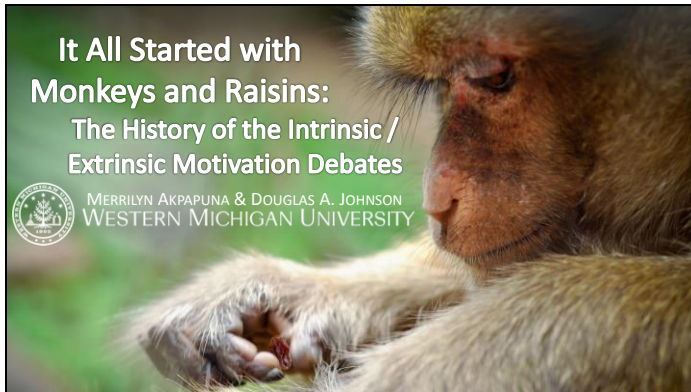


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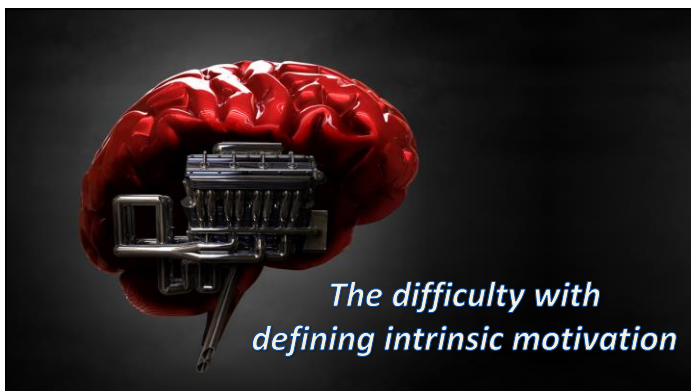


Slide 2



- It is typically defined as a theoretical construct which is inferred from goal-directed behaviors.
- It is often divided into two major categories: Intrinsic and Extrinsic Motivation
- Extrinsic motivation is motivation that involves variables external to the organism

Slide 3



- There is currently no universally accepted definition of the concept.
- The difficulty in defining intrinsic motivation is closely linked with the difficulty in assessing internal events.

Slide 4



Ultimately, intrinsic motivation is determined by our ignorance

- Ultimately, intrinsic motivation is being defined by our ignorance. We claim a person is intrinsically motivated when we cannot find any external factors controlling and maintaining the person's behavior.
- Since we do not have absolute control over or knowledge of an individual's environment (environment in this case does not just include the physical environment but also learning history and covert behaviors), we often incorrectly label motivating factors as internal.

Slide 5



Social Impacts of Intrinsic Motivation

- Personal story of being taught the value of claiming to be intrinsically motivated
- Social reinforcement for how we make attributions is important
- There seems to be somewhat of a stigma attached to doing things for external rewards... (and a truckload of social reinforcers for claiming to do an activity for its own sake)

Slide 6



The hunt for the intrinsically motivated

- With an underlying assumption that intrinsic motivation is innate and people who are intrinsically motivated are more likely to succeed, it is not surprising that the recommendation is to hire intrinsically motivated people and leave them to do what they do.
- This seems rather impractical however because how do you find these people?

Slide 7



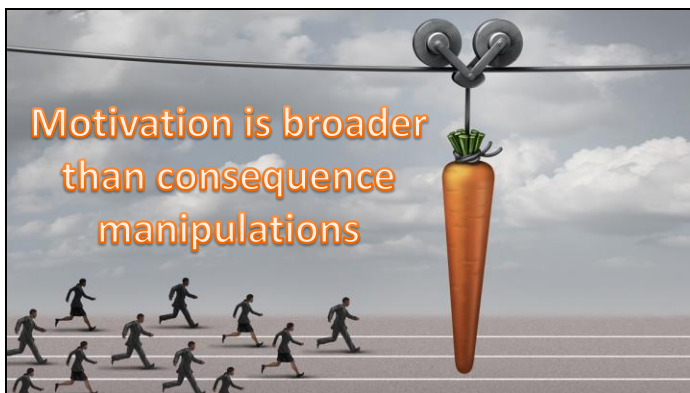
- A lot of the research on motivation have a lot of shortcomings. A major one is equating rewards to reinforcers.

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- Assuming that rewards are synonymous to reinforcers leads to flawed research conclusions.
- Reinforcers are specific to people. What reinforces my behavior might not reinforce yours.

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- Another shortcoming is thinking that motivation is only about consequence manipulations.
- A major part of motivation that is often neglected is antecedent manipulations. These include job aids, redesigning processes, clarifying expectations, setting goals, and so on.

Slide 10



- Another major shortcoming is the presumption that money and tokens are the only extrinsic consequences.

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- Skinner first proposed automatic reinforcement as an explanation for behaviors with no extrinsic rewards way back in the 1950s.
- Sensory stimuli resulting from engaging in behavior reinforces the behavior

Slide 12



- Automatic reinforcement exists independent of the social environment making it occur a little more reliably.

Slide 13



- Creativity is often seen as something inside of a person that just bursts out. Intrinsically motivated behavior is said to result in creativity. This is probably because it can persist in the absence of direct teaching due to automatic reinforcement.
- Therefore, behavior analysts would agree that automatic reinforcement is preferred to social reinforcement
- This might not be necessarily because it is more effective but because it is more reliable and cheaper in terms of time and money

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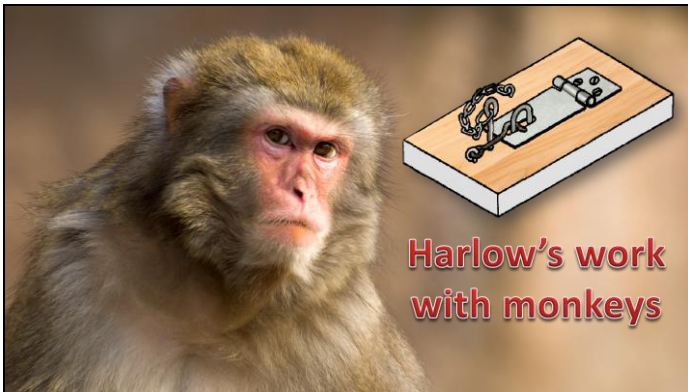


- Williams defines the overjustification effect as "a below-baseline decrease in the rate of performance of "intrinsically motivated" behavior that follows a period during which the behavior is extrinsically rewarded".
- This change is implied to be permanent which helps explain the reason why extrinsic rewards are frowned upon.

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- The primary purpose of this study is to investigate the performance of monkeys on mechanical puzzles whose manipulation is accompanied by no extrinsic reward.
- Four rhesus monkeys were given 12 days' experience in manipulating a mechanical puzzle whose solution did not lead to any special incentive such as food or water.
- Subsequent introduction of food tended to disrupt instead of facilitate the puzzle solving.
- This puzzle involved carefully removing the pin restraining the hook, then moving on to remove the hook from the hasp which involved moving it in the direction the pin was. Only after this was done could the monkey raise the flush. The puzzle was completed by raising the flush. This was a task that required calmness.

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- There were three periods in each experiment. Subjects were not given rewards in the first and third period but were given rewards in the second period. The results showed that when money was used as an external reward, intrinsic motivation tended to decrease and when verbal reinforcement and positive feedback were used, intrinsic motivation seemed to increase.
- The task involved solving the Soma puzzle. It was chosen because it seemed that college students at the time would be intrinsically motivated to perform the task. The pieces could be put together to form different shapes. The students were required to put together specific combinations

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- There were several considerations missed by Harlow. He discussed sensory reinforcement as some sort of new drive but sensory reinforcement is a form of reinforcement.
- Another thing is increasing the speed of performance might disrupt success. The puzzle Harlow used required that the monkeys were calm and careful. Increased motivation may have interfered with successful performance

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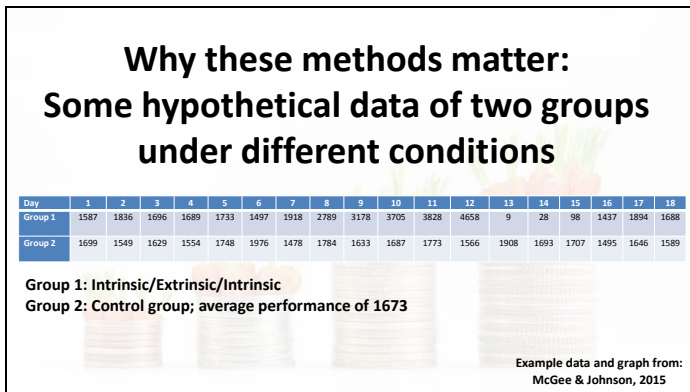
- The result of Deci's study was not significant at the .05 level but he still boldly claimed some significance.
- As a result, so many other publications have made strong claims about the overjustification effect based on his study.

Slide 20



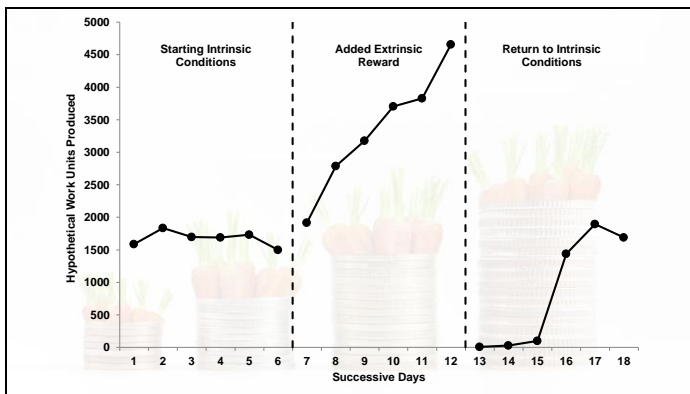
- The problem with pre- and posttest paradigm is there is not a lot of scientific control.
- Another issue is that a lot of the studies used small number of sessions with short observation periods and no follow up data was collected.
- Averaging data can hide important information
- Self-reports are often biased and as we all know, they are not a reliable measure of behavior. It is important that in our research, we use a more objective source of information.

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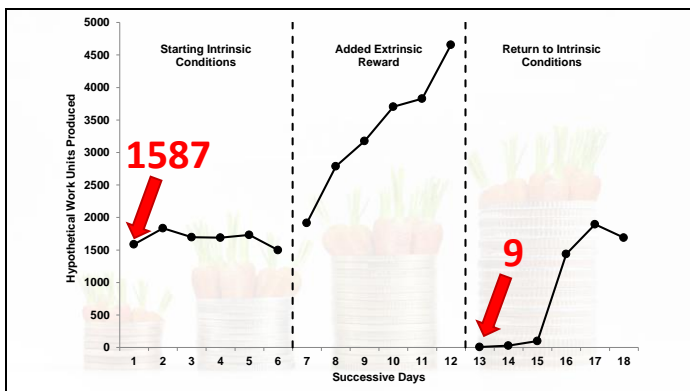
- Hypothetical data. Data was collected for 18 sessions and there were two groups.
- Group 1 was the experimental group and group 2 was the control group

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- The three phases were starting intrinsic conditions, added extrinsic reward and return to intrinsic conditions.

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- Now if you just collect one data point, which some researchers do, we can see that during the starting intrinsic condition, the organism is performing at a 1587 level.
- So, for example the employee is producing 1587 pens in the first phase and in the third phase, the intrinsic condition phase, the employee is only producing 9 pens.
- From this, you are likely to conclude that rewards are detrimental.

It All Started with Monkeys and Raisins: The History of the Intrinsic / Extrinsic Motivation Debates

MERRILYN AKPAPUNA & Douglas A. Johnson

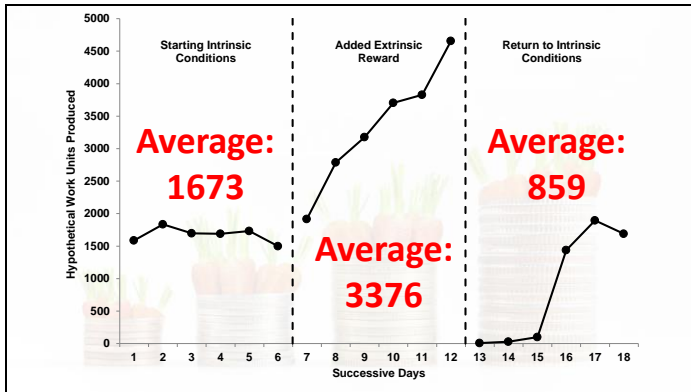
Western Michigan University

May 31st, 2016

Association for Behavior Analysis International 42nd Annual Convention, Chicago, IL

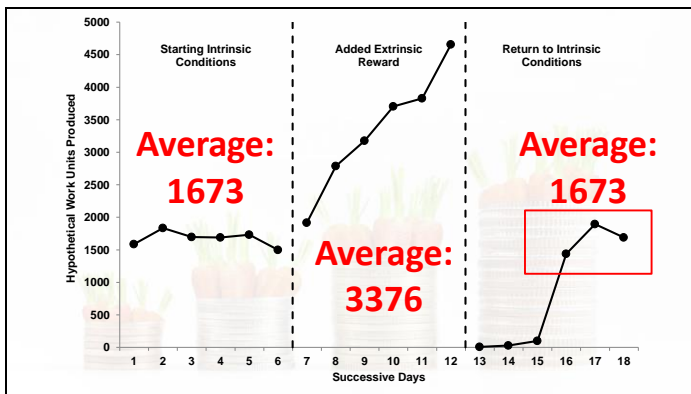
Correspondence: merrilyn.o.akpapuna@wmich.edu

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- Okay, what if we just use averages... we may still be convinced that rewards are detrimental to intrinsic interest as there is a drop from 1673 to 859.

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- If we look at the graph carefully however, we can tell that in the return to intrinsic condition, the data has two levels which means that something else is going on.
- At this point, we should be collecting more data and if we don't, taking an average of the second level will show us that the individual is performing at the same level as baseline.

Slide 26



- Another thing is you get what you pay for. Or rather, you should be clear what you are requesting when offering pay.
- Task contingent rewards are given irrespective of the quality or quantity of the task. Dickinson explains that task-contingent rewards have significantly decreased post-reward performance relative to performance-contingent rewards.
- So, it is important to be clear about what you want when reinforcing behaviors.

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- Low initial interest
- Tangible versus intangible rewards
- Performance- versus task-contingent rewards
- Performance standards
- Alternative tasks available

- If we look at the research pool on the overjustification effect, we will see that sometimes the overjustification effect occurs and other times, it does not. Perhaps then, it is important that we isolate those instances in which it occurs and those in which it does not and compare the two.
- Context is therefore essential.

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What might be leading to the overjustification effect

- So, if the issue is not with the rewards, what causes the huge drop in the rate of behavior talked about?
- Two possible explanations include:
 - Satiation of the stimuli resulting from target behavior due to repeated exposure and
 - Deprivation of alternatives

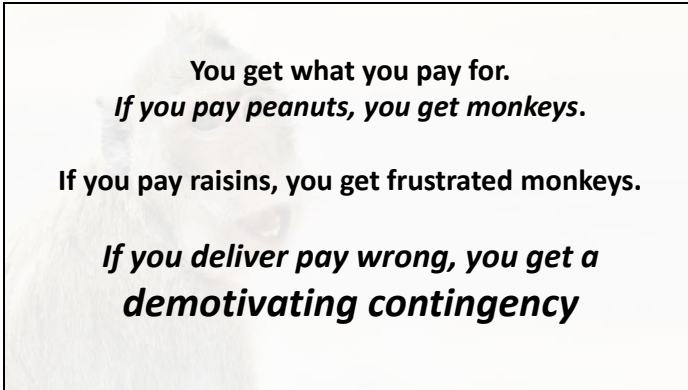
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What next?

- More research needs to be done that does not ignore the major issues talked about in this presentation.

Slide 30



You get what you pay for.
If you pay peanuts, you get monkeys.

If you pay raisins, you get frustrated monkeys.

If you deliver pay wrong, you get a demotivating contingency

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Thank you!

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