



Dialectical thinking moderates the effect of extrinsic motivation on intrinsic motivation



Yaoran Li ^{a,*}, Kennon M. Sheldon ^b, Rude Liu ^c

^a Department of Educational, School, and Counseling Psychology, University of Missouri, United States

^b Department of Psychological Sciences, University of Missouri, United States

^c School of Psychology, Beijing Normal University, China

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ABSTRACT

The present research tested the individual difference variable of dialectical thinking style (DT) as a moderator of the relationship between extrinsic motivation and intrinsic motivation, in situations where rewards have been introduced for an initially enjoyable activity. In Study 1, participants were asked to imagine gaining rewards for doing an enjoyable activity and in Study 2, participants were given real rewards for doing an enjoyable activity, after which subsequent extrinsic motivation and intrinsic motivation were rated. Both studies revealed a significant interaction effect of DT and self-reported extrinsic motivation in relation to subsequent self-reported intrinsic motivation. The results of Study 3 replicated the general pattern again, using cultural membership (China vs. the U.S.) as a stand-in for DT. Findings indicate that DT mitigates the detrimental effects of extrinsic motivation on intrinsic motivation, identifying an important new individual difference moderator of the “undermining effect” of extrinsic motivation on intrinsic motivation.

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1. Introduction

Research has shown that peoples' intrinsic motivation to do an activity often decreases when they perceive external incentives for doing that activity or for doing it well (Deci, 1971; Kruglanski, Friedman, & Zeevi, 1971; Lepper, Greene, & Nisbett, 1973; Smith & Pittman, 1978; Tang & Hall, 1995; Warneken & Tomasello, 2008). Cognitive Evaluation Theory (CET), a facet of Self-determination Theory (SDT; Deci & Ryan, 1985), explained the “undermining effect” of external incentives by considering people's perceived locus of causality for their own behavior (Deci & Ryan, 1985; Ryan & Deci, 2000). If people perceive that their personal interests and desires are the cause of their actions, then they tend to enjoy the activity; however, if they perceive that their actions are caused by external contingencies or incentives, then they may feel controlled and thus the intrinsic motivation may be spoiled. Notably, according to CET, external rewards or incentives do not necessarily undermine intrinsic motivation; what matters are people's perceptions of those incentives, or the induced extrinsic motivation. Although situations containing external incentives are more likely, on average, to be perceived as controlling and coercive, people can differ in their propensity to perceive situations as controlling (Deci & Ryan, 1985), differences which can affect intrinsic motivation. This article will examine one such individual difference, namely, dialectical thinking. Before turning to this

construct, however, we first provide more background information on SDT.

Although early SDT research relied on the simple distinction between intrinsic and extrinsic motivation, later versions of the theory identified a broader spectrum of types of motivation. Today, the theory specifies a continuum of motivational internalization, anchored by extrinsic motivation (“my behavior is caused by the incentives or pressures in the situation”) on the non-internalized end, and intrinsic motivation (“my behavior is caused by my interest in and enjoyment of the activity”) on the internalized end, in between lie introjected motivation (in which behavior is felt to be caused by non-integrated parts of the self) and identified motivation (in which behavior is felt to be caused by the self, but is not necessarily enjoyable; introjected and identified motivation are not considered in the current article). Ryan and Connell (1989) supported the motivational internalization concept by showing that the types of motivation conform to a *simplex* correlational pattern, in which any two adjacent dimensions on the continuum correlate positively with one another, and the two extreme dimensions correlate negatively with each other. The typically observed negative correlation between intrinsic and extrinsic motivation is consistent with the undermining effect discussed above; as perceived extrinsic motivation increases, perceived intrinsic motivation tends to decrease.

Again, however, this is an “on average” phenomenon, and in some cases perceived extrinsic and intrinsic motivation could be uncorrelated or even positively correlated (Cameron, Pierce, Banko, & Gear, 2005). However, few studies have examined the moderators of the association. In this research we examined one potential individual difference

* Corresponding author at: 16 Hill Hall, University of Missouri, Columbia, MO 65211, United States. Tel.: +1 602 568 3041.

E-mail address: y16df@mail.missouri.edu (Y. Li).

moderator of the relationship between extrinsic incentives and intrinsic motivation, namely, dialectical thinking (DT).

1.1. Dialectical thinking and its role in the undermining effect

Cognitive developmental psychologists have found that there are reliable individual differences in how adults engage in various types of complex reasoning. One such difference is relevant in situations involving potentially contradictory information. In such situations some people only use “formal thinking,” that involves either fully rejecting or fully accepting one side of a contradiction by polarizing contradictory propositions, and then choosing only one proposition to believe. In contrast, other people have developed “dialectical thinking” that involves accepting seeming contradictions by viewing things in a multiple-dimensional way (Bassett, 2006; Peng & Nisbett, 1999; Yang, 2008).

Dialectical thinkers believe that the world is composed of many contradictions and is in constant change, and they are attentive to the circumstances of the object and the relationships that involve the object when making attributions, and rarely categorize objects into a right or wrong group (Nisbett, Peng, Choi, & Norenzayan, 2001, also see Spencer-Rodgers, Williams, & Peng, 2010, for a review). Dialectical thinkers not only perceive other objects and people in a multi-dimensional way, they also perceive their own personality as containing sometimes-contradictory factors (e.g., I am sometimes extraverted and I am sometimes introverted) and their beliefs and behaviors can thus be more flexible and amenable to change when the context has changed (Boucher, 2011; Spencer-Rodgers, Williams, et al., 2010). With regard to emotional experience, dialectical thinkers are more comfortable with mixed emotions than non-dialectical thinkers; though they tend to perceive more emotional complexity, especially in ambiguous situations (Leu et al., 2010). Research also showed that DT helps people formulate more flexible coping strategies under changing or complex circumstances (Cheng, 2009). Furthermore, in cultures where dialectical thinking is prevalent, reports of unpleasant emotions have been found to be only weakly negatively associated, and sometimes non-associated, with reports of pleasant emotions (e.g., Kitayama, Markus, & Kurokawa, 2000; Spencer-Rodgers, Peng, & Wang, 2010).

Regarding the undermining effect, the introduction of external incentives into a situation would normally be expected to increase extrinsic motivation and thus undermine intrinsic motivation. However, we hypothesized that DT helps people resist this tendency for several possible reasons. First, Cognitive Evaluation Theory (Deci & Ryan, 1985) states that undermined intrinsic motivation results from a change in the person's perceived locus of causality from internal to external, and the psychological feeling of pressure that accompanies this change. People high in DT may be able to experience increased external motivation, but not perceive this as sources of pressure; in their minds, external motivations and intrinsic motivations can co-exist. Or, even if they do feel pressure, this may not necessarily impact their positive emotions and motivations, as suggested by Kitayama et al.'s (2000) research.

Another reason involves the over-justification theory account of the undermining effect. Over-justification theory (Lepper et al., 1973) proposes that when external motivators are present along with intrinsic motivations, people tend to adopt the more salient factor (proffered rewards) as the explanation for their behavior, discounting the importance of the original intrinsic motivation. The behavior is “over-justified”, and the attribution of intrinsic motivation is not needed. People high in DT may be able to avoid such discounting, because they can accept multiple reasons for doing things. Finally, cognitive dissonance theory (Heider, 1958) provides a third reason for expecting DT to have impact. From this theoretical perspective, people feel dissonance when their actions (“I will get money for doing this”) are inconsistent with their attitudes (“I am doing this because I enjoy it”). The dissonance creates a non-conscious desire to change one of the contradictory propositions, which causes them to revise the initial attitude. Because people high in DT are comfortable with contradictions, however, they

may be able to avoid or sidestep such dissonance, thereby maintaining their intrinsic motivation. Notably, our research does not attempt to distinguish between these three explanations of undermining, as all three make similar predictions for our purposes.

In sum, a person *low* in DT, engaging in “one or the other” thinking, may conclude that they are primarily motivated by the salient external incentive(s), rather than by their own intrinsic interest. This is because their “lay theories” (Levy, Ramirez, Rosenthal, & Karafantis, 2013; Plaks, Levy, & Dweck, 2009) concerning the relationship between intrinsic and external motivation better fits the typical “simplex” pattern, in which external motivation and intrinsic motivation are negatively correlated (Ryan & Connell, 1989). Thus the introduction of external incentives may affect their anticipated desire to do the activity. In contrast, a person *high* in DT may be able to accommodate or compartmentalize the contradictory information and thus perceive that his/her behavior is motivated by both intrinsic interest and external rewards. In other words, intrinsic and external motivation may be uncorrelated in their lay theories. Hence, their anticipated desire to do an activity may be unaffected by proffered extrinsic motivation. Furthermore, since dialectical thinkers also adapt their cognitions and behaviors to new contexts more flexibly than non-dialectical thinkers (Ji, Nisbett, & Su, 2001), it may be possible for them to reevaluate the situation and reinstate an internal locus of causality for later behavior after the external motivators are taken away, such that any suppressed intrinsic interest will rebound. For example, people high on DT are able to think, “I am doing this for rewards, but I also can do this because of my interest later” or “I was doing this before for rewards, but now I can do it because of my interest.”

1.2. Current studies

Our three studies tested the hypothesized role of DT in moderating the association between external motivation and reported intrinsic motivation thereafter. We tested this hypothesis using a survey with imaginary reward scenarios (Study 1), an experiment which introduced real rewards (Study 2), and a scenario study with cross-cultural samples (Study 3). Imaginary scenarios were chosen in Study 1 to measure people's lay theories about the association between intrinsic motivation and external motivation. The use of real rewards in Study 2 allowed us to test whether the lay theory effect extended to doing a real activity. Study 3 was undertaken because previous research has found cultural differences in the prevalent thinking style (Peng & Nisbett, 1999; Spencer-Rodgers & Peng, 2004; also see Spencer-Rodgers, Williams, et al., 2010, for a review). Easterners were found to use DT to a greater extent, while Westerners were found to use non-dialectical or formal logical thinking to a greater extent. Thus in Study 3 we extended the analysis to cultural differences, focusing on two cultural groups known to differ in DT (North Americans and East Asians). We hypothesized that the Asian group, presumably higher in DT, would evidence less undermining by external motivation in imagined scenarios.

2. Study 1

In Study 1 participants were presented with four initially enjoyable activities and then asked to imagine that rewards had been introduced for doing the activities. Afterwards they rated their extrinsic motivation and estimated how their intrinsic interest in the activity would change after the reward was offered.

2.1. Method

2.1.1. Participants and procedure

Participants were 55 American undergraduate students who identified themselves as European American (24 males and 31 females, mean age = 20.8, *SD* = 1.4) attending the University of Missouri. They were all from an upper division psychology class, and received extra credit

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