Cognitive Evaluation Theory, Part II

Interpersonal and Intrapersonal Processes Affecting Intrinsic Motivation

This chapter extends the discussion of Cognitive Evaluation Theory (CET) by looking at how social contexts affect the functional significance of events, and therefore people's intrinsic motivation.

It also looks at how intra-personal (i.e. internal to the person) events can also be informational or controlling, and therefore affect intrinsic motivation.

Finally it looks at the impacts of intrinsic motivation on learning outcomes, on performance, and on creativity.

As with the previous chapter, the scope of this chapter is limited to intrinsic motivation. Later chapters will discuss the various types of extrinsic motivation.

Interpersonal Contexts and the Functional Significance of Events

The interpretation of the functional significance of an event does not take place in a vacuum, but occurs within a social context.

While there are individual differences (discussed in a later chapter), there are also strong common patterns in how individuals are likely to construe events.

Interpersonal Contexts and External Events

A dominant factor in terms of the influence of a particular context (e.g. classroom, home, clinic, office) is the orientations, intentions and behaviours of the people in positions of authority (e.g. teachers, parents, managers).

And one key axis of orientation of such people is whether they are autonomy-supportive, or controlling. This leads immediately to:

CET Proposition IV: Interpersonal contexts can be characterized in terms of the degree to which the motivational climate tends to be controlling, autonomy supportive, or amotivating. This quality of the overarching interpersonal climate both directly impacts motivation and the likely interpretation of functional significance of specific events, with corresponding effects on intrinsic motivation. Environments that are the most facilitating of intrinsic motivation are those that support people's basic psychological needs for autonomy, competence and relatedness.

Two kinds of study support CET proposition IV.

- One kind relates the general orientation of teachers, parents and managers, to the intrinsic motivation of those that they supervise.
- The second kind consists of laboratory studies in which contexts are created with a controlling, or alternatively autonomy supporting aspect, and the effects on intrinsic motivation then studied.

Orientations Towards Autonomy Support vs Control

In a pair of 1981 studies, the motivational orientations of teachers were assessed before they had met their class for the forthcoming academic year. The assessment took the form of a set of questions about hypothetical classroom situations, and how they might respond to them, where both controlling and autonomy-supportive options were offered to choose from.

The teachers' students were then assessed, in their first week, then 2 months into the school year, and again at 8 months.

When teachers were more controlling, students were found to be less curious, preferred easy assignments over challenging ones, and felt less good about themselves, both as students and in general. Most of the effect was already in place just 2 months into the school year.

A 1986 study looked at students' perceptions of these classroom environments, and showed that students were keenly aware of, and had strongly internalized, the type of classroom environment they were experiencing.

A workplace study similar to the 1981 classroom study, showed that controlling managers led to lower intrinsic motivation for work, greater alienation towards the company, and lower job satisfaction.

A 1993 study that looked at interactions between mothers and their 6- and 7-year-old children showed that when mothers had an autonomy-supportive communication style, this led to stronger intrinsic motivation for their children i the activities that they had been doing together.

There have been many more studies in this area, some of which are discussed in later chapters that specifically focus on parenting, schools & the workplace. An important distinction to draw is that authority figures might not only fail to provide autonomy support, but they may actively thwart autonomy. This latter behaviour turns out to have even worse effects on intrinsic motivation.

A 2011 study explicitly looked at autonomy thwarting among athletics coaches. Autonomy-thwarting behaviour was associated with need frustration, negative affect, symptoms of burnout, and higher stress levels in the athletes being coached.

It is worth noting that environments can be simultaneously need-supportive, but also need-thwarting, suggesting that these two aspects need to be considered as separate dimensions.

Interpersonal Style as a Moderator of the Effects of External Events

Lab studies have shown similar results to the above.

A 1983 study showed that delivering feedback in an autonomy supportive way promoted intrinsic motivation vs. equivalent feedback in a controlling way. This was true, whether or not a reward was provided (the reward also diminished intrinsic motivation, as would be expected based on CET, but delivering the feedback in an autonomy-supportive way mitigated this effect).

The highest intrinsic motivation was seen in no-reward + autonomy-supportive positive feedback conditions. But the reward + autonomy-supportive positive feedback led to *increased* intrinsic motivation, compared to the no-reward no-feedback control condition.

Limit Setting

A 1984 study extended these ideas to limit setting, exploring whether it was possible to set limits in an autonomy-supporting manner, which did not negatively impact intrinsic motivation.

The activity involved second-grade children painting, and the limits concerned keeping the art materials neat while working with them.

In this context, being autonomy-supportive meant:

1. minimizing the use of controlling language
2. acknowledging feelings of not necessarily wanting to be neat
3. providing a meaningful rationale for the limits.

The study showed that taking these measures resulted in higher intrinsic motivation, than when limits were set in a more controlling manner - and no significant difference in intrinsic motivation vs. a no-limits control.

This idea of how limits can be set, and structure provided, in an autonomy-supportive manner is discussed further in the chapter on parenting.

Perceived Intentions and Motives of the Motivator and their Functional Effects

A further consideration that affects the functional significance of feedback and rewards is the recipient's beliefs about the administrators' motives for providing the feedback/rewards.

In a 1992 study, music lessons were delivered by tutors, who were described as (a) volunteers, and (b) tutoring for the pay. The tutors were unaware of how they had been presented to the students. Students who believed their teachers were volunteers enjoyed their lessons more, and expressed more interest in future learning.

These effects can also impact organizational atmospheres through *social contagion*.

In a 2010 study, participant in a PE class were taught by instructors described as either volunteers, or working for pay. Similar effects were observed to the music lessons in the 1992 study. However, in this study, the participants then went on to instruct further classes. The students in the classes led by students of "volunteers" showed more enjoyment and free-choice persistence, than students in classes led by students of "paid instructors".

A 1993 study showed that when participants were told that an observer was there to evaluate and enforce rules, they felt less autonomy, and less intrinsic motivation, than when they were told an observer was simply a curious and interested onlooker.

Summary of Interpersonal Context Effects

In summary, both field and lab studies show that the functional significance of external events is influenced both by the overall communication style (which may be autonomy-supporting, or controlling), and the broader context through which a subject interprets external events.

Whenever a person feels more autonomy, this boosts their intrinsic motivation, and conversely, the sense that they are being controlled diminishes their intrinsic motivation.

Relatedness and its Support

As well as autonomy and competence, *relatedness* is also a key aspect of a motivational climate.

This effect was first discovered by accident in a 1976 experiment, in which children performed a task supervised by an adult, who remained silent and did not respond to questions. The intent had been to create a no-reward, no-feedback control group for the study. However what happened was that children felt rejected by the supervisor, and their intrinsic motivation was decimated.

A further indication of the importance of relatedness came from Bowlby's attachment theory (1979). Theorists had found that (intrinsically motivated) curious exploration of their environment was more common in children who had a secure attachment to a caregiver.

A 1994 study of junior high students found a similar effect among older children: those who felt more secure in their relationships with their teachers had more intrinsic motivation for their schoolwork.

A 2008 study of Chinese students found that intrinsic motivation was boosted by children making their own choices, rather than having choices made for them by parents or teachers. However, this effect was strongest for children who did *not* feel close to their parents and teachers. For the children who felt closest to their parents and teachers, there was no such effect: their intrinsic motivation was unaffected by whether they made their own choices, or choices were made for them by these trusted adults.

An interesting further point on this study: for these students who were close to their parents and teachers, making their own choices did not boost their intrinsic motivation. However it *did* boost their performance.

A 2015 study looked at the relationship between relatedness and autonomy in relationships, and found that a climate of relatedness results in increased feelings of *both* autonomy *and* relatedness. A key part of autonomy-support is being able to see things from the other person's point of view. Therefore in any environment, there tend to be synergies between relatedness and autonomy.

It does seem that some intrinsic motivation can occur without relatedness. For example, activities like solo hiking, crossword puzzles, and reading are solitary and do not directly involve any relation with another person. However, while the activities themselves not not directly involve relatedness, a secure relational base might nevertheless be an important support for the individual's intrinsic motivation for the activity.

Intrapersonal Events: Ego Involvement and Internally Controlling States

Intrinsic motivation is an important form of autonomous motivation.

However, there is an important question as to whether all autonomous motivation is intrinsic motivation, or equivalently, has an I-PLOC.

Early in the development of SDT, Ryan (1982) used the term *internally controlling* to describe the idea of internal motivating forces in a person, for example as seen when a person is self-controlling or self-pressuring in an activity.

Tyan specifically highlighted the possibility of *ego involvement*, with the view that ego involvement would be antagonistic to intrinsic motivation.

Ego-Involvement vs. Task Involvement and Intrinsic Motivation

Ego-involvement occurs when a person feels pressure to perform in certain ways that would be valued by a group that they belong to, or would like to belong to. The concept dates back to Sherif and Cantril in 1947.

Prior to Ryan's work in 1982, ego-0involvement had primarily been thought of a potential booster of motivation, rather than a potentially problematic factor.

In 1982, Greenwald highlighted three distinct senses in which the term *ego-involvement* had been used:

1. striving for esteem from others
2. striving for self-esteem
3. pursuing an activity because it has some type of personal importance, in which case there may be no evaluative pressure.

Within SDT, *ego-involvement* is understood to cover senses 1 & 2, but not sense 3.

Ryan's 1982 study undertook to ask the question of whether ego-involvement, as a form of control, might undermine intrinsic motivation in the same way that external controls had been seen to.

His initial experiments involved hidden-figures puzzles. Some participants were told that being able to solve these puzzles was reflective of creative intelligence (thus invoking a level of ego-involvement). Other participants were not told this. All participants then received the same positive feedback. The study showed that ego-involvement induced in this way *did* indeed diminish intrinsic motivation.

The theory of what has happened here, is that, in becoming ego-involved with the task, participants feel that they *have* to perform well in order to maintain their self-worth, and this diminishes intrinsic motivation in much the same way that an externa control might.

Further studies in 1985 and 1987 replicated this result. One study in 1986 that did *not* replicate the result, induced ego-involvement in Greenwald's sense #3 above, creating a sense of personal importance in performing the activity, but not tying to any sense of evaluation.

In summary, ego-involvement is a form of internal control, with impacts on intrinsic motivation similar to external controls. In later chapters, we shall see that ego-involvement becomes particularly strong in contexts where others are *conditionally regarding*.

This research leads to:

CET Proposition V: Intrapersonal events that bear on the initiation and regulation of behaviour can differ in their functional significance. Accordingly, internally informational events are those that facilitate intrinsic motivation by facilitating an internal perceived locus of causality and perceived competence; internally controlling events are those experienced as pressure towards specific outcomes and facilitate an external perceived locus of causality, thereby undermining intrinsic motivation; and internally amotivating events are those that make salient someone's incompetence and inability to attain desired outcomes, thereby diminishing both intrinsic and extrinsic motivation.

Further Exploration of Internally Controlling States

Another state that can operate in a similar way to ego-involvement is objective self-awareness, or public self-consciousness. In tis state, rather than simply being involved in a task, a person objectifies themself, and concerns themself with how their behaviour and/or performance might appear. In this state, the person is subject to another form of internal control.

A 1985 study (using either video cameras or mirrors to induce this state) showed that this state did impact intrinsic motivation, in a similar way to ego-involvement.

A 1993 study looked at surveillance, and confirmed specifically that it was the controlling aspect of surveillance that impacted intrinsic motivation: non-controlling surveillance had no effect. However, unexplained surveillance is commonly interpreted as controlling, and therefore does have a significant negative effect on intrinsic motivation.

These various forms of self-pressuring and self-controlling are indeed fairly common in the world. SDT understands these intrapersonal processes as deriving from similar interpersonal processes, via mechanisms discussed in the next chapter.

Ego-Involvement and Negative Feedback

Many studies of feedback provide positive feedback, in order to clearly isolate the influences of controlling aspects of feedback, and not mix in competence effects.

But what happens in situations of ego-involvement, where negative feedback is provided. One possibility is that people persist at the activity in order to do better, and rescue their sense of self-worth. Such an effect would interfere with free choice measures of intrinsic motivation, since the choices observed would be driven by something other than intrinsic motivation.

This issue presents experimental challenges: where extrinsic motivators are external, they are easy for experimenters to control, turn on/off etc. But this is not the case with internal motivators such as ego-involvement.

Evidence for this kind of free-choice persistence, driven by ego-involvement in combination with negative feedback, was found in studies in 1989 and 1985. In the 1985 study, which involved solving anagrams, the group showing the highest free-choice persistence was the group that had low self-esteem, and received humiliating negative feedback.

A 1991 study looked at this more closely. It re-confirmed that ego-involvement plus negative feedback leads to free-choice persistence. However, while intrinsically motivated free choice persistence was strongly positively correlated with self-reported interest or enjoyment, free choice persistence that derived from ego-involvement together with negative feedback, showed no such correlation. Therefore, information about self-reported interest or enjoyment can be used to distinguish the two cases.

A further point to note is that when feedback is *very* negative, this can lead to all motivation being undermined, resulting in minimal persistence.

One needs to be careful for the effects of ego involvement plus negative feedback, when interpreting experimental results.

Ego-Involved Winning and Losing

Another way to distinguish between intrinsically motivated persistence, and internally controlled persistence, is by taking advantage of the exploratory nature of intrinsically motivated activity.

In a 1996 study, a free-choice period followed a competitive episode. In the free-choice period, participants were able to continue working on the exact same puzzle, or switch to a different puzzle of the same kind. Those who had won chose to work on the different puzzle, suggesting intrinsic motivation, while those who had lost chose to work on the same puzzle, suggesting internally controlled motivation.

A 1999 meta-analysis of 23 experiments confirmed that free-choice persistence was associated with either task-involvement, and positive feedback, or ego-involvement and negative feedback - the former consisting of intrinsically motivated free-choice persistence; the latter consisting of free-choice persistence due to internally controlled motivation.

Intrinsic Motivation and Performance: When Interest Matters

Given the above, one might be led to ask whether it matters whether the free-choice persistence is due to intrinsic motivation. For someone to learn a skill, it might simply be important that they practise the skill a lot - it might not matter whether that is driven by intrinsic motivation, or by ego-involvement combined with negative feedback.

There are a couple of reasons why this does matter.

- The first is simply that intrinsic motivation is a pleasurable state. That alone makes for an argument in its favour.
- The second point is that SDT theorizes that intrinsic motivation enhances the quality of engagement, and therefore both performance and learning.

To conclude this chapter, we look at some studies that have examined the impact of intrinsic motivation on learning, performance and creativity.

Learning Outcomes

In 1984, Deci hypothesized that students with intrinsic motivation would develop greater conceptual learning than students learning under external controls.

Various studies have shown that intrinsically motivated learning does indeed result in improved conceptual understanding. Extrinsically motivated learning can lead to better short-term rote memorization, but these advantages do not seem to persist any longer than a week.

These effects have been seen in lab studies involving university students studying complex material, and elementary students with simpler material. Improved learning due to intrinsic has also been observed in the development of motor skills (specifically in a 2015 study in which participants developed their golf putting skills).

Aside from these lab studies, a 2009 longitudinal study, which looked at the relationship between parental motivational styles, and intrinsic motivation in maths and science. Focussing on enjoyment and engagement in learning resulted in greater motivation at age 9, and at age 17, as compared to an approach that provided rewards and consequences based on performance.

Further studies in this area are reviewed in Chapter 14, but overall there is strong evidence that intrinsic motivation leads to an increase in the quality and depth of learning.

Performance

Learning is one type of performance, but other the effect of intrinsic motivation on other types of performance have also been studied.

The effects of intrinsic motivation vs. extrinsic motivation seems to depend on the type of task. For tasks that are interesting and complex ("heuristic" activities), extrinsic motivation seems to impair performance. However, for tasks that are straightforward, dull and uninteresting ("algorithmic" activities), extrinsic motivators do seem to boost performance.

Ego-involvement seems to have the similar effects to external extrinsic motivators.

What seems to happen with complex activities is that extrinsic motivation leads to a narrowing of focus, taking shortcuts to the desired extrinsic outcome where possible. The resulting effect depends on the nature of the task: in some cases shortcuts lead to greater, or at least equal, performance. But in more complex tasks, these shortcuts harm performance.

In sporting contexts, ego-involvement has been seen to lead to increased aggression, cheating, and other forms of poor sportsmanship. And ego-involved individuals are less confident in their self-evaluation of their own performance, being more susceptible to the influence of feedback that differed from their own self-evaluation.

Creativity

In 1983, Amabile hypothesized that conditions that lead to intrinsic motivation also lead to greater creativity.

This has been supported by various studies:

- In a 1979 study with college students making collages, those who had been told they would be assessed were judged less creative than those who had no expectation of assessment.
- in a 1982 study with children, also making collages, the promise of prizes reduced creativity.
- in 1986 study, participants who participated in an activity in order to get a reward, were less creative than those who were
- A couple of 1984 studies showed that providing choices, minimizing the use of controlling language, and acknowledging children's feelings, all led to artistic products considered to be more creative.

A 1997 meta-analysis of 24 experiments strongly supported the position that task-involvement, and conditions associated with intrinsic motivation, lead to higher quality performance than ego-involvement, and conditions associated with extrinsic motivation. This conclusion held across a wide range of activities, from solving anagrams and finding hidden pictures, to playing basketball and writing poetry, with performance criteria ranging from numbers of puzzles solved, to the creativity of artistic products.

In creative fields, it seems that when extrinsic motivators are used to promote creativity in these fields, it carries with it the risk that it will reduce the quality that is produced in these fields.

Summary Notes

The early findings of CET, that tangible rewards tended to undermine intrinsic motivation, were controversial, because at the time rewards were widely advocated as a way to change behaviour and socialize children.

Further research has shown a much wider range of factors beyond rewards, that have similar effects. This includes not only other external factors, such as deadlines, evaluations, feedback etc., but also intrapersonal factors whereby individuals support or pressure themselves. Internally controlling styles of self-motivation, and ego-involvement, can have undermining effects just the same as these external factors.

Later parts of the book explore some of the practical consequences of these findings, in a variety of domains. However, in the next chapter we move on from intrinsic motivation, and look in some detail at extrinsic motivation.

Key Concepts from this Chapter

Interpersonal Style: (typically of an authority figure such as a parent, teacher or boss) - whether they communicate in an autonomy-supportive manner, or a controlling manner.

CET Proposition IV: Whether a context is experienced as autonomy-supporting, or controlling, influences the functional significance of events that occur in that context.

Relatedness: A third aspect of a motivational context (in addition to whether it is autonomy-supportive, and/or competence-affirming), that will impact intrinsic motivation.

Ego-involvement: When a person feels pressure to perform in certain ways that would be valued by a group that they belong to, or would like to belong to.

Task-involvement: Contrasted with ego-involvement: when a person is immersed in the task itself, without external considerations or agenda.

CET Proposition V: Internal states (such as ego-involvement) can impact intrinsic motivation in much the same way that external events do.

Free-Choice Persistence: Continuing to engage in an activity when you are free not to. This can be either (a) intrinsically motivated, or (b) internally controlled (most commonly due to a combination of ego-involvement & negative feedback regarding competence).

"Heuristic" activities: Tasks that are interesting and complex, requiring deep understanding or creativity. Intrinsic motivation seems to enhance performance on these tasks, while extrinsic motivation seems to diminish it.

"Algorithmic" activities: Tasks that are straightforward, dull and uninteresting, and do not require deep understanding or creativity. Extrinsic motivation seems to enhance performance on these tasks (or, at the very least, it does not harm performance).