

# Extrinsic Motivation: Beyond Rewards

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Extrinsic motivation comes from external sources. Deci and Ryan developed Organismic Integration Theory (OIT), as a sub-theory of SDT, to explain the different ways in which extrinsically motivated behaviour is regulated.

OIT details the different forms of extrinsic motivation and the contexts in which they come about. It is the context of such motivation that concerns the SDT theory as these contexts affect whether the motivations are internalised and so integrated into the sense of self.

OIT describes four different types of extrinsic motivations that often vary in terms of their relative autonomy:

**Externally regulated behaviour:** Is the least autonomous, it is performed because of external demand or possible reward. Such actions can be seen to have an externally perceived locus of control.

**Introjected regulation of behaviour:** describes taking on regulations to behaviour but not fully accepting said regulations as your own. Deci and Ryan claim such behaviour normally represents regulation by contingent self-esteem, citing ego involvement as a classic form of introjections. This is the kind of behaviour where people feel motivated to demonstrate ability to maintain self worth. While this is internally driven Deci and Ryan say introjected behaviour is on an externally perceived locus of control because they aren't perceived as part of self.

**Regulation through identification:** Is a more autonomy driven form of extrinsic motivation. It involves consciously valuing a goal or regulation so that said action is accepted as personally important.

**Integrated Regulation:** Is the most autonomous kind of extrinsic motivation. Occurring when regulations are fully assimilated with self so they are included in a person's self evaluations and beliefs on personal needs. Because of this, integrated motivations share qualities with intrinsic motivation but are still classified as extrinsic because the goals that are trying to be achieved are for reasons extrinsic to the self, rather than the inherent enjoyment or interest in the task.

Extrinsically motivated behaviours can be integrated into self. OIT proposes internalization is more likely to occur when there is a sense of relatedness.

Ryan, Stiller and Lynch found children will internalize school's extrinsic regulations when they felt secure and cared for by parents and teachers.

Internalisation of extrinsic motivation is also linked to competence. OIT suggests that feelings of competence in activities should facilitate internalisation of said actions.

Autonomy is particularly important when its regulations are trying to be integrated into a person's sense of self. If an external context allows a person to integrate regulations they must feel competent, related and autonomous. They must also understand in terms of their other goals the

regulation in order for a sense of autonomy to be facilitated. This was supported by Deci, Eghrari, Patrick and Leone who found in laboratory settings if a person was given a meaningful reason for uninteresting behaviour along with support for their sense of autonomy and relatedness they internalized and integrated their behaviour.

### **Basic needs and intrinsic motivation**

White and deCharms proposed that the need for competence and autonomy is the basis of intrinsic motivation and behaviour. This is a link between people's basic needs and their motivations.

#### **Autonomy**

Deci found that offering people extrinsic rewards for behaviour that is intrinsically motivated undermined the intrinsic motivation as they grow less interested in it. Initially intrinsically motivated behaviour becomes controlled by external rewards, which undermines their autonomy.

Further research by Amabile, DeJong and Lepper found other external factors like deadlines, which restrict and control, also decrease intrinsic motivation.

Situations that give autonomy as opposed to taking it away also have a similar link to motivation. Studies looking at choice have found that increasing a participant's options and choices increases their intrinsic motivation to said activities.

#### **Competence**

Deci found that giving people unexpected positive feedback on a task increases people's intrinsic motivation to do it, meaning that this was because the positive feedback was fulfilling people's need for competence. In fact, giving positive feedback on a task served only to increase people's intrinsic motivation and decreased extrinsic motivation for the task.

Vallerand and Reid found negative feedback has the opposite effect (i.e., decreasing intrinsic motivation by taking away from people's need for competence).

#### **Relatedness**

Frodi, Bridges and Grolnick said that need for relatedness supports intrinsic motivation in a less key way.

#### **Individual differences**

SDT argues that needs are innate but can be developed in a social context. Some people will develop stronger needs than others, creating individual differences. However individual differences within the theory focus on concepts resulting from the degree which needs have been satisfied or

not satisfied.

Within SDT there are two general individual difference concepts, Causality Orientations and Life Goals.

### **Causality orientations**

Causality orientations are motivational orientations that refer to either the way people orient to an environment and regulate their behaviour because of this or the extent to which they are self determined in general across many settings. SDT created three orientations: autonomous, controlled and impersonal.

Autonomous Orientations: result from satisfaction of the basic needs

Strong controlled orientations: Result from satisfaction of competence and relatedness needs but not of autonomy and is linked to regulation through internal and external contingences, which lead to rigid functioning and diminished well being.

Impersonal Orientations: Results from failing to fulfil all three needs. This is also related to poor functioning and ill being.

According to the theory people have some amount of each of the orientations, which can be used to make predictions on a persons psychological health and behavioural outcomes.

### **Life goals**

Life goals are long term goals people use to guide their activities and they fall into two categories:

Intrinsic Aspirations: Contain life goals like affiliation generativity and personal development.

Extrinsic Aspirations: Have life goals like wealth, fame and attractiveness.

There have been several studies on this subject that chart intrinsic goals being associated with greater health, well being and performance.

### **Key studies**

#### **Deci (1971): External rewards on intrinsic motivation**

Deci investigated the effects of external rewards on intrinsic motivation in two laboratory and one field experiment. Based on the results from earlier animal and human studies regarding intrinsic motivation the author explored two possibilities. In the first two experiments he looked at the effect of extrinsic rewards in terms of a decrease in intrinsic motivation to perform a task. Earlier studies showed contradictory or inconclusive findings regarding decrease in performance on a task

following an external reward. The third experiment was based on findings of developmental learning theorists and looked at whether a different type of reward enhances intrinsic motivation to participate in an activity.

### **Experiment I**

This experiment tested the hypothesis that if an individual is intrinsically motivated to perform an activity, introduction of an extrinsic reward decreases the degree of intrinsic motivation to perform the task.

Twenty-four undergraduate psychology students participated in the first laboratory experiment and were assigned to experimental ( $n = 12$ ) and control group ( $n = 12$ ). Each group participated in three sessions conducted on three different days. During the sessions the participants were engaged in working on a Soma cube puzzle which was assumed to be an activity that college students would be intrinsically motivated to do. The puzzle could be put together to form numerous different configurations. In each session, the participants were shown four different configurations drawn on a piece of paper and were asked to use the puzzle to reproduce the configurations while they were being timed.

The first and third session of the experimental condition were identical to control, but in the second session the participants in the experimental condition were given a dollar for completing each puzzle within time. During the middle of each session, the experimenter left the room for eight minutes and the participants were told that they were free to do whatever they wanted during that time, while the experimenter observed during that period. The amount of time spent working on the puzzle during the free choice period was used to measure motivation.

As Deci expected, when external reward was introduced during session two, the participants spent more time working on the puzzles during the free choice period in comparison to session 1 and when the external reward was removed in the third session, the time spent working on the puzzle dropped lower than the first session. All subjects reported finding the task interesting and enjoyable at the end of each session, providing evidence for the experimenter's assumption that the task was intrinsically motivating for the college students. The study showed some support of the experimenter's hypothesis and a trend towards decrease in intrinsic motivation was seen after money was provided to the participants as external reward.

### **Experiment II**

The second experiment was a field experiment, similar to laboratory Experiment I, but was conducted in a natural setting.

Eight student workers were observed at a college biweekly newspaper. Four of the students served as a control group and worked on Friday. The experimental group worked on Tuesdays.

The control and experimental group students were not aware that they were being observed. The 10-week observation was divided into three time periods. The task in this study required the students to write headlines for the newspaper.

During "Time 2", the students in the experimental group were given 50 cents for each headline they wrote. At the end of Time 2, they were told that in the future the newspaper cannot pay them 50 cent for each headline anymore as the newspaper ran out of the money allocated for that and they were not paid for the headlines during Time 3.

The speed of task completion (headlines) was used as a measure of motivation in this experiment. Absences were used as a measure of attitudes.

In order to assess the stability of the observed effect, the experimenter observed the students again (Time 4) for two weeks. There was a gap of five weeks between Time 3 and Time 4. Due to absences and change in assignment etc., motivation data was not available for all students. The results of this experiment were similar to Experiment I and monetary reward was found to decrease the intrinsic motivation of the students, supporting Deci's hypothesis.

### **Experiment III**

Experiment III was also conducted in the laboratory and was identical to Experiment I in all respects except for the kind of external reward provided to the students in experimental condition during Session 2.

In this experiment, verbal praise was used as an extrinsic reward.

The experimenter hypothesized that a different type of reward, i.e. social approval in form of verbal reinforcement and positive feedback for performing the task that a person is intrinsically motivated to perform, will enhance the degree of internal motivation even after the extrinsic reward is removed.

The results of the experiment III confirmed the hypothesis and the students' performance increased significantly during the third session in comparison to session one, showing that verbal praise and positive feedback enhances performance in tasks that a person is initially intrinsically motivated to perform. This provides evidence that verbal praise as external reward increases intrinsic motivation.

The author explained differences between the two types of external rewards as having different effects on intrinsic motivation. When a person is intrinsically motivated to perform a task and

money is introduced to work on the task, the individual cognitively re-evaluates the importance of the task and the intrinsic motivation to perform the task (because the individual finds it interesting) shifts to extrinsic motivation and the primary focus changes from enjoying the task to gaining financial reward. However, when verbal praise is provided in a similar situation increases intrinsic motivation as it is not evaluated to be controlled by external factors and the person sees the task as an enjoyable task that is performed autonomously. The increase in intrinsic motivation is explained by positive reinforcement and an increase in perceived locus of control to perform the task.

### **Pritchard, Campbell and Campbell (1977): Evaluation of Deci's Hypothesis**

Pritchard, Campbell and Campbell conducted a similar study to evaluate Deci's hypothesis regarding the role of extrinsic rewards on decreasing intrinsic motivation.

Participants were randomly assigned to two groups. A chess-problem task was used in this study. Data was collected in two sessions.

#### **Session I**

Participants were asked to complete a background questionnaire that included questions on the amount of time the participant played chess during the week, the number of years that the participant has been playing chess for, amount of enjoyment the participant gets from playing the game, etc.

The participants in both groups were then told that the experimenter needed to enter the information in the computer and for the next 10 minutes the participant were free to do whatever they liked.

The experimenter left the room for 10 minutes. The room had similar chess-problem tasks on the table, some magazines as well as coffee was made available for the participants if they chose to have it.

The time spent on the chess-problem task was observed through a one way mirror by the experimenter during the 10 minutes break and was used as a measure of intrinsic motivation. After the experimenter returned, the experimental group was told that there was a monetary reward for the participant who could work on the most chess problems in the given time and that the reward is for this session only and would not be offered during the next session. The control group was not offered a monetary reward.

#### **Session II**

The second session was the same for the two groups:

After a filler task, the experimenter left the room for 10 minutes and the time participants spent on the chess-problem task was observed. The experimental group was reminded that there was no reward for the task this time.

After both sessions the participants were required to respond to questionnaires evaluating the task, i.e. to what degree did they find the task interesting. Both groups reported that they found the task interesting.

The results of the study showed that the experimental group showed a significant decrease in time spent on the chess-problem task during the 10-minute free time from session 1 to session 2 in comparison to the group that was not paid, thus confirming the hypothesis presented by Deci that contingent monetary reward for an activity decreases the intrinsic motivation to perform that activity. Other studies were conducted around this time focusing on other types of rewards as well as other external factors that play a role in decreasing intrinsic motivation.

### **Chua and Koestner (2008)**

#### **SDT and solitude**

Chua and Koestner explored the consequences of activities done in solitude.

They argued that relation of solitary activities to feelings of loneliness and life satisfaction depends on whether individuals feel autonomous rather than controlled about spending time alone.

Participants (N = 108) reported the percentage of waking time they spent in solitude per day and completed measures of attachment styles, motivation for solitary activities, loneliness, and well-being. The results suggest that relative autonomy is important regardless of one's decision to act or not to act. The results also emphasize the importance of autonomous social behavior.

#### **New developments**

Principles of SDT have been applied in many domains of life, e.g., job demands; parenting; teaching; and health. Besides the domains mentioned above, self-determination theory research has been widely applied to the field of sports.

#### **SDT and exercise**

Murcia, Roman, Galindo, Alonso and Gonzalez-Cutre looked at the influence of peers on enjoyment in exercise. Specifically, the researchers looked at the effect of motivational climate generated by peers on exercisers by analyzing data collected through questionnaires and rating scales. The assessment included evaluation of motivational climate, basic psychological needs

satisfaction, levels of self determination and self-regulation (amotivation, external, introjected, identified and intrinsic regulation) and also the assessment of the level of satisfaction and enjoyment in exercising.

Data analysis revealed that a climate in which the peers are supportive and there is an emphasis on cooperation, effort and personal improvement, influences variables like basic psychological needs, motivation and enjoyment. The task climate positively predicted the three basic psychological needs (competence, autonomy and relatedness) and so positively predicted self-determined motivation. Task climate and the resulting self-determination were also found to positively influence level of enjoyment the exercisers experienced during the activity.

### **SDT and awareness**

Awareness has always been associated with autonomous functioning; however it was only recently that the SDT researchers incorporated the idea of mindfulness and its relationship with autonomous functioning and emotional wellbeing in their research.

Brown and Ryan conducted a series of five experiments to study mindfulness: They defined mindfulness as open, undivided attention to what is happening within as well as around oneself.

From their experiments, the authors concluded that when individuals act mindfully, their actions are consistent with their values and interest. Also, there is a possibility that being autonomous and performing an action because it is enjoyable to oneself increases mindful attention to one's actions.

### **Vitality and self-regulation**

Another area of interest for SDT researchers is the relationship between vitality and self-regulation. Ryan and Deci define vitality as energy available to the self, either directly or indirectly, from basic psychological needs. This energy allows individuals to act autonomously.

Many theorists have posited that self-regulation depletes energy but SDT researchers have proposed and demonstrated that only controlled regulation depletes energy, autonomous regulation can actually be vitalizing.

### **SDT and education**

A recent study by Hyungshim Jang in which the capacity of two different theoretical models of motivation were used to explain why an externally provided rationale for doing a particular assignment often helps in a student's motivation, engagement, and learning during relatively uninteresting learning activities.

Undergraduate students (N = 136; 108 women, 28 men) worked on a relatively uninteresting short lesson after either receiving or not receiving a rationale. Students who received the rationale showed greater interest, work ethic, and determination.

Structural equation modeling was used to test three alternative explanatory models to understand why the rationale produced such benefits:

An identified regulation model based on self-determination theory

An interest regulation model based on interest-enhancing strategies research

An additive model that integrated both models.

The data fit all three models; but only the model based on self-determination theory helped students to engage and learn. Findings show the role that externally provided rationales can play in helping students generate the motivation they need to engage in and learn from uninteresting, but personally important, material.

The importance of these findings to those in the field of education is that when teachers try to find ways to promote student's motivation during relatively uninteresting learning activities, they can successfully do so by promoting the value of the task. One way teachers can help students value what they may deem "uninteresting" is by providing a rationale that identifies the lesson's otherwise hidden value, helps students understand why the lesson is genuinely worth their effort, and communicates why the lesson can be expected to be useful to them.

An example of SDT and education are Sudbury Model schools where people decide for themselves how to spend their days. In these schools, students of all ages determine what they will do, as well as when, how, and where they will do it. This freedom is at the heart of the school; it belongs to the students as their right, not to be violated. The fundamental premises of the school are simple: that all people are curious by nature; that the most efficient, long-lasting, and profound learning takes place when started and pursued by the learner; that all people are creative if they are allowed to develop their unique talents; that age-mixing among students promotes growth in all members of the group; and that freedom is essential to the development of personal responsibility. In practice this means that students initiate all their own activities and create their own environments. The physical plant, the staff, and the equipment are there for the students to use as the need arises. The school provides a setting in which students are independent, are trusted, and are treated as responsible people; and a community in which students are exposed to the complexities of life in the framework of a participatory democracy. Sudbury schools do not perform and do not offer evaluations, assessments, or recommendations, asserting that they do not rate people, and that school is not a judge; comparing students to each other, or to some standard that has been set is for them a violation of the student's right to privacy and to self-determination. Students decide for themselves how to measure their progress as self-starting learners as a process of self-evaluation: real life-long learning and the proper educational evaluation for the 21st

century, they adduce.

### **Self-determination theory and alcohol use**

According to self-determination theory, individuals who attribute their actions to external circumstances rather than internal mechanisms are far more likely to succumb to peer pressure. In contrast, individuals who consider themselves autonomous tend to be initiators of actions rather than followers. Research examining the relationship between self-determination theory and alcohol use among college students has indicated that individuals with the former criteria for decision making are associated with greater alcohol consumption and drinking as a function of social pressure. For instance, in a study conducted by Knee and Neighbors, external factors in the individuals who claim to not be motivated by internal factors were found to be associated with drinking for extrinsic reasons, and with stronger perceptions of peer pressure, which in turn was related to heavier alcohol use. Given the evidence suggesting a positive association between an outward motivation and drinking, and the potential role of perceived social influence in this association, understanding the precise nature of this relationship seems important. Further, it may be hypothesized that the relationship between self-determination and drinking may be mediated to some extent by the perceived approval of others.

### **Self-determination theory and Motivational Interviewing**

Motivational Interviewing (MI) is a popular approach to positive behavioral change. Used initially in the area of addiction (Miller & Rollnick, 2002) it is now used for a wider range of issues. It is a client-centered method that doesn't persuade or coerce patients to change and instead attempts to explore and resolve their ambivalent feelings, which allows them to choose themselves whether to change or not.

Markland, Ryan, Tobin, and Rollnick believe that SDT provides a framework behind how and the reasons why MI works. They believe that MI provides an autonomy-supportive atmosphere, which allows clients to find their own source of motivation and achieve their own success (in terms of overcoming addiction). Patients randomly assigned to an MI treatment group found the setting to be more autonomy supportive than those in a regular support group.