

Can Extrinsic Motivation be Replaced by Intrinsic Motivation in Children Who are Primarily
Extrinsically Motivated?

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Statement of the Problem

When children begin school, their motivational tendencies are related to whichever reward strategy has been used in their home thus far. Teachers are tasked with not only teaching children, but with motivating them to want to do their work. Extrinsic motivation is defined as behaving in a certain way to receive some form of external reward or to avoid a punishment. Intrinsic motivation is defined as the desire to engage in a behavior for its own sake. (Myers & DeWall, 2021). Those who are intrinsically motivated engage in the behavior for its inherent value or because they enjoy it, not because they are doing it for a reward or trying to prove something. The teachers are at the mercy of whatever structure for achievement behavior has been set for them at home, whether that be an external reward system or one that supports the perseverance of their internal drives.

Ryan and Deci, in 2000, discussed how humans are born intrinsically motivated; it is not something that we acquire or learn. However, they state, it can be disrupted by conditions that do not support it. It is not difficult to see, then, how significant the role of the environment is to either maintaining intrinsic motivation or shifting to a form of motivation that requires something external to drive the person to complete a task. This proposed research is aimed at discovering if intrinsic motivation can be reattained after a child has developed extrinsic tendencies as their primary form of motivation. Can we go back? It is possible that this exact question has yet to be examined through an experimental process.

Why should we concern ourselves with which form of motivation someone possesses? Intrinsic motivation has a greater potential to persevere into adulthood and outside of the educational setting because it does not need something external to keep it going. This provides many benefits to a child who is learning about the world and who will grow up, hopefully to be a

competent & self-driven adult. The reason it persists better than extrinsic motivation is that it is related to a growth mindset, where children understand that they can achieve things because of the effort that they put in, as opposed to a fixed mindset that is based on an unchangeable level of perceived intelligence. (Dweck, 2007). This research found that those who had a growth mindset persisted in their internally driven motivation and continued to get better grades. Additionally, “children’s intrinsic motivation predicts their reading achievement over time” (Choi & Cho, 2020, p. 608). Therefore, there is value in focusing on shifting children who are extrinsically motivated back to an intrinsic form; they will not require external forces and their self-derived reasons to perform the behavior will be persistent.

Purpose of the Study

The goal of this experimental study is to examine whether children who are primarily extrinsically motivated can be shifted back to being primarily intrinsically motivated. The main objective is to evaluate the initial motivational tendencies of the children in the study, to apply experimental conditions of teacher praise and relationship building, and finally, to reassess their primary motivational tendencies after the experimental phase. The hypothesis is: intrinsic motivation can replace extrinsic motivation.

Significance for Practice and Theory

After extensive searching for prior research done on this specific question, none could be located (using several academic journal databases). Therefore, there is much to gain from doing this research. The significance of using teacher praise as one of the experimental variables is that a few studies have already demonstrated how this is related to intrinsic motivation when phrased appropriately. Dweck (2007) discussed how children who were praised for their effort exhibited

a more intrinsic, persevering form of motivation. Where, those who were praised for their intelligence fell into a fixed mindset regarding their perceptions about intelligence and that it is an innate, unchangeable trait. Relying on Dweck's work on the fixed vs. growth mindset theory as a basis for one of the independent variables of this study, it serves to advance her theory by showing if a shift of the motivational types can be done. This study brings value because it defines the motivational groups in simple terms, making it easy to determine if someone can move from the extrinsic category to the other.

Regarding the second independent variable, relationship building, Self-Determination Theory is at the core of its use here. This theory postulates that humans have innate psychological needs that are necessary to be self-motivated. Among them are competence, relatedness, and autonomy. (Ryan and Deci, 2000). If the children in the study can relate to their teacher, feel that they have established a relationship, it can help support their innate needs that lead to being self-motivated. This theory is highly empirical. This study would serve to expand on it because it would demonstrate a cause-and-effect link between relatedness and intrinsic motivation. In fact, if the hypothesis is found to be true, the evidence would be strong because it would not only be supporting intrinsic motivation, but it would be prompting a metamorphosis of children's primary motivational tendencies. The theory mostly discusses shifts in the other direction, so this would be an expansion on their same ideas, simply in the reverse.

Finally, the findings of this research have the potential to bring about positive changes in the education setting, by providing teachers with evidence on how they might be able to shift the motivational type of their students. To show empirically that children do not have to remain in a state of requiring an external reward for learning would be a profound implication for

instruction. This would also provide some encouragement for teachers who might be struggling to get students motivated.

Literature Review

The Transition from Extrinsic to Intrinsic Motivation in the College Classroom: A First-Year Experience, discusses the transition from high school to college and the differences in motivation for learning in these two environments (Thomson & Thornton, 2002). In high school, there are more external factors related to learning motivation, such as grades, required attendance, and accountability to parents. In college, while some external factors still exist, there is a shift to a need for internal motivation. Adult learners are motivated by relevance of the material to their life and having ownership in the process. This article discusses the eight categories that are part of Howard Gardner's Multiple Intelligences, as support for creating relevance for college students and giving more meaning to individual students (making it relatable, thereby creating a basis for intrinsic motivation). Though this is a theory, the article does indicate that it is related to research. (Thompson & Thornton, 2002).

The participants (or relevant population, as this is a theory) are high school seniors transitioning to college freshman. The instrument is Howard Gardner's Multiple Intelligences theory that contains eight categories, or ways that people express their intelligence: intrapersonal, interpersonal, logical/mathematical, visual/spatial, verbal/linguistic, bodily/kinesthetic, naturalist, and musical/rhythmic. As there was no actual results section, the idea is for college educators to use this theory to help provide relevance for students in their learning. If they can do this, it will support the locus of control for students because if they see relevance to their own life in their studies it provides the groundwork for being intrinsically motivated to learn. The article also discusses that this has the potential to increase retention of college students.

(Thompson & Thornton, 2002) While this article is about theory, it is valuable because it provides a scientific framework for the field.

Another article studied the effects of “flipping the classroom” or making class time a place for higher cognitive collaboration, versus mere notetaking, lecturing, or review (Dierdorff, 2021). The students are given a task to review at home before attending class, such as a reading, watching a video, or other tasks. Then, they discuss in class with the teacher or in groups and dig deeper into the concepts. Basically, the classroom is now the place for homework, making it flipped from the old structure. They tested whether this alternative teaching strategy improved motivation (intrinsic and extrinsic) as well as performance. (Dierdorff, 2021).

The participants are eighth grade Dutch students who are on the pre-university track, studying mathematics. The instrument used was a questionnaire to assess motivation and a teacher interview. There was also a pre- and post-test to analyze the change in performance. They also measured competency, autonomy, and connectedness, as those are indicators of internal locus of control. The researchers used SPSS software to analyze the data. (Dierdorff, 2021).

The results showed an increase in both intrinsic and extrinsic motivation to a statistically significant effect. The p-value for intrinsic motivation was $p=.002$ and extrinsic was $p<.001$. There was also an increase in competency, autonomy, and connectedness. There was a small increase in performance, though not statistically significant ($p=.224$). (Dierdorff, 2021).

The authors note that future research must look to find an explanation for the non-significant findings on test performance. They also note that future studies will require better designed instruments. (Dierdorff, 2021).

Another study assessed whether there was a difference in reactions to a generic statement of praise, versus a non-generic statement, looking at subtle linguistic cues and how they affect motivation (Cimpian, et.al., 2007). The study looked at children's reactions to criticism under both conditions. The experimenter role played with the children, as they used a puppet who pretended to draw (with a pipe cleaner, not an actual crayon). The experimenter used a puppet as well, who pretended to be the teacher. (Cimpian, et.al., 2007).

The participants were a group of 24 four-year-old children. Half were in the generic statement group and the other half in the non-generic group. The instruments consisted of a set of self-evaluative questions after a role-playing scenario, where the experimenters gave either generic or non-generic statements of praise about the child's supposed drawing ability (did not actually draw, children used a tool to demonstrate fake drawings). Then, after another role-playing scenario where the experimenters stated the child made a mistake drawing, a second set of questions were given. Ultimately, the questions were coded as mastery or helpless. (Cimpian, et.al., 2007).

The results indicated no significant difference in self-reported evaluations of the children's feelings and opinions of their drawings before the mistake scenario. However, after the mistake scenario (criticism), the children's reactions were very different. The children given the generic praise statements were significantly more likely to show an increase in helplessness than those given a non-generic statement of praise in the initial role-playing scenario. (Cimpian, et.al., 2007).

The article does not give any implications for future research. I would say, based on this study, that future research should incorporate actual drawing, instead of using a puppet with a pipe cleaner to pretend to draw. This would make the study more like real life, versus a

laboratory setting. Perhaps this would show a more significant effect even pre-mistake scenario because the children would actually be doing the drawing and would relate specifically to the praise, whereas in this study the children were taking on the praise directed towards the puppet.

In another study, researchers investigated predictors of children's learning motivation according to temperament and home environment, (Choi & Cho, 2020). They sought out to see if there were any differences in intrinsic and extrinsic motivation according to those overall factors. They defined intrinsic motivation as wanting to engage in an activity for the inherent enjoyment of it, separate from any outcome associated with the activity. They discussed that the locus of incentive is related to the activity itself and nothing else.

Surveys were used to assess the children's temperament and home environment. These were completed by the mothers of the children, who were 5 years old. There were eleven indicators of temperament and four for home environment used within the surveys. Teachers then rated the same children on intrinsic and extrinsic motivation. They used a Motivation Type Questionnaire that was derived from a previously used scale called the Work Preference Inventory. They revised the questions to apply to children in this setting, reported by their teachers. (Choi & Cho 2020).

The results showed some indicators of temperament and home environment to be related to intrinsic motivation. However, only one indicator of temperament was associated with extrinsic motivation, while none of the home environment indicators were significantly related. (Choi & Cho 2020).

The authors discussed that a potential limitation of their study in finding no relation between extrinsic motivation and home environment could be that their questions did not

specifically ask about extrinsic parental response to their children's behavior. They suggest that future studies look for extrinsic motivation antecedents. (Choi & Cho 2020). Basically, research needs to look specifically at what reward model parents are using at home, and the phrasing of the questions in this study didn't quite do that.

The next article examined two studies done using educational digital games designed to teach math skills to 7–11-year-olds (Habgood & Ainsworth 2011). The authors understand that typically educational games are designed using extrinsic motivational elements to disguise the content that is meant for learning. All the children in the study were from a primary school in a low-income area. This school had low attainment and students in their final year at the school had below-average scores in math in comparison to their previous year of attendance. (Habgood & Ainsworth 2011).

They used three games designed with different motivational aims: extrinsic, intrinsic, and a control game. One study looked at what was gained in terms of learning after playing the game. The other study recorded how long the children persisted on the task when given the choice of which game to play. The students in the intrinsic game group improved the most with an average test score of 58%, while the control and extrinsic groups had scores of 38% and 41%, respectively. In the study that looked at time on task, those who chose the intrinsic game played an average of 7 times longer than those on the extrinsic game. The authors indicated that this provides clear evidence in support of their hypothesis that integrating intrinsic value into the game increases motivation. (Habgood & Ainsworth 2011).

Cohesive Summary of Literature

While all of these studies are closely related to extrinsic motivation in an educational setting, they are very different in what they provide to the field of educational psychology. After an exhaustive search, using several databases, these were the most relevant studies available related to this specific research question. Some of these studies call for future research that would be addressed more closely by this proposed study. And some of these studies provide indicators that point towards the potential that this research hypothesis may be valid.

The theory-based article on college students' motivation is aimed at providing relevance and a locus of control that would ultimately increase retention and graduation rates. Intrinsic motivation is a major element to this. The study that assessed motivation in digital game play mentioned low attainment of students where the research was conducted. Here, we already see a connection between elementary-aged children and college students and that keeping them in school is a major concern for educators. Fostering intrinsic motivation can help mediate that.

Closely related to the need for long-lasting motivation, is the article that looked at how linguistic cues affect motivation. The children in this study who received a generic praise statement, as opposed to a statement that was related to the child's effort, did not have long-lasting motivation (specifically after receiving a critical statement). Again, we can see the importance of intrinsic motivation and that it can persist long past the point where it is attained.

Two of these studies mentioned SES or income level. The study that looked at temperament and home environment noted that children from families with low SES are more likely to experience a home environment that is less stimulating than those of children with families that have a higher SES. Additionally, the game study recruited a school that was located

in a low-income urban area that had low math scores in the final year of attendance. Perhaps there is a connection between the low-income environment of this population and the lack of stimulus provided at home that fosters intrinsic motivation, which could be evident by the low performance. These two studies highlight the importance of gaining a better understanding of the nature of extrinsic motivation.

Two of these studies measured motivation (or indicators of) before and after the experimental procedure was applied. The digital game study showed a clear increase in test performance and task perseverance for the intrinsic game. And the study that examined flipping the classroom to incorporate doing homework at school, showed an increase in both intrinsic and extrinsic motivation. These are the most closely related empirical examples related to this research question. These studies measured motivation before and after the procedure yet did not specifically look at whether extrinsically motivated students can shift to being intrinsically motivated. This is a gap within this field of research that this study would serve to fill.

Research Methods

Participants

The population to be studied falls within the third-grade classroom, children ages 8-9 years old. This age range was chosen for two reasons: the children are old enough to be able to answer questions on a survey related to motivational markers of extrinsic tendencies; and that this age group hasn't yet reached adolescence, which is a developmental time period where extrinsic motivation can overtake intrinsic (Gillet et. al., 2012). This proposed study is aimed at assessing whether extrinsic motivation learned at home can be shifted to intrinsic in the academic

setting. Therefore, our goal is to assess this potential before too many outside influences have had a chance to change the motivational path of the children.

Recruitment will consist of seeking out an elementary school that is interested in contributing to motivational research. The chosen school must have at least 256 third grade students (to have enough to achieve a medium effect size within the data – discussed further in the data section). Therefore, more than one elementary school may be needed to fulfill the required participant size. There will be at least 128 students in the experimental group and 128 students in a control group.

Measures

A survey will be used to measure the students' extrinsic & intrinsic motivation before and after the experimental procedure is applied. This will be a modified version of the Motivation Type Questionnaire developed by K. H. Jin (2002). This survey was used in the Choi & Cho (2020, p. 616) study reviewed in this proposal. It will be modified so that the questions are directed at the children, as indicators of extrinsic motivation. This questionnaire, revised by Jin (2002), was originally derived from The Work Preference Inventory (Amabile, et. al., 1994), as cited by Choi & Cho, 2020. The assessment has a scale from 1-5 for each question. There are 8 questions for each motivation type (intrinsic and extrinsic), for a total possible 40 points. Next, each student will be assigned as either primarily extrinsically motivated or primarily intrinsically motivated, based upon the total points for each motivational type.

Procedure

The experimental procedure applied in this study will consist of two parts: teacher praise and relationship building. The time period that the procedure will be applied is a period of three

months. This will allow time to give the first survey once the school term has begun, as well as allow for the second survey to be conducted before the end of the four-month term. The experimental group of at least 128 students will receive active praise from their home room teacher that is based upon the student's effort. The teachers will not engage in praise that highlights the students' personal traits or inherent abilities. Example scripts will be provided to the teachers for guidance, to ensure that they are using statements that only highlight the children's effort. The teachers in the control group will not change from their existing praise methods.

The second element is relationship building between the teacher and the individual students in the experimental group. Teachers will be directed to pay closer attention to the students' needs and provide support when needed. The teachers in the control group will not change from their current relationship model.

Data Analysis

As we are looking at two variables (motivation types) with two independent groups (experimental and control), a two-way between-groups ANOVA will be used to assess the data obtained from the surveys given before and after the procedure. To interpret main effects and ensure at least a medium effect size for this test, 128 children in each group must be assessed. A graph will be provided that summarizes how many of the children who were originally primarily extrinsically motivated shifted to being primarily intrinsically motivated.

References

- Cimpian, A., Aree, H. M. C., Markman, E. M., & Dweck, C. S. (2007). Subtle linguistic cues affect children's motivation. *Psychological Science, 18*(4), 314-316.
- Choi, N. & Cho, H. (2020). Temperament and home environment characteristics as predictors of young children's learning motivation. *Early Childhood Education Journal, 48*, 607-620.
- Dierdorp, A. (2021). Evidence-Informed teaching: Investigating whether evidence from 'flipping the classroom' research improves students' motivation for mathematics. *Education Sciences, 11*(257), 1-15.
- Dweck, C. S. (2007). The perils and promises of praise. *Educational Leadership, October*, 34-39.
- Gillet, N., Vallerand, R. J., & Lafreniere, M. K. (2012). Intrinsic and extrinsic school motivation as a function of age: The mediating role of autonomy support. *Social Psychological Education, 15*, 77-95.
- Habgood, M. P. J. & Ainsworth, S. E. (2011). Motivating children to learn effectively: Exploring the value of intrinsic integration in educational games. *The Journal of the Learning Sciences, 20*, 169-206.
- Myers, D. G. & DeWall, C. N. (2021). *Psychology in Modules* (13). Worth Publishers.
- Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.
- Thompson, B. R. & Thornton, H. J. (2002). The transition from extrinsic to intrinsic motivation in the college classroom: a first-year experience. *Education, 122*(4), 785-792.