

Science Education Collection

Effects of Thinking Abstractly or Concretely on Self-control

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Overview

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Whether it's refraining from having a second serving of ice cream, studying instead of attending a fun party, or deciding to put money away in a savings account, sacrificing short-term outcomes in favor of long-term outcomes (*i.e.*, delaying gratification) is a central tenant of self-control. When people apply self control, they engage numerous psychological processes to help them achieve their goal. These self-regulatory processes have been studied by psychologists for decades.

A decision to resist tempting short-term rewards can depend on an individual's mindset and focus. Psychologists have found evidence that how someone construes an event can influence how they make judgments and decisions, a theory called Construal Level Theory (CLT). In particular, CLT asserts that the same object or event can be represented at multiple levels of abstractness or psychological distance, most commonly either a high-(abstract/distant) or low-(concrete/near) level of construal.¹ Thinking about a situation with high-level construal entails emphasizing the global, superordinate, central features of an object or event (*i.e.*, zooming out and looking at the big picture), whereas thinking about a situation with low-level construal entails focusing on its unique and specific features. For example, thinking about children playing catch with high-level construal, one might describe this activity as "children having fun", whereas with a low-level construal, one might focus instead on specific features such as the color of the ball or age of the children.

The following experiment tests whether approaching a decision or situation with high-level construal will lead to greater self-control than low-level construal. This experiment utilizes a common method of priming a participant's level of construal through asking a series of "why" (high-level manipulation) or "how" (low-level manipulation) questions.²

Procedure

1. Data Collection

1. Conduct a power analysis and recruit a sufficient number of participants and obtain informed consent from the participants.
2. Randomly assign half of the participants to the high-level condition and the other half to the low-level condition.
3. As a cover story, tell the participants that they will be completing materials for two independent studies during the 30-min session.
4. Have participants first complete a survey, ostensibly described as a survey of their opinions and activities.
5. Present participants with one of two questions, depending on their condition.
 1. For condition 1, high-level prime, ask "Why do I maintain good physical health?"
 1. Provide participants with a diagram of vertically aligned boxes that begin at the bottom of the page and are connected by upward arrows labeled *Why?*² The box at the very bottom of the diagram should be filled in with the statement "Maintain good physical health."
 2. Instruct participants to insert a response in the box immediately above the bottom box, answering the question of why they would maintain good physical health.
 3. After inserting their first answer, they should insert a second answer in the box immediately above the box they had just completed, answering the question why they would engage in their initial response. For example, a participant might have answered the question, "Why do I maintain good physical health?" by writing, "To do well in school"
 4. The diagram would then prompt them to ask themselves, "Why do I want to do well in school?", to which they would provide a response in the box immediately above the one they had just filled in.
 5. Participants should provide four responses in this manner.
 2. For condition 2, low-level prime, ask "How do I maintain good physical health?"
 1. Provide participants with a diagram of vertically aligned boxes that begin at the top of the page and are connected by downward arrows labeled *How?*² The box at the very top of the diagram should be filled in with the statement "Maintain good physical health."
 2. Instruct participants to insert a response in the box immediately below the top box, answering the question of how they would maintain good physical health.
 3. After inserting their first answer, they should insert a second answer in the box immediately below the box they had just completed, answering the question how they would engage in their initial response. For example, a participant might have answered the question, "How do I maintain good physical health?" by writing, "Go exercise."
 4. The diagram would then prompt them to ask themselves, "How does one go exercise?", to which they would provide a response in the box immediately below the one they had just filled in.
 5. Participants should provide four responses in this manner.
6. After participants complete the construal level manipulation, present them with what is ostensibly the second of two independent studies (but in reality is the dependent measure of self-control).
 1. Have participants read four scenarios that describe an item that they might buy:
A discount gift certificate to a restaurant

- A DVD player (or Blue-Ray)
- A set of four movie passes
- A discount coupon to the university bookstore
- 2. Ask participants to indicate the dollar amount that they would pay to receive the item immediately and delayed in time.
 1. Half of the scenarios (DVD and movies passes) require participants first to indicate a monetary value for receiving the item *immediately and then delayed* in time, whereas the other half (restaurant and bookstore) require them first to write down the dollar amount for receiving the item *delayed in time and then immediately*.
 2. The time delay for each of the scenarios will vary (favorite restaurant, 6 months; DVD player, 1 year; movie passes, 1 month; bookstore coupon, 1 year).
- 3. Counterbalance the presentation order of the scenarios.
- 7. Afterwards, have participants complete a funneled debriefing form to probe for suspicion regarding the experimental manipulations.³
- 8. Once all participants have completed the follow-up questionnaires, carefully debrief them and dismiss them.

2. Data Analysis

1. Conduct a manipulation check. Have two judges, unaware of condition, measure each participant's level of construal based on the abstractness of their responses to the *why* versus *how* manipulation.
 1. If a response fits the criterion Y by X, where X was the participant's response to prompt Y (*i.e.*, participants' responses were a subordinate means to the original statement "Maintain good physical health."), have the judges code the response with a score of -1.
 2. If a response fit the criterion X by Y (*i.e.*, participants' responses were a superordinate end served by maintaining good physical health), have the judges code the response with a score of +1.
 3. If a participant's response fit neither criterion, code the response as 0.
2. Sum the ratings of each participant's four responses to create an index of level of construal with a potential range of -4 to +4; higher scores indicate higher levels of construal.
3. Assuming a high correlation between the two judges' ratings (*e.g.*, $r = 0.91$), average the ratings together.
4. Perform a two-sample t-test to ascertain if participants exposed to *why* (high-level) questions demonstrated a significantly higher mean than participants exposed to *how* (low-level) questions.
5. In addition, to examine the dependent measure of self-control, compute difference scores by subtracting the dollar value that participants were willing to pay for the distant-future versions of each of the four scenarios from the amount they were willing to pay for the immediate versions.
 1. Larger differences scores indicate stronger preferences for immediate over delayed rewards and hence a lack of self-control.
6. Difference scores can be analyzed with a 2 (construal level: high vs. low) x 4 (scenario: restaurant, DVD player, movie, bookstore) MANOVA, if assumptions of this statistical test are met (*e.g.*, normality, absence of multivariate outliers, linearity, absence of multicollinearity, and equality of covariance matrices).

Results

Analyzing the manipulation check revealed that participants exposed to why questions generated responses that reflected higher levels of construal compared with those exposed to how questions. The data (**Figure 1**) typically indicate that those primed in high-level construal, prefer immediate over delayed outcomes *less* than those primed in low-level construal. This suggests that high-level construal leads to greater self-control than low-level construal.

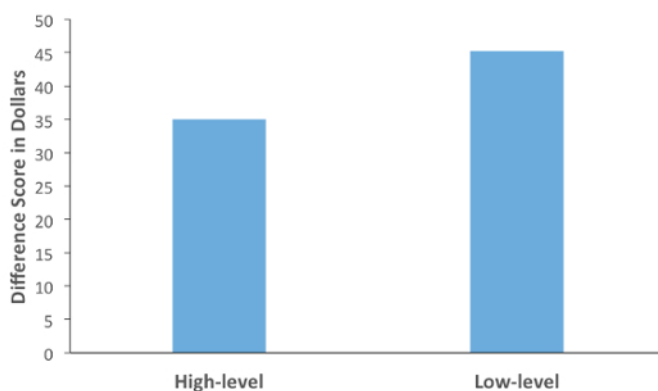


Figure 1: Preference for immediate over delayed outcomes. The difference scores in dollar amounts were plotted by level of construal.

Applications and Summary

How people construe a situation can shape their overall mindset and focus, influencing consequent judgments and decisions. Participants who answered questions of *why* they engaged in actions displayed a reduced tendency to prefer immediate over delayed outcomes compared with

those who responded to questions of *how* they engaged in actions. That is, time delay had less of an impact on those individuals primed to a high-level versus a low-level construal. This reflects that those who construed the situation in a high-level construal showed a greater tendency to make decisions that reflected self-control, than did those in a low-level construal.

Our lives are full of situations where we seek to utilize self-control. Dieters resist enticing sweets, smokers push back against addictive cravings, we all try to focus on work despite the allure of procrastination, and we all know the importance of saving money for our future. Our health and financial well-being depend on a certain degree of self-control.

One dominant approach to understanding decision making is a dual-system model: The "hot system", composed of affective mental representations, which, when activated, leads to appetitive, impulsive responses, and the "cool system", composed of emotionally neutral cognitions that guide behavior in a contemplative, reflective manner.^{4,5} This dual-process approach was embraced in nobel prize winner Daniel Kahneman's bestseller, *Thinking Fast and Slow*, wherein he describes System 1 as the quick, intuitive, emotional system, and System 2 as the slow, deliberative, rational system.⁶

Although there is an inevitable interplay between these mental processes and self-control, these findings suggest that a crucial aspect of self-control is how we construe a decision or situation. Do we approach situations with a broad and global perspective, enhancing the perceived psychological distance and thus eliciting greater self-control, or do we approach it with a narrow and specific perspective, shrinking the perceived psychological distance and reducing self-control? This work may be informative to individuals as well as organizations who wish to promote long-term rewards.

References

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