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## What's Your Motivation?

Jacob Klein  
*Lindenwood University*

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## What's Your Motivation?

*Jacob Klein<sup>2</sup>*

*Motivation is the backbone of reasoning as to why human beings accomplish any task. This makes it essential that we study the effects of different styles of motivation. There is a large amount of supporting evidence that claims intrinsic motivation can be more beneficial to quality of performance than extrinsic motivation. (Pink 2012) This is exactly why I conducted this study. Going to a university that is so keen on athletics, motivation is a very hot topic. What motivates us can be an important factor to being successful in any endeavor. This research studied the effects of both intrinsic and extrinsic motivation on two groups of participant's abilities to throw a ball into a cup. Two groups were split and defined as intrinsically and extrinsically motivated. I compared the amount of balls made between both groups. I hypothesized that the group that was intrinsically motivated will throw more balls into the cup than the extrinsically motivated group.*

Extrinsic motivation can be defined by performing for an external reward, such as trophies, money or incentives. Intrinsic motivation can be defined as the desire to do things because they matter, because we like it, they're interesting, or part of something important (Pink 2012). Pink (2012) also believes that extrinsic motivation can actually have a negative effect on the quality of one's performance. Extrinsic motivation can turn a fun task into an unwanted job. On the other hand, intrinsic motivation is said to be beneficial to the quality of one's performance because of the autonomy and self-interest that is associated with an intrinsically motivated mindset.

One important aspect of intrinsic motivation is autonomy. Autonomy is the ability to have freedom of choice. When we have autonomy, we are able to govern ourselves and make our own decisions. Research has found that an autonomous style of teaching is correlated to an

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<sup>2</sup>Jacob Klein Department of Psychology, Lindenwood University. Correspondence concerning this article should be addressed to Jacob Klein, Department of Psychology, Lindenwood University, MO 63303. Email: JNK004@lindenwood.edu

intrinsic style of motivation in students. An autonomous teacher is one who lets their students work independently as well as gives them options that allow for personal initiative. When a teacher uses this style of teaching, the students are found to be more intrinsically motivated in the activities they participate in. (Balaguer, Cstillo, Duda, Qusted, & Morales, 2011)

A study based off self-determination theory looked at the relationship between self-reported work effort and motivation in a group of 206 Dutch participants who volunteered to work for non-profit organizations. Self-determination theory, otherwise known as (SDT) is a systematic approach to studying human motivation as well as personality. SDT goes off the basis that humans have an evolved inner desire for personality development and behavioral self-regulation (Ryan, Kuhl, & Deci, 1997). “The basic assumption of SDT is the belief that the quality of motivation is at least as important as the quantity of motivation” (Deci and Ryan 1985 as cited in (Bidee et al., 2013, para. 7)). This study categorized their participants in two categories: controlled motivation or autonomous motivation. The research suggested that the volunteers that had a more autonomous motivation style showed a better work effort than those that showed a more controlled motivation style. (Bidee et al., 2013, para. 7).

Reward can have an interesting effect on behavior. Pink (2012) references Mark Lepper, David Greene and Robert Nisbett’s work in his book *Drive*. The three researchers conducted a study that has become legendary in the field of psychology. The researchers went to a preschool classroom for a couple days where they identified the children who spent their “free play” time drawing. They then made an experiment dividing these students into three separate groups: expected-award, unexpected-award and no-award. The expected-award group was told that if they wanted to draw they would receive a “Good Player” certificate that had a blue ribbon as well as their name printed on the certificate. The unexpected-award group was just asked if they

wanted to draw. The participants that drew received the “Good Player” certificate. The no-award group was asked to draw as well. This group was not told about the “Good Player” certificate nor given one if they decide to draw. A couple weeks later, the teacher of the classroom placed markers and paper out during free play. The researchers secretly monitored the students. They found that the participants that were in the unexpected-award and no-award groups drew the same amount as they previously did before the study. The children in the expected-award group showed a lot less interest in drawing as well as spent a lot less time drawing. This type of if-then reward system can be detrimental to interest. Research in 128 experiments has shown that tangible reward can negatively affect one’s intrinsic motivation (Pink, 2012, p. 39).

External reward is diminishing motivation not just in the classroom, but in the workforce as well. In the nursing field, there are constantly new technological and medical advances happening on the regular. What was said to be the best treatment a year ago may be completely outdated today. This makes it essential that these nurses are constantly continuing their education even though they may already have had the same job title for quite some time. Sadly, many of the educational programs for nurses are driven by extrinsic motivation. A lot of the nursing programs only give rewards that are extrinsic in value. These tactics encourage these trainees to avoid penalties as well as only promotes simple engagement (Tranquillo and Stecker, 2016, para. 9). In a field that requires lifelong learning, it is essential that nurses are constantly continuing their education not for external reward or avoidance of penalties, but because they want to pursue their craft to the best of their ability.

All of this research has led me to create this study. I have measured the amount of ping-pong balls two separate groups can make into an individual cup in five tries. I separated the two groups as either intrinsically or extrinsically motivated. My hypothesis is that the intrinsically motivated group will make more cups than the extrinsically motivated group.

## Method

### Participants

All of the students that took part in the study were students at Lindenwood University. There were 8 total participants that took part in this study, 4 males and 4 females. The average age of the intrinsically motivated group was ( $M = 21.5$ ). The average age for the extrinsically motivated group was ( $M = 20.75$ ). Participants had two different ways to sign up for the study. Participants could either sign up through The Lindenwood Participant Pool (LPP) or through personal contact with me through A Facebook posting. Those that would have chosen to sign up through the LPP would have received 2 extra credit points. Although, all 8 participants signed up through personal contact. None of the participants were recruited through the LPP program. There for, none of these participants received extra credit points for their participation. All participants were eligible to be entered into a drawing for a \$30 Starbucks gift card.

### Materials and Procedure

Participants were split into one of two groups, “Intrinsic” or “Extrinsic” motivation. Each group was given a different informed consent form to ensure the nature of the study (see Appendices A & B). The groups were split evenly across the entire sample size. All participants were tested individually. Those that were in the “Intrinsic Motivation” group, began the study by watching a short clip (TED 2009) of a speech by author Daniel Pink (see Appendix C). The purpose of this video was to ensure an intrinsic mindset for this group of participants. After the completion of the video, the participants were asked to play a game to the best of their ability. The participants were handed a ping pong ball and asked to stand behind a tapped line that was 8 ft. away from a table standing approximately 27 in. in height. On the table is a singular cup filled halfway with water to ensure stability. (see Appendix D).

The participants were asked to toss the ball into the cup to the best of their ability. They received five attempts total. Those that made three out of five attempts into the cup, were entered into a drawing to win a \$30 Starbucks gift card (see Appendix E). Participants will be asked to write down their email address so they can be contacted if they win the drawing (see Appendix F). The Intrinsic Motivation group was not told about the Starbucks drawing until after all five tosses were completed. The Extrinsic Motivation group did not watch the Daniel Pink clip. Instead, they were told about the Starbucks gift card drawing before they attempted the game. This ensured an extrinsic mindset for this group of participants. After both groups completed the game, the participants were debriefed with a feedback letter to ensure comfortability and an understanding of the study (see Appendix G).

### **Results**

I hypothesized that the intrinsically motivated group would throw more balls into the cup than the extrinsically motivated group. I conducted a between subjects independent samples *t*-test comparing the number of balls made between the intrinsically ( $M = .5, SD = .5744$ ) and extrinsically motivated groups ( $M = 0, SD = 0$ ). Analysis revealed a statistically nonsignificant difference between the two groups,  $t(6) = 1.7320, p = .067$ . Even though there was a statistically nonsignificant difference between the two groups, my hypothesis as supported numerically. The intrinsically motivated group did throw more balls into the cup than the extrinsically motivated group. The intrinsically motivated group made 2 out of 20 shots as a group. The extrinsically motivated group made 0 out of 20 shots as a group. In both groups, 0 participants qualified themselves for the Starbucks gift card drawing.

### **Discussion**

Although the results showed that there was no statistical significant between the two groups, the data suggests a trend in support of my hypothesis. The intrinsically motivated

group did make more cups than the extrinsically motivated group. The intrinsically motivated group was actually the only group that threw a ball into the cup. This statistical non-significance can be attributed to the small sample size as well as the small number of trials each participant was given. Although there was not a large number of balls made in the intrinsically motivated group, there is something to be said about the fact that the extrinsically motivated group did not even make one shot. According to Pinks (2012), it is possible that the external reward (\$30 Starbucks gift card) had a negative effect on the performance of the extrinsically motivated group.

There were a few limitations of this study. If I could have, I would have increased the amount of time I had to collect data. This would have allowed me to gather a larger sample size. I also think that a larger amount of shots for each participant may have led to more overall shots made because of the difficulty of the task.

If this study was to be done again in the future, I feel there are a couple areas of the study that could potentially be changed or done differently. As for both groups, I think they were both true to their labels of being intrinsically or extrinsically motivated. In the future, I would have physically shown the extrinsically motivated group the Starbucks gift card before they completed their trials. As stated in the literature before, A key aspect to intrinsic motivation is autonomy. When it comes to the intrinsically motivated group, allowing for more autonomy in certain areas may have led to a more intrinsically motivated mindset. I think it would be interesting to find out if I did not tell the participants where to stand, where they would have stood when doing their trials. Another way to do this study is time trials instead of a set 5 throw limit. This could potentially allow the participants to have more shots to try different techniques of the most ideal way to throw the ball into the cup. I decide to use a set number of shots over a set interval of time based on Ryan and Deci's self-determination. These researchers

stated that quality is just as important as quantity. For this study, I feel that a larger quantity of shots may have hindered the quality of each shot. This study does suggest the potential negative influence if-than reward can have on quality of performance as well as the potential positive influence intrinsic motivation can have on quality of performance.

I decide to put this research together because of the importance of understanding motivation. Many corporations and sports team are always looking for the best ways to motivate their employees or team members to insure the most quality performance on a day to day basis. Further research needs to be done on motivation to continue to come up with ideal training programs and methods to ensure quality performance. Enjoy the next task you do not for the external reward behind completion, but for the sole purpose of completing the task to the best of your ability.

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## Appendix A

### Informed Consent Form for Intrinsic Motivation Group

#### What's Your Motivation?

You are asked to participate in a research study being conducted by Jacob Klein under the guidance of Dr. Nohara-LeClair at Lindenwood University. Being in research study is voluntary, and you are free to stop at any time. Before you choose to participate, you are free to discuss this research study with family, friends, or a physician. Do not feel like you must join this study until all of your questions or concerns are answered. If you decide to participate, you will be asked to sign this form.

#### **Why is this research being conducted?**

I am doing this study to explore the effects of intrinsic and extrinsic motivation. I will be asking about 20 other people to answer these questions.

#### **What am I being asked to do?**

You will watch a short 8-minute speech by Daniel Pink, author of the book *Drive*. Pink explains the difference between intrinsic and extrinsic motivation as well as both their effects on the human mind. After completion of the video, you will be asked to toss a ping pong ball into a plastic cup. After completing this task, you will be given a feedback letter and the session will be over.

#### **How long will I be in this study?**

15-20 minutes

#### **What are the risks of this study?**

Privacy and Confidentiality

I will not be collecting any data that could identify you.

The data will be kept securely and will only be accessible to the researcher.

#### **What are the benefits of this study?**

You may benefit from this study. These potential benefits are more knowledge of intrinsic and extrinsic motivation.

#### **Will I receive compensation?**

To thank you for taking part in my study, you will receive 2 extra credit points through the LPP if you were recruited through the Lindenwood Participant Pool. No other compensation will be guaranteed.

#### **What if I do not choose to participate in this research?**

It is always your choice to participate in this study. You may withdraw at any time. You may choose not to answer any questions or perform tasks that make you uncomfortable. If you decide to withdraw, you will not receive any penalty or loss of benefits. If you would like to withdraw from the study, please notify the researcher immediately.

#### **What if new information becomes available about the study?**

During the course of this study, we may find information that could be important to you and your decision to participate in this research. I will notify you as soon as possible if such information becomes available.

**How will you keep my information private?**

I will do everything we can to protect your privacy. I do not intend to include information that could identify you in any publication or presentation. Any information we collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: the researcher, qualified staff of Lindenwood University, and representatives of state or federal agencies.

**How can I withdraw from this study?**

Notify the research team immediately if you would like to withdraw from this research study.

**Who can I contact with questions or concerns?**

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu. You can contact the researcher, Jacob Klein directly at 631-316-4966 or JNK004@lindenwood.edu. You may also contact Michiko Nohara-LeClair at Mnohara-leclair@lindenwood.edu.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above. I verify that I am at least 18 years of age or have a parental consent form filed with the LPP.

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**Participant's Signature**


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**Date**


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**Participant's Printed Name**


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**Signature of Principal Investigator or Designee**


---

**Date**


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**Investigator or Designee Printed Name**

## Appendix B

### Informed Consent Form for Extrinsic Motivation Group

#### What's Your Motivation?

You are asked to participate in a research study being conducted by Jacob Klein under the guidance of Dr. Nohara-LeClair at Lindenwood University. Being in research study is voluntary, and you are free to stop at any time. Before you choose to participate, you are free to discuss this research study with family, friends, or a physician. Do not feel like you must join this study until all of your questions or concerns are answered. If you decide to participate, you will be asked to sign this form.

#### **Why is this research being conducted?**

I am doing this study to explore the effects of intrinsic and extrinsic motivation. I will be asking about 20 other people to answer these questions.

#### **What am I being asked to do?**

You will be asked to toss a ping pong ball into a plastic cup. After completing this task you will be given a feedback letter and the session will be over.

#### **How long will I be in this study?**

15-20 minutes

#### **What are the risks of this study?**

Privacy and Confidentiality

I will not be collecting any data that could identify you.

The data will be kept securely and will only be accessible to the researcher.

#### **What are the benefits of this study?**

You may benefit from this study. These potential benefits are more knowledge of intrinsic and extrinsic motivation.

#### **Will I receive compensation?**

If you get three out of five shots in the cup, you will be entered into a drawing for a \$30 gift card to Starbucks. Students who sign up through the LPP will receive two extra credit points.

#### **What if I do not choose to participate in this research?**

It is always your choice to participate in this study. You may withdraw at any time. You may choose not to answer any questions or perform tasks that make you uncomfortable. If you decide to withdraw, you will not receive any penalty or loss of benefits. If you would like to withdraw from the study, please notify the researcher immediately.

#### **What if new information becomes available about the study?**

During the course of this study, we may find information that could be important to you and your decision to participate in this research. I will notify you as soon as possible if such information becomes available.

#### **How will you keep my information private?**

I will do everything we can to protect your privacy. I do not intend to include information that could identify you in any publication or presentation. Any information I collect will be stored by the researcher in a secure location. The only people who will be able to see your data are: the researcher, qualified staff of Lindenwood University, and representatives of state or federal agencies.

**How can I withdraw from this study?**

Notify the research team immediately if you would like to withdraw from this research study.

**Who can I contact with questions or concerns?**

If you have any questions about your rights as a participant in this research or concerns about the study, or if you feel under any pressure to enroll or to continue to participate in this study, you may contact the Lindenwood University Institutional Review Board Director, Michael Leary, at (636) 949-4730 or mleary@lindenwood.edu. You can contact the researcher, Jacob Klein directly at 631-316-4966 or JNK004@lindenwood.edu. You may also contact Michikko Nohara-LeClair at Mnohara-leclair@lindenwood.edu.

I have read this consent form and have been given the opportunity to ask questions. I will also be given a copy of this consent form for my records. I consent to my participation in the research described above. I verify that I am at least 18 years of age or have a parental consent form filed with the LPP.

\_\_\_\_\_  
**Participant's Signature**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Participant's Printed Name**

\_\_\_\_\_  
**Signature of Principal Investigator or Designee**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Investigator or Designee**

Appendix D  
Water Pong Game



Appendix E  
\$30 Starbucks Gift Card



## Appendix F

### Contact sheet for Starbucks Drawing

If you would like to be entered into the drawing for the \$30 Starbucks gift card, please provide us with an email address we can contact you at. If you would not like to provide this information you will still receive your two extra credit points from the LPP only if you sign up through the LPP. You will not be entered into the drawing if you do not provide this information.

Email:



## Appendix G

## Feedback letter

## Feedback

The purpose of this research is to study the differences between those that are intrinsically motivated and those that are extrinsically motivated through a game that involves tossing a Ping-Pong ball into a cup. It is important to not just look towards external reward when completing a task but looking for a deeper purpose internally. Many people go to college because they want to make a lot of money not because they want to increase their intelligence. Many people play sports because they want to get a trophy, not because they want to experience trying their hardest. There were two different groups in this study. One group driven by extrinsic motivators and the other driven by intrinsic motivators. I hope you enjoyed this study as well as learned how either intrinsic or extrinsic motivation effects your performance. Any question you can contact Jacob Klein at JNK004@lindenwood.edu or Dr. Michiko Nohara-LeClair at mnohara-leclair@lindenwood.edu. Thank you for participating.

Sincerely,  
Jacob Klein

## Appendix H

### Facebook Recruitment Post

Hello!

What motivates you? Come find by playing every college students favorite game, water pong. I am conducting a research study on behalf of my advanced research methods class at Lindenwood University. This research will take about 15-20 minutes to complete. This research is completely anonymous, and your participation is voluntary. You have the ability to stop being a part of the research at any point you feel necessary. Please share this post so I can reach as many people as possible!

Thank you,  
Jacob Klein (Primary Researcher)  
JNK004@lindenwood.edu

### LPP Description

What motivates you? Come find by playing every college students favorite game, water pong. This research will take about 15-20 minutes to complete. This research is completely anonymous, and your participation is voluntary. You have the ability to stop being a part of the research at any point you feel necessary.

Appendix I  
Debriefing Questionnaire

1. What is your gender identity?
2. How old are you?
3. On a scale of 1-5, 1 being did not like at all and 5 being favorite study ever, how much did you like this study?
4. Please explain answer for 3?
5. What motivates you?
6. Are you more motivated by money or self-fulfillment? Circle one.

Money      Self-fulfillment