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Motivational Situations of Choice

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ABSTRACT

The present research explores situations that demonstrate enhancing effects on motivation based on the amount of choice seen by individuals. Individuals who are intrinsically motivated see more choice in certain academic settings, including those that foster self-regulation and autonomy. Extrinsically motivated individuals are predicted to see more promise in reward and external regulation strategies. We identified six separate situations: a free will situation, a learning of materials situation, an instructor feedback situation, an extra credit situation, and two time-based situations. Four of these situations target a certain type of motivation, either intrinsic or extrinsic. The other two situations were used as a means to analyze pressure and tension due to time constraints. The goal of the present research was to identify correlations in these crafted situations with motivational measures from previous studies which examined choice and autonomy.

Keywords: motivation, learning, freewill, choice, autonomy

The academic situation is powerful in social effect because of many diverse variables. Learning outcomes differ from the perception of these situations and impact the choices seen or the type of motivation that may be occurring. Motivation in the academic setting is a very important factor that must be accounted for through pedagogy that uses strong inference. Experiments examining motivation as a result of teaching methods are needed to solidify impact in the field of psychology.

For almost two decades, Edward L. Deci and Richard M. Ryan have solidified the understanding of motivation and determinism through Self-Determination Theory. This theory encompasses that the individual experiences motivation as an innate psychological need, and through a regulation of the self (Ryan & Deci, 2000). Three of the essential factors in this theory are autonomy; or the ability to accomplish for one's self, relatedness; or how related a

person is to the task, and competence; or the strength in the ability to accomplish. Deci and Ryan observed why autonomy, relatedness, and competence lead to motivation, and they viewed motivation as lying on the spectrum of extrinsic (being external) or intrinsic (being internal). These two areas of motivation help explain why situational factors may be responsible for an array of academic motives and choices seen in these situations.

Intrinsic motivation encompasses the ability to seek challenge for one's self, not based on performance standards, and not based on external factors such as rewards (Ryan & Deci, 2000). Even in the absence of reward, intrinsic motivation remains a powerful aspect of personality. Through mastery, interest, enjoyment, and explorative involvement, individuals can see benefit in both the academic realm and within accomplishments of everyday life. Intrinsic motivation may be viewed as

innate, but Deci and Ryan suggest that it requires support from conditions that foster autonomy, relatedness, and competence in order to be enhanced and to help sustain intrinsic ability. These conditions helped to inspire the situations used in this study.

Extrinsic rewards tend to lessen intrinsically motivational factors, as they are seen as a means to control (Deci, Koestner, & Ryan, 1999). Individuals have exemplified the preference of environments that promote learning through choice (Ryan & Deci, 2000). Extrinsic motivation is increased as external regulation or the offering of reward is increased, such as extra credit. Accordingly, increase of praise or feedback has shown to enhance extrinsically regulated behavior (Iyengar & Lepper, 2000). However, Deci and Ryan describe social pressure and tension as being main reasons why extrinsic behavior dominates the area of motives. While finding intrinsically aligned individuals in extrinsic conditions may be difficult, we found that fostering autonomy, relatedness, and competence through learning materials may be key to a successful learning situations.

The purpose of the present research is to identify theoretical corollaries between motivation and the perception of choice among certain types of academic situations. These situations may demonstrate which relationships are present in response to each scale. To form these situations we identified each variable and the scales act as supportive measures to many of our hypotheses about choice and motivation. While there is evidence that people who are allowed more autonomy when selecting tasks have higher levels of intrinsic motivation (Cordova & Lepper, 1996), few have considered the reverse. Those who are intrinsically motivated see more choices in environments that foster autonomy and self-

regulation, and less choice in environments that demonstrate more externally motivated behavior (e.g., rewards or testing).

Cordova and Lepper (1996) have identified the importance of choice through many of their studies. In addition to measuring the learner's strategies, they manipulated experimental conditions to provide for more or less choice. In addition, participants were given the option of problem solving through their own strategies. Their results identified that the personal benefit of learning is when choice is presented to the learner as being an important factor in the facilitation of the teaching. Coincidentally, choice becomes overwhelming and demotivating when there are too many options given to complete a task (Iyengar & Lepper, 2000). This supports the argument that there is importance in finding the proper amount of choice through each type of motivational situation we created.

Levesque and Brown (2007) suggest that some individuals may be more aware than others, thus increasing their specific path to motivation. Mindfulness, or the ability to be aware for one's self, is a key aspect to predicting autonomous day-to-day behavior. Levesque and Brown indicated mindfulness played a role in motivation, as those who were mindful also tended to rate more highly in intrinsic motivation. Based on this relationship, mindfulness must be examined in relation to extrinsic and intrinsic motivation. The significance of this relationship would show that these results would be powerful and reliable. In addition, mindfulness has shown to be an important factor of personality that may impact many social situations (Brown & Ryan, 2003).

In line with self-determination theory, the present research seeks to identify

the correlations between intrinsic motivation and the fostering of autonomy and competence through situations. The present research seeks to identify which extrinsic situations may have decreases in perceived choice, based on external regulatory factors outlined by Deci and Ryan (2000). Allowing for more time to complete a task may increase the motivation for its completion, while fostering autonomy or competence. Situations that limit time decrease the amount of choices in any situation. Situations which constrain time might make them more challenging, while situations that offer more time will be positively correlated with having greater amounts of choice.

Along the lines of our first set of hypothesis, situations that offer extra credit or instructor feedback will be positively correlated with factors that lead to extrinsic motivation (such as rewards or praise). Situations that highlight free will and learning of materials will be correlated with intrinsic motivation (such as autonomy and relatedness). These ideas have been supported previously in other terms of research, but not examined by the amount of perceived choice or by allowing participants to imagine themselves in their own relevant academic situations to account for personality traits like mindfulness.

Method

Participants

Kennesaw State University Student students (83 women, 17 men) of varying age were asked to complete the questionnaires and situations in succession after filling out an informed consent. Students were recruited via the SONA research website for Kennesaw State's psychology department. These students accepted participation in this research as partial course credit.

Measures

The Intrinsic Motivation Inventory (IMI; Ryan, 1982) is a 25-item measure that was used to assess the level of intrinsic motivation while working on an imagined task. Participants responded to this scale according to how much they agreed (one) or disagreed (seven) with the statements measuring their motivation types. The scale consisted of three subscales: interest (or how interesting the task was), value (or how valuable they saw the task), and perceived choice (or how much choice they saw). The IMI demonstrated strong reliability (Cronbach's alpha = .89). We broke the scale up into subscales to measure each variable across each situation (each subscale demonstrated at least Cronbach's alpha = 0.7).

The Mindfulness Attention Awareness Scale (Ryan & Brown, 2007) was used as a 15-item measure to assess levels of mindfulness. Participants responded to this scale by how much they agreed to the statements measuring their individual levels of mindfulness, from one to seven. The scale by itself demonstrated strong reliability (Cronbach's alpha = .80).

The 30-item Work Preference Inventory (WPI; Amabile, Hill, Hennessey, & Tighe, 1994) served as a measure of both intrinsic and extrinsic motivation. We broke the WPI up into its subscales: intrinsic-challenge (e.g., "I was challenged by this task"), intrinsic-enjoyment (e.g., "I felt this task was enjoying"), extrinsic-outward (e.g., "My boss asked me to do this task"), and extrinsic-compensation (e.g., "I did this task for money"). All scales were Likert-type and participants responded on a scale from one to seven on how much they agreed or disagreed with each item. These scales closely modeled the situations we had

already crafted and provided good use in measuring motivation. Also, all of the subscales demonstrated good reliability (each above Cronbach's $\alpha = .70$), as they measured opposite things.

We used researcher-crafted situations for measuring the level of choice perception among our participants (Appendix A). We used the situations to measure the level of choice perception a participant might see when confronted with different motivational tasks. In the intrinsic motivation situations, we highlighted elements of free will, self-determinism, and mastery. In creating the extrinsic motivation situations, we highlighted the extrinsic areas of feedback, rewards, and performance. Participants were asked to imagine the amount of choices because of grading and extra credit in these situations. Lastly, we added two separate time situations, one that gave more time and one that gave less time to complete the imagined task.

Participants were informed that the task characteristics could vary so the situation could be better imagined. Participants responded to how much choice they saw in each situation. Because each item was measured differently, we performed separate analysis to determine the relationship of the measures and the situations. Participants in the study completed the situations first and then completed the dependent measures after. Afterward, participants responded about their gender and age. Participants were then debriefed and thanked for their time.

Results

Bivariate correlations were performed to demonstrate which crafted situations were related with the measured variables of interest from each measure. We

broke each measure down based on subscales and created a correlational matrix (see Table 1).

A correlational analysis was performed on the free will situation and the subscales from the IMI (interest, value, and perceived choice), and the WPI (challenge and enjoyment). These variables would act as intrinsic variables of interest in our study. The free will situation saw positive correlation with interest ($r = .20, p < .05$) and choice ($r = .31, p < .01$) from the IMI, as well as positive correlation with enjoyment ($r = .33, p < .01$) from the WPI. The educational materials situation, which outlined competence in mastering academic work, saw no significant correlations with the WPI or IMI.

The extra credit situation also saw positive correlation to compensation ($r = .33, p < .01$) from the WPI, which measures the extent to which people are motivated by external factors. The extra credit situation also saw positive correlation to the graded feedback situation ($r = .28, p < .01$) and correlation to many of our intrinsic measures: enjoyment ($r = .21, p < .05$), interest ($r = .25, p < .05$), and choice ($r = .29, p < .01$). While the choices participants saw in some situations of extrinsic relationship were not significant, the examination of reward and free will seem to have positive correlation ($r = .36, p < .01$) in terms of the amount of choices seen in each situation.

In our analysis of the time situations, each were split into long and short time analyses against variables of both intrinsic and extrinsic motivation factors. There were no significant correlations for time (short or long). Lastly, mindfulness saw no significant correlation, including to the intrinsic measures and the various situations.

This would support the claim that another way, without an individual mindfulness is perhaps linked to choice in imagining situational tasks.

Table 1: Correlation Matrix for Dependent Measures.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|------------------------------------|-------|-------|-------|-------|------|------|-------|-------|-------|------|-------|-------|-----|----|
| 1. Free Will Situation | - | | | | | | | | | | | | | |
| 2. Educational Materials Situation | -.03 | - | | | | | | | | | | | | |
| 3. Graded Feedback Situation | -.02 | .30** | - | | | | | | | | | | | |
| 4. Extra Credit Situation | .36** | .06 | .28** | - | | | | | | | | | | |
| 5. Short Time Situation | .14 | .13 | .27** | .25* | - | | | | | | | | | |
| 6. Large Time Situation | .40** | .15 | .17 | .21* | .06 | - | | | | | | | | |
| 7. IMI: Interest | .22* | .03 | .09 | .25* | .01 | .02 | - | | | | | | | |
| 8. IMI: Value | .10 | .05 | .01 | .17 | -.04 | -.05 | .75** | - | | | | | | |
| 9. IMI: Perceived Choice | .31** | .01 | .16 | .29** | .19 | .07 | .35** | .32** | - | | | | | |
| 10. Mindfulness | -.10 | .04 | .13 | .01 | .11 | .02 | .00 | .22* | .08 | - | | | | |
| 11. WPI: Challenge | .20 | -.14 | -.01 | .18 | .12 | -.10 | .28** | .31** | .23* | .06 | - | | | |
| 12. WPI: Enjoyment | .33** | -.04 | .04 | .21* | .12 | .06 | .29** | .33** | .30** | .14 | .54** | - | | |
| 13. WPI: Outward | .05 | .14 | .18 | .14 | -.01 | -.06 | .21* | .11 | -.04 | -.07 | -.12 | .06 | - | |
| 14. WPI: Compensation | .05 | -.09 | .10 | .33** | .10 | -.09 | -.02 | .12 | .26** | .21* | .22* | .27** | .02 | - |

*Correlation is significant at the 0.05 level. **Correlation is significant at the 0.01 level.

WPI: Work Progress Inventory, IMI: Intrinsic Motivation Inventory.

Discussion

In line with the proposed hypothesis, an extra credit situation or instructor feedback situation was positively correlated with compensation (such as rewards or praise). The freewill situation was significantly correlated to factors that lead to intrinsic motivation (such as interest and perceived choice), while the learning of educational materials situation negatively correlated to the intrinsic measures. These results help support the claim that intrinsic motivation and the fostering of autonomy and competence are related through a free will situation that measures the amount of choice seen. However, the relationship between mindfulness and the short or long time situation remained insignificant.

The relationship of choice and the intrinsic or extrinsic situations remains

supported by previous studies (Cordova & Lepper, 1996; Iyengar & Lepper, 2000). Further experimentation must be performed to explain the relationship between choice and the variables of interest in each type of situation we created. The patterns found in our study help support the claim that when offered more or fewer choices, participants will see change in their motivation in different situations. Because these situations highlighted different internal and external factors that lead to these types of motivation, our results support our hypothesis that participants see more choice in situations that highlight autonomy.

In line with research by Deci, Koestner, and Ryan (1999), experimenters should determine which variable is related to the amount of choice in intrinsic situations that foster autonomy and competence. We found no support that limiting or increasing

time affects the amount of choices seen in each situation. The effects of time limitation must be further researched to highlight the importance of this variable on motivational situations.

While mindfulness remained insignificantly related to the situations of choice, its effects on choice and as a factor of motives should be further researched. Mindfulness is an exciting new concept in terms of social understanding, and may show positive relationships with many other intrinsic measures. Levesque and Brown (2007) measured mindfulness as day-to-day behavior that enhances intrinsic motivation in individuals. Based on the results of this study, mindfulness showed no correlation with our intrinsic or extrinsic motivation situations. This demonstrates that mindfulness may play a role in academic settings in another way.

The present research leaves new questions to be answered in regards to choice perception and the impact of intrinsic or extrinsic motivation in educational research. We found that intrinsic motivation increases the amount of choices seen in situations where autonomy and free will are present. Accordingly, interest and perceived choice saw increase in the amount of choice seen in our free will situation. The choices perceived in the extra credit situation had positive relationship to compensation, in that participants who saw more choices measured higher in compensation motives. Because of these results, further experimentation in the area of motivation and choice must be performed to identify causation behind these effects. Research in the areas of task challenge and enjoyment must be assessed to understand the relationship between these variables and choice through intrinsic motivation.

In terms to the application of this area of research, motivation has a supported relationship to our academic situations. Teachers can structure their classrooms to account for intrinsic or extrinsic motivation accordingly. This would impact both students' perceptions of the academic situations and also enhance motivation in these targeted areas. In line with self-determination theory, teachers may assign instructions on assignments that foster intrinsic or extrinsic motivation. Intrinsic motivation in our academic situation a showed positive relationship with perceived choice; therefore teachers should foster this relationship to increase the effect these variables have in the academic situation. The extrinsic situations, compensation, and outward regulation all showed positive relationship, hinting they are interconnected in classroom settings.

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Appendix A: Choice Perception Situations

Intrinsic Conditions:

Imagine you are completing an educational task out of free will. This particular task should be something you are perhaps interested in. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices

Imagine you are completing an educational task for a teacher. The imagined task might be completed to better your understanding of educational materials. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices

Extrinsic Conditions:

Imagine you are completing an educational task. This task will be graded and feedback will be given. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices

Imagine you are completing an educational task. Extra credit is to be given for attempting the task. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices

Time Conditions:

Imagine you are completing an educational task. This task has a short amount of time in which complete it. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices

Imagine you are completing an educational task. This task has a large amount of time in which complete it. This task is one that you should be familiar with, and feel competent in doing. This particular task should be completed on your own. The characteristics of the task could vary to some extent. Circle the amount in which you see choices in completing the said task:

Fewer choices - 1 – 2 – 3 – 4 – 5 - More choices