latitude, job demands, and cardiovascular disease: A prospective study of Swedish men. *American Journal of Public Health*, *71*(7), 694–705. doi:10.2105/ajph.71.7.694

Kawachi, I., Subramanian, S. V., & Kim, D. (Eds.). (2008). *Social capital and health*. New York, NY: Springer.

Kendler, K. S., Karkowski, L. M., & Prescott, C. A. (1999). Causal relationship between stressful life events and the onset of major depression. *American Journal of Psychiatry*, *156*(6), 837–841. doi:10.1176/ajp.156.6.837

Kessler, R. C. (1997). The effects of stressful life events on depression. *Annual Review of Psychology*, *48*, 191–214. doi:10.1146/annurev.psych.48.1.191

Kouvonen, A., Oksanen, T., Vahtera, J., Stafford, M., Wilkinson, R., Schneider, J., … Kivimaki, M. (2008). Low workplace social capital as a predictor of depression. *American Journal of Epidemiology*, *167*(10), 1143–1157. doi:10.1093/aje/kwn067

Krieger, N. (2001). Theories for social epidemiology in the 21st century: An ecosocial perspective. *International Journal of Epidemiology*, *30*(4), 668–677. doi:10.1093/ije/30.4.668

Krieger, N. (2010). Workers are people too: Societ al aspects of occupational health disparities —an ecosocial perspective. *American Journal of Industrial Medicine*, *53*(2), 104–115. doi:10.1002/ajim.20759

Krueger, G. P. (2012, November). *Research on the health and wellness of commercial truck and bus drivers*. Paper presented at the International Conference on Commerical Driver Health and Wellness, Washington, DC.

Krueger, G. P. (2013). *Health and wellness for commercial truck, bus and motorcoach drivers: Wellness report*. Park Ridge, IL: American Society of Safety Engineers.

Lichtenstein, B., Hook, E. W., Grimley, D. M., Janet, S., & Bachmann, L. H. (2008). HIV risk among long-haul truckers in the USA. *Culture, Health & Sexuality*, *10*(1), 43–56. doi:10.1080/13691050701582936

Manning, P. K., Cullum-Swan, B., Denzin, N. K., & Lincoln, Y. S. (1994). *Handbook of qualitative research*. Thousand Oaks, CA: Sage.

McCree, D. H., Cosgrove, S., Stratford, D., Valway, S., Keller, N., Vega-Hernandez, J., & Jenison, S. A. (2010). Sexual and drug use risk behaviors of long-haul truck drivers and their commercial sex contacts in New Mexico. *Public Health Reports*, *125*(1), 52.

Morris, M. (2004). Overview of network survey designs. In M. Morris (Ed.), *Network epidemiology* (pp. 8–21). New York: Oxford University Press.

Orris, P., Hartman, D. E., Strauss, P., Anderson, R. J., Collins, J., Knopp, C., … Melius, J. (1997). Stress among package truck drivers. *American Journal of Industrial Medicine*, *31*(2), 202–210. doi:10.1002/(sici)1097-0274(199702)31:2<202::aid-ajim10>3.0.co;2-5

Pew Research Center. (2014). *Social networking fact sheet*. Retrieved from http://www.pewinternet.org/fact-sheets/social-networking-fact-sheet/

Quality System Regulation International (QSR). (2007). *NVivo qualitative data analysis software, version 7*. Victoria, AU: Author. Retrieved from (https://www.qsrinternational.com).

Renner, D. A. (1998). Cross-country truck drivers: A vulnerable population. *Nursing Outlook*, *46*(4), 164–168. doi:10.1016/s0029-6554(98)90068-9

Sanne, B., Mykletun, A., Dahl, A. A., Moen, B. E., & Tell, G. S. (2003). Occupational differences in levels of anxiety and depression: The Hordaland health study. *Journal of Occupational and Environmental Medicine*, *45*(6), 628–638. doi:10.1097/01.jom.0000069239.06498.2f

Shattell, M., Apostolopoulos, Y., Collins, C., Sönmez, S., & Fehrenbacher, C. (2012). Trucking organization and mental health disorders of truck drivers. *Issues in Mental Health Nursing*, *33*(7), 436–444. doi:10.3109/01612840.2012.665156

Shattell, M., Apostolopoulos, Y., Sönmez, S., & Griffin, M. (2010). Occupational stressors and the mental health of truckers. *Issues in Mental Health Nursing*, *31*(9), 561–568. doi:10.3109/01612840.2010.488783

Shrier, L. A., Harris, S. K., Sternberg, M., & Beardslee, W. R. (2001). Associations of depression, self-esteem, and substance use with sexual risk among adolescents. *Preventive Medicine*, *33*(3), 179–189. doi:10.1006/pmed.2001.0869

Smith, K. P., & Christakis, N. A. (2008). Social networks and health. *Annual Review of Sociology*, *34*, 405–429.

Stall, R., Mills, T. C., Williamson, J., Hart, T., Greenwood, G., Paul, J., … Catania, J. A. (2003). Association of co-occurring psychosocial health problems and increased vulnerability to HIV/AIDS among urban men who have sex with men. *American Journal of Public Health*, *93*(6), 939–942. doi:10.2105/ajph.93.6.939

Stansfeld, S. A., Rasul, F. R., Head, J., & Singleton, N. (2011). Occupation and mental health in a national UK survey. *Social Psychiatry & Psychiatric Epidemiology*, *46*, 101–110. doi:10.1007/s00127-009-0173-7

Tennant, C. (2002). Life events, stress and depression: A review of recent findings. *Australian and New England Journal of Psychiatry*, *36*(2), 173–182. doi:10.1046/j.1440-1614.2002.01007.x

Tracy, M., Norris, F. H., & Galea, S. (2011). Differences in the determinants of posttraumatic stress disorder and depression after a mass traumatic event. *Depression and Anxiety*, *28*(8), 666–675. doi:10.1002/da.20838

U.S. Bureau of Labor Statistics. (2015). *Industries at a glance: Truck transportation: NAICS 484*. Retrieved from http://www.bls.gov/iag/tgs/iag484.htm

Wang, J., Patten, S., Currie, S., Sareen, J., & Schmitz, N. (2011). Perceived needs for and use of workplace accommodations by individuals with a depressive and/or anxiety disorder. *Journal of Occupational and Environmental Medicine*, *53*(11), 1268–1272. doi:10.1097/jom.0b013e31822cfd82

Wang, P. S., Berglund, P., & Kessler, R. C. (2000). Recent care of common mental disorders in the United States–Prevalence and conformance with evidence-based recommendations. *Journal of General Internal Medicine*, *15*(5), 284–292. doi:10.1046/j.1525-1497.2000.9908044.x

Wingood, G. M., & DiClemente, R. J. (1998). The influence of psychosocial factors, alcohol, drug use on African-American women's high-risk sexual behavior. *The American Journal of Preventive Medicine*, *15*(1), 54–59. doi:10.1016/s0749-3797(98)00027-0