

## Ep 2 Performance Related Pay The Good The Bad The Stressful.mp3

[00:00:00] Thank you very much for joining us today and welcome to the Explorathon Lunch Bytes podcast. A chance for you to hear about some of the latest research projects coming from the University of Aberdeen, while you enjoy your lunch break. Explorathon 2020 is a week long programme of events being brought to you by the University of Aberdeen and other Scottish universities as part of European Researchers' Night, which this year takes place on the twenty seventh of November. European Researchers Night is a Europe wide public event which tries to bring researchers closer to the public. And this week, amongst other events, the University of Aberdeen is bringing you a daily podcast, giving you the opportunity to hear from some of our local researchers about their projects in a range of different disciplines. All events being run as part of the Explorathon 2020 programme can be found on the website at [www.explorathon.co.uk](http://www.explorathon.co.uk) and the programme is being funded by the European Union's Horizon 2020 Research and Innovation programme under the Marie Skłodowska Curie actions grant agreement nine five five three seven six. After listening to today's podcast, please let us know any comments or feedback by contacting us on Twitter or Facebook at Ernscof or use the hashtag Explorathon20. You can also put any questions or comments to us by email by contacting the University's Public Engagement with research unit at PERU and that's spelt [peru@abdn.ac.uk](mailto:peru@abdn.ac.uk)

[00:01:40] The use of performance related pay is documented in a number of sectors, but what impact does it have on stress for people working in those industries? I'm joined today by Professor Keith Bender and Dr Nicole Andelic from the University of Aberdeen Business School, who are currently trying to answer that very question through their Economic and Social Research Council funded project. The research seeks to measure stress through cortisol, and they will also assess what that could mean for the long term health of workers. Professor Keith Bender and Dr Nicole Andelic, thank you for joining me.

[00:02:19] Thank you for having us, Rachel.

Thank you very much.

So what is performance related pay?

[00:02:26] So performance related pay is simply being paid for what you do. It's not being paid for the time for what you do, but actually what you produce.

[00:02:35] And in what sectors of business is it most used?

[00:02:39] Yeah, so it's it's used throughout almost all sectors. The key thing is how well can you actually measure what people do rather than measuring just their their time, there are multiple ways that performance related pay can be actually implemented into into a worker's contract. So maybe the most direct form is what are called piece rates. So these are payments that you get for doing a particular thing. So if you're thinking about in the agricultural sector picking strawberries or pulling up potatoes or whatever, and you get paid by the the punnet of strawberries or the bushel of potatoes, that's the kind of very direct kind of performance related pay. So we tend to see that in industries, relatively simple industries, where it's relatively easy to measure exactly the kind of performance that people are having. On the other side, what we see is that jobs where sort of higher level jobs, professional jobs, where, again, it's relatively easy to measure performance. So one example would be in sales.

[00:03:52] So there are a lot of sales jobs where where you may get a salary, but you may earn even more through commissions. So if you think of traditionally car salespeople. So, yes, they get a salary, but they also get money for the sale of cars. And then you have some very high level professional jobs, such as lawyers, finance people who again, are billed are billing for the time that they are actually working on a particular case.

[00:04:24] If you're a lawyer or if you're in finance, for example, the amount of money that you make for your client. So all of those can be examples of areas where we have this kind of performance related pay.

[00:04:40] And historically, is it something that's been used in business?

[00:04:45] So, yes, you know, the benefit for firms is that it does directly tie pay to performance. And so at least in theory, what it does is it gives an incentive for higher performance. And so, yes, for many, many years, there's been this tie of trying to make sure that the workers are actually paid for the things that they do on the job.

[00:05:13] So what are the benefits of performance related pay for the employer and for the worker?

[00:05:22] You know, like I said, the idea from the firm's point of view is they want to make their workers as productive as possible. And so one way, again, is to tie their pay to how much they actually produce. And there is in the economics literature, at least, there is a correlation between performance related pay and higher productivity in firms. Likewise, for workers at least, the benefit is that very often economic research has found that the workers who are paid by performance actually earn more than than people who are paid under other kinds of contracts.

[00:06:01] There's more debate in the literature about whether workers really like it or not, at least as measured by job satisfaction. There are some papers that find that workers who are paid by their performance do have higher job satisfaction. There are other papers, though, that say, well, no, actually, that isn't true. The practical side and much of the difficulty about the way that these contracts are set, though, is that you, the firm, really needs to be able to observe that productivity and if they can observe that very well. But yet they still have a performance related pay contract that can generate a lot of ill will amongst amongst workers.

[00:06:47] OK, thank you. And you've already mentioned that there is some research out there that has looked at the issue of performance related pay. Is there much research out there that's looked at how performance related pay impacts on workers themselves, both from a performance point of view, but also from a psychological or physical point of view?

[00:07:08] Right. Well, I mentioned the research that does look at the kind of performance side, and it does seem that there is a correlation there. And I've chosen that word very carefully correlation because there is a strain in the economics literature that says, well, what is maybe unclear is whether there's a causation argument to be had that that actually the thing that firms hope happens, that they set the pay based on performance, generates higher productivity, may not actually hold. And the reason why that is, is because people who are naturally more productive would find this kind of contract really attractive. Right. If I'm if I'm really, really good at what I do, I want to find a job that pays me for my performance because I can make a lot more money than if I'm in a very similar job, but I'm just getting paid for my time, regardless of how much productivity that that I have. So you

get what economists call a selection effect so that these kinds of jobs attract naturally more productive workers. So when at the end of the day, when you do your analysis and you find. Oh, yes, that those are performance related pay are more productive, is it because of the actual contract or is it because of the attraction of getting these workers in? Maybe from the point of view of the firm, they don't really care because they're getting more productive workers regardless, regardless of whether it's the contract or whether it's the selection effect. But from a theoretical point of view, from an economists point of view, what I really care about is, well, then can I go out and tell another firm to say, well, put in a performance related pay contract, and that will mean that you will have more productive workers. It's harder to come up with that. With that idea, you asked about sort of the other aspects of performance related pay and the research around that. And there is there is some research on the kind of what I like to call the unintended consequences of performance related pay. And this was actually motivated very early on by none other than the Scottish economist Adam Smith back in the 18th century. He wrote one of his most famous books in 1776 called The Wealth of Nations. And in there, he states that workman, when they are literally paid by the piece, are very apt to overwork themselves and to ruin their health and constitution. And when I read that, I thought, boy, that's really interesting, because even in the 18th century, Adam Smith was observing that there's a linkage between performance related pay and health and looking through the literature, there is some research results that are out there that seem to indicate that there is a negative relationship. So those people who are paid by performance tend to have worse health than those who are not paid by performance.

[00:10:13] So you've said that potentially there could be an impact on people's health by undertaking performance related pay models and your research project is seeking to find that out. Can you provide us with an overview of the research project?

[00:10:29] Yes. So although there is some research that looks at the impact of performance related pay on health, there are a couple of issues with the previous research. So much of the research looks at large scale surveys, which find that workers who are paid by PRP and tend to have worse health. And then there are various reasons for why that might be. It could be that those who have and those who are paid by performance work could pay or more likely to take risks. So if we're thinking about the very simple example that Keith gave earlier, if you're picking strawberries or picking apples, for example, and you're motivated to increase your productivity, you might take risks so that you're working faster or producing more and then you're more likely to get into accidents. Another way that performance related pay might impact on your health, is that because you're motivated to work more, you might therefore engage less in healthy behaviours. So in previous research has found that workers who are paid by performance related pay tend to work more hours per week than those not. And so that might be at the expense of free time, which could be spent on exercise or relaxing activities. It's also possible that people who work in performance related pay might engage in behaviour that are detrimental to one's health, like heavy drinking, for example, or drug use. And then finally, it's also possible that just the nature of working in PRP and the uncertain income stream are inherently stressful. And although we as humans are very good at recovering from brief episodes of stress, it's found that these kind of persistent and long term stress actually leads to psychological and physiological damage through wear and tear on the body, and that eventually compromises our immune system. So these different research surveys that have found an association between performance related pay and poor health. It's very difficult to establish what the causation is there, that performance related pay is definitely the causal factor. So it may be that people who are paid by performance related pay then have poor health due to one of these different pathways, but could also be that people who

have a propensity to worse ill health are more likely to get these contracts due to difficulties holding down other contracts. So really what we need to do then is to use an experimental design on them. And that's really what our research project is about. It's about establishing this and causal factor that performance related pay has on poor health.

[00:13:18] And what is it that you're measuring? You know, you've touched on stress. How is stress measured in your study.

[00:13:24] So we measure stress or specifically we measure physiological stress and we look at stress, we look at cortisol. And when we experience stress, cortisol is released into our bloodstream and both as a response to the stress and also as a way to help us cope with it. So it increases our heart rate and that helps us manage this stressful trigger that we are experiencing. And then, although we can measure cortisol through blood, for example, a very non-invasive way to measure cortisol is through salivary cortisol. So we have these test tubes with cotton swabs in them that we can ask our participants to chew for a minute. And then they are sent off to a laboratory and we can extract the cortisol and measure the levels of physiological stress.

[00:14:15] Tell me more about the project, what has been the emerging findings?

[00:14:21] So the process consists of seven experiments and out of those seven, we have only completed one so far. But the overarching idea is that they all have a very basic design. So participants are invited to come into the Scottish Economic Experimental Lab where we have a number of PC's set up. And when they are there, they are allocated to contract work task. So they are either allocated to completing a work task while they are being paid by performance related pay. So for each work task that they complete, they are paid a certain amount or they are allocated to a contract in which they are paid by minimum performance. So they have just a fixed pay, like a fixed salary as long as they reach the minimum effort levels. Now, the first of those experiments which we have completed and it's really there to just examine the robustness of the link between performance related pay and acute physiological stress. So we invite participants in and we randomly allocate them into one of these two payment contracts and they are not aware of the other contract when they were allocated to this. And then we invite them back a week after and we allocate them to the other contract at that point. So that way we can measure the impact of performance related pay on stress whilst controlling for individual factors and as well as other socio demographic covariates which may impact on your experience of stress. And what this first experiment shows is that actually we can see an effect of performance related pay. So both when measuring subjective stress, when we're asking people afterwards, you know, how stressful did you find this task? People who were in the performance related pay contract report as being more stressful or more stressed in the performance related pay than they did when they were in the fixed payment contract. And when we look at their cortisol levels, this confirms our findings. So we can see that people who, when they are in the performance related pay, their cortisol is higher after the work task than it is when they are in the minimum performance contract. So they seem to they are not able to recover from these work tasks as quickly when they are in the performance related pay contract than the minimum performance contract.

[00:16:49] That's really interesting. Thank you very much. Now, you mentioned you've conducted one experiment so far. What are the next steps for this research project?

[00:17:00] And yes, so the first experiment was, as I said, it was just you can see how robust is this association between performance related pay and stress. But of course, in

the real labour market, there are many other factors which may impact on how stressful you find your working experience. So if we go back to the sort of picking strawberries example, it might be that you're very quick at picking strawberries and you are very resilient towards stress. And so you have self selected into this contract, which might then mitigate the amount of stress that you feel. On the other hand, it might be that in that you actually are penalised for any bad strawberries that are picked or if you drop a punnet. And so how does that impact on your stress? If you are aware that if you make a mistake, then you might also and you might actually lose some of your pay at the end of the day. And similarly, if we raise the stakes. So it might be that you're paid so much proponent of Strawberry that actually you're not particularly stressed about picking because you know that that you don't have to worry because you will earn enough by the end of the day, even if you don't perform as high as you would like to. And also, there are other factors such as your and your peers. How much are they picking? Are you constantly evaluating yourself against your peers or are you being monitored by another by a supervisor? And how does that affect your stress? Now, all of these things are all of these factors. We can actually and create an experimental setting which imitates these in which we can raise the stakes of how much your paperwork tasks or we can penalise if you make mistakes in the work task. And we also have experimental contexts where we have somebody who is monitoring the participants at all times and where we tell participants that they are going to be compared against their peers. And so and after the work task, they will find out how well they have done in comparison to their peers. So we can look at all these factors, but within a very controlled setting.

[00:19:18] And how many participants will you have taking part in the study over the over the lifespan of this project?

[00:19:25] And so in total, we have, or we are planning to have six hundred and sixty five participants, although it might be slightly more by the by the end of the project.

[00:19:37] One of the biggest challenges, obviously, right now in the time of a pandemic is it's really affected our ability to run the experiments, you know, pre March, collecting saliva was a relatively easy thing to do, of all the things that you could collect from people, but obviously under covid, it becomes much more difficult. And we have to have the correct PPE and social distancing and all of that.

[00:20:12] So there maybe some impacts on the experiment structure and that kind of thing as well. I should also say that one of the main things that differentiates our research project from previous research that has looked at performance related pay and stress is that this is an interdisciplinary project. So apart from Professor Keith Bender, Professor Yanus, who are in the economics department, we also work with Dr. Julia Allen, Dr. Dan Powell at the Institute of Applied Health Sciences, who have experience of working with cortisol and stress. So whereas previous research has very much been carried out by economists only, this is kind of a novel project which utilises the experience of health psychologists so that we can really get to the bottom of the impact of performance related stress.

[00:21:03] That's really good to do and it's great that it's multi disciplinary. So in terms of performance related pay in the future, do you think it will continue to be used by businesses?

[00:21:15] Yes, I think it will be just because for certain kinds of jobs, we know that there is this correlation between performance related pay and performance.

[00:21:28] And so there are strong reasons for firms wanting to continue with that, something that we haven't mentioned so far, but certainly fits into this broader field is that a lot of entrepreneurship and self employment also could be characterised as performance related pay. Even jobs such as gig jobs that we see becoming more and more popular even during the pandemic. These are all performance related pay jobs as well, you know, the delivery drivers or the just eat bicycle folks. They only get paid when they deliver a meal to someplace. And so we've seen a rise in those kinds of jobs as well. And indeed, those still may have the kind of physiologically adverse either stress or injuries or other kinds of bad health outcomes.

[00:22:27] So I think that there is still a desire for firms to want to employ this kind of contract. I think the challenge for firms and how we're trying to engage with firms is to say, well, while you may get these benefits, you need to worry about the costs as well. We know from government sources, for example, the number of lost workdays because of stress and ill health even before the pandemic was going up. And business cares about that, governments care about that because of the public health aspects, workers and trade unions care about that because obviously it's affecting workers as well. And so to be able to design policies, if a firm wants to have performance related pay, needs to design policies to try to mitigate any kind of increase in stress or implement policies that help with health and safety. If you're worried about injuries and risk taking, being able to acknowledge that that cost is there and try to come up with policies to deal with that is an important thing for all three of the stakeholders to incorporate. Firms need to worry about it because it's going to cost them if their workers get stressed out or have a heart attack or can't perform because they've injured themselves. Public health officials and the NHS need to care about this because if we see increases in performance related pay and have a public health aspect and obviously workers and potentially their representatives should care about this because it's their health that we're talking about.

[00:24:12] And what type of measures could be put in place?

[00:24:15] Well, I mean, really anything that helps reduce the stress. So we could think of various ways of doing that. I mean, one would be perhaps giving more guarantees on income. As Nicole mentioned earlier, one of the pathways of the stress might be this uncertainty in pay. So, again, just to take the deliveroo driver, you know, they never know when they show up for a shift how many meals they'll be able to deliver. And if they're unlucky, they may only get one or two and then they only get paid for one or two meals. They may be very lucky and be able to have a full night of being able to deliver meals.

[00:25:02] So that adds a lot of uncertainty about the income stream. So maybe trying to smooth that out a little bit more would help. Nicole also mentioned earlier, there may be reasons why performance related pay kind of adjusts the way that people think about time. They spend more time at work.

[00:25:22] And so they're not doing these kinds of exercises. They're not eating healthily. You know, they're having their takeout at their desk as they're eating. So if firms can think about ways of either maybe subsidising gym memberships, for example, to try to get their workers to exercise more and to engage in healthy behaviours, those kinds of things could potentially help as well.

[00:25:49] Great. Thank you very much for taking part in today's podcast. It's been great to hear about the work that you're doing. And I wish you all the best moving forward as you complete the study. Professor Keith Bender and Dr. Nicole Andelic, thank you very much. Thank you, Rachel. Thank you so much for having us.

We hope you enjoyed today's podcast, but for now, thanks for joining us and keep an eye out for our other Explorathon Lunch Bytes podcasts.

[00:26:18] As I said at the beginning. We love to get your comments and feedback, so please use the hashtag Explorathon20 or tag us on Twitter or Facebook at ERNScot. You can also email the university's public engagement with research unit by email at [peru@abdn.ac.uk](mailto:peru@abdn.ac.uk). If you're interested in finding out about the other events taking place as part of Explorathon2020, you can visit the website at [www.explorathon.co.uk](http://www.explorathon.co.uk).

Bye for now.