

Piece work increases drug use among Americans

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Performance pay, bonuses, commissions and tips are more common in the US than in Europe. Credit: Colourbox

Researchers have looked at whether workers who are paid by the piece have a greater risk of using alcohol and hard drugs than employees on fixed pay.

"It's not difficult to argue that piece work and performance pay can increase productivity and benefit both employees and employers, but

they have a price," says Colin Green, an NTNU professor in the Department of Economics.

Performance pay, bonuses, commissions and tips are more common in the US than in Europe. Green and colleagues at the University of Wisconsin have tried to find out whether workers in the private sector who receive piece work pay and other forms of performance pay have a greater risk of using [alcohol](#), marijuana and harder drugs than employees on fixed pay.

High societal costs

In the United States, it is estimated that 88 000 deaths a year are related to alcohol. The CDC (Centers for Disease Control and Prevention) estimates that the societal cost of alcohol use is equivalent to two US dollars per drink.

The U.S. Department of Justice estimates that 22 million Americans use [illicit drugs](#), leading to one million visits to the emergency room annually.

Substance abuse as coping strategy

Twenty-one percent of the participants in the study received some form of performance pay—as piece work, commissions, bonuses or tips.

"Piece work encourages a faster pace, longer working days, shorter breaks, an increased willingness to take risks and less free time. As a rule, piece work results in [higher wages](#), but it also involves greater uncertainty because you never quite know how much you'll earn. Drug use can be seen as a coping strategy to deal with the stress, insecurity, and having less free time," Green.

Increased quantity, frequency and types of drugs

The study suggests a connection between piece work and an increased use of all types of drugs.

Both the risk of using drugs and the frequency of use increase, according to the study. On average, the risk of marijuana use is 29% higher among workers earning piece work wages than among employees with a fixed salary, and the risks are 35% higher for using harder drugs and 45% higher for alcohol consumption.

The likelihood of using more types of drugs also increased.

Different between ethnic groups

Some differences emerge when breaking down the numbers by ethnic group. Non-white (Black and Hispanic) men doing piece work stand out in that they show no greater risk of marijuana use than non-white men earning fixed pay.

"The use of harder substances impacts far fewer people, but the health and social costs of these drugs are greater. We see that the risk increases somewhat for women and white men who do piece work. Non-white men have a distinctly lower increase in risk," says Colin Green.

Drinking more common

Alcohol is far more prevalent than narcotic drugs, and men's drinking is greater than that of women to begin with. But the 58 percent difference in drinking habits between white women in piece work and fixed-wage earners is greater than between white men in the two categories. Piece work thus affects the drinking habits of white women more strongly. The numbers are not clear for non-white women.

Non-white men show an 18% increase in risk, clearly lower than among white men at 34%.

Drugs down—alcohol up

A general tendency for workers is that marijuana use decreases with age and after people get married, but alcohol consumption increases. (The latter has not been the subject of this study.)

Higher education levels and longer working days reduce the risk of using marijuana, but increase alcohol use. Workers who have health insurance drink more, but use fewer hard drugs. Depression is more prevalent among those who use drugs.

Safer with public health care

Americans are highly dependent on private health services, a factor that Green believes affects drug use.

"I think the connection between piece work and drug use is stronger in the U.S. because only half of the jobs in the private sector offer health insurance. We expect that health insurance and free access to health services are associated with greater security and less alcohol and drug use. Only 7% of the participants were unionized, which could also negatively affect workers' feeling of security," says Green.

Gains can get eaten up

American employers aren't blind to the problems and costs of substance abuse, according to the professor.

"Many employers test employees for drugs, punish risky behaviour in health insurance, and support treatment programs. But employers don't

necessarily connect these problems to how they pay their workers. Our findings suggest that the gains from increased productivity might be eaten up by increased absenteeism and higher health insurance costs due to drug use. The higher wages might be a kind of compensation for stress and the increased risk of [drug](#) use," says Green.

Cross-section of population

The researchers in the study used data from the large 1997 NLSY survey (National Longitudinal Survey of Youth), which followed a sample of almost 9000 people who were between 12 and 17 years old in 1997. Green's study is based on the self-reporting of an 18 to 32 year old sample from across the United States. The researchers accounted for gender, age, education, region, ethnicity and marital status. In addition, the individuals' intelligence, personality and willingness to take risks were taken into account.

Surprisingly unexamined

In the past, a lot of research has been done on the health consequences of piece work, but Colin Green and colleagues are the only ones who have investigated whether piece work leads to an increased use of drugs.

"We were surprised. From medical research we know that piece work causes stress. At the same time, research says that stress leads to increased consumption of alcohol and [drug use](#). And the societal costs of drugs are well known," Green says.

Plusses and minuses

Colin Green does not have strong objections to piece work himself.

"We know that job satisfaction is higher among people who do piece

work. Piece work can be beneficial in attracting skilled employees. The findings also show that moderate alcohol use doesn't have a negative effect. But it's important to balance the benefits against the costs, and to know the potential costs—and not just at the individual level. Drug and alcohol use have enormous societal costs and constitute a significant increase in risk for injury and impaired health," he says.

More information: Benjamin Artz et al. Does performance pay increase alcohol and drug use?, *Journal of Population Economics* (2020). DOI: [10.1007/s00148-020-00776-4](https://doi.org/10.1007/s00148-020-00776-4)

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