

THE IMPACT OF MATERIALISM ON CREATIVITY: AN EXPLORATORY STUDY

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ABSTRACT

Materialism is defined as the importance an individual attaches to worldly possessions. Although studies have found that materialism has negative impact on well-being and strengths of human, nevertheless no study to date has directly examined the relationship between materialism and creativity. Based on indirect hints, two contradictory hypotheses were proposed for the influence of possession on creativity. According to the first hypothesis (detrimental hypothesis), materialism is harmful to creativity because possession of materials is negatively related with Openness to New Experience, a personality trait that has been consistently found associated with creativity. Whereas the second hypothesis (facilitative hypothesis) indicates that possession of materials is a reward to individuals. Also, the reward-like feeling may stimulate the release of dopamine and in turn facilitates creativity. Analyses of data derived from 50 young adults from different Asia countries supported the facilitative hypothesis. Thus, it was found that materialism positively relates to openness, which, as expected, was positively associated with (self-reported) creativity. More important, further analysis indicated that openness mediates the relationship between materialism and creativity. Therefore, the findings not only expand understanding of the influence of materialism but also shed light on the mechanism underlying the linkage between materialism and creativity. In addition, the results demonstrated the need to review possession from a positive perspective.

Keywords: materialism, openness, creativity, possession

INTRODUCTION

Globalization of world markets has yielded a revolution of consumerism leading people to associate success and well-being with consumption (Burroughs and Rindfleisch, 2002). Materialism, therefore, becomes a central driving force in the modern society (Ahuvia and Wong, 1995; Halberstam, 1993) and has caught the interest of researchers from various disciplines to understand the cause and effect of materialism (Chaplin and John. 2007; Polak and McCullough, 2006).

Materialism is defined as the importance individuals attach to possessions and acquisition of materials goods (Belk, 1984, 2001). It is, however, worthy of note that possession of materials could have different meaning to different individuals. To distinguish the different purposes of ownership of material goods, Richins and Dawson (1992) further conceptualized material values into three domains: a criterion for judging success of others and oneself, the central role of possession in ones' life, and the happiness and satisfaction brought by the possessions.

Decades of study have found that materialism has great impact on behavior. For example, materialistic people tend to focus on self and material needs, to compare their own image or social status with others through material, and to excessively accumulate materials beyond their basic needs (Hirsh and Dolderman, 2007; McCullough et al., 2002; Tatzel, 2003).

Moreover, materialistic individuals are less likely to share their wealth with others, such as family members and charitable organizations, than non-materialistic counterparts (Parker et al., 2010).

Materialism has also been found to have negative impact on psychological well-being. Materialistic individuals, compared to their less materialistic counterparts, are at a greater risk of psychological disorders (e.g., Burroughs and Rindfleisch, 2002; Kasser and Sheldon, 2000). Moreover, materialism is negatively associated with other humanistic values such as happiness (Polak and McCullough, 2006; Van Boven, 2005; Weinberger and Wallendorf, 2008), gratitude (Froh et al., 2011; Lee and Nuraishikin, 2012) and life satisfaction (Kang et al., 2003; Li et al., 2010). For example, in a study examining the relationship between materialism and happiness in Singapore and US adults, it was found that materialism is negatively related to happiness (operationalized as life satisfaction) in both samples (Swinyard et al., 2001). More important, the study found that Singaporeans adults who were more materialistic reported less happiness than their US counterparts. Similar findings of the negative impact of materialism on happiness and life satisfaction were also observed among adults from other countries (Kang et al., 2003; Li et al., 2010).

Materialism and Creativity

Creativity which refers to the capability of producing new and usefulness products (Runco, 2004; Sternberg and Lubart, 1999) has been widely recognized as one of the most important human strengths. Also, research has found that creativity is associated with problem-solving ability (Tan and Hashim, 2009), psychological well-being (Evans, 2007; Rasulzada and Dackert, 2009) and health (Bungay and Vella-Burrows, 2013). For example, in a study examining the relationship between happiness and creative ideation among college students, Pannells and Claxton (2008) found that happy students tend to be creative. Despite that research has consistently found that materialism may hamper individual's well-being, only little research to date has attempted to directly address the relationship between materialism and creativity. Indeed, there was no study which addressed the linkage within the Asia context. Therefore, the influence of materialism on creativity remains unclear and thus, warrants an investigation.

Although no study has directly examined the relationship between materialism and creativity, some indirect hints in the literatures suggested that materialism may influence creativity in two different ways. The first mechanism (detrimental hypothesis) suggests that materialism could be harmful to creative performance. As discussed above, materialistic individuals tend to have low happiness and happiness is positively associated with creativity. In a similar vein, Sharpe and Ramanaiah (1999) examined the relationship between materialism and the Big Five personality factors among 280 students. The researchers found that, compared to their counterparts, people who were high in materialism scored significantly higher in neuroticism but lower in extraversion, openness, agreeableness, and conscientiousness. Similarly, Otero-López and Villardefrancos (2013) found that openness and agreeableness are negatively associated with materialism respectively. Thus, the results suggest that materialistic individuals are less open to variety than their non-materialistic counterparts. Openness to new experience, however, has been consistently found to have positive relationship with creativity (Feist, 1998; Silvia et al., 2009). Taken together, the indirect findings suggest that materialism may have a negative impact on creativity. Moreover, it is reasonable to assume that the relationship between materialism and creativity may be mediated by other factors such as openness.

In contrast, the second mechanism (facilitative hypothesis) suggests that materialism may enhance creativity. Specifically, possession of materials is a source of happiness or

satisfaction to materialistic individuals (Richins and Dawson, 1992). In other words, possession acts as a reward to materialistic individuals. Furthermore, literature on decision making indicates that receiving or expectation of immediate reward is accompanied by a strong activation in the dopaminergic reward system (McClure et al., 2004). More specifically, people showed activation of pregenual anterior cingulate cortex, ventral striatum, anterior medial prefrontal cortex, and anterior and posterior precuneus when they made a decision to receive an immediate reward for themselves and not for others (Albrecht et al., 2011). Such activation, however, was not observed when deciding to receive a delayed reward. The findings imply that getting an immediate reward may activate the dopaminergic system, which has been found playing a critical role in creative performance. According to the dopamine hypothesis (Ashby et al., 1999), the emergence of reward stimuli leads to the release of dopamine. The increase of dopamine level facilitates the selection and switching processes, which, in turn, enhance execution attention and cognitive flexibility. The broad attention and flexibility allow individuals to consider alternative aspect of ideas and generate more unusual associations between ideas. This hypothesis is supported by empirical evidence that flexibility (one of the widely recognized indicators of creativity potential) was associated with spontaneous eye blink rate, a clinical marker of dopaminergic functioning (Akbari Chermahini and Hommel, 2010, 2012). Taken together, it is assumed that the reward feeling derived from possession may stimulate the activation of dopaminergic system. The release of dopamine in turn facilitates creative performance by enhancing people's flexibility.

The Present Study

The relationship between materialism and creativity remains unclear despite the fact that materialism has been of interest to researchers in different fields. To bridge the gap, we reviewed the relevant literatures and proposed two contradictory mechanisms to account for the influence of materialism on creativity. Thus, this exploratory study aims at investigating the linkage between materialism and creativity by examining the two mechanisms based on self-report of materialism tendency and creativity. Participants also reported their inclination to open to variety (i.e., openness to new experience). This is because openness to new experience is one of the personality traits that may distinguish materialistic people from less-materialistic people. Moreover, openness is related to creativity, suggesting that openness may mediate the effect of materialism on creativity. Therefore, the involvement of openness may allow us to examine the hypothesized mediating role of openness in the relationship between materialism and creativity.

METHOD

Participants

Data for the present study was collected from 50 young adults (34 females) in Singapore. The participants were aged 18-30 ($M = 22.34$, $SD = 2.87$) and primarily Singaporean (60%) as well as few individuals from different Asia countries (e.g., China, Malaysia, and Indonesia). Two sampling methods—convenience and snowball sampling—were used for recruitment.

Instruments

Materialism

Richins and Dawson's (1992) 18-item Materialism Values Scale (MVS) was adapted to measure individual's materialism. The scale consists of 18 items that tapped on three dimensions: defining success (DS), acquisition centrality (AC), and pursuit of happiness (PH). Participants were instructed to indicate the extent to which they agree with each statement using a 7-point Likert scale (1: strongly disagree, 7: strongly agree). Higher scores

represent greater level of materialism. The overall reliability for the scale was good (Cronbach's $\alpha = .73$) as well as the subscales, ranging from .64 (AC) to .74 (DS).

Openness to New Experience

Participants' openness to new experience was examined using the Big Five Inventory (BFI; Benet-Martinez and John, 1998; John et al., 1991; John et al., 2008). The subscale consists of 10 items. Participants indicated the extent to which they agree with the statements on a 5-point scale (1: Disagree strongly, 5: agree strongly). Individual's tendency to embrace variety was represented with the total mean score of the items after reverse scoring items 7 and 9. Reliability of the scale was .65.

Self-Perceived Creativity

Individual's creativity was evaluated using Zhou and George's (2001) 13-item scale, which was originally used to assess employees' creativity. The items were modified to fit the purpose of the present study. Participants evaluated their creativity using a 5-point scale, ranging from 1(*disagree strongly*) to 5(*agree strongly*). The scale was found to have a good reliability (Cronbach's $\alpha = .89$).

Procedure

The present study is part of a pilot study investigating the impact of materialism on well-being. After obtaining informed consent, participants were either allowed to answer the web-based or paper-and-pencil inventories of materialism, openness to new experience, self-evaluated creativity, and demographic information (e.g., gender, age), as well as scales measuring gratitude and happiness which were not relevant to the current study. Finally, participants were appreciated for their efforts after completing the inventories.

RESULTS

Pearson correlation analysis was first conducted to understand the relationship among the target variables (i.e., materialism, openness, & creativity). As can be seen in Table 1, the overall materialism score was significantly associated with all subscale scores and openness. Nevertheless, the relationship between materialism and creativity was not significant. Among the three subscales, DS was significantly related to PH. Of additional important, openness was found to have significant relationship with (self-evaluated) creativity.

Table 1. Descriptive Statistics and Correlation

| | <i>M</i> | <i>SD</i> | <i>1</i> | <i>1a</i> | <i>1b</i> | <i>1c</i> | <i>2</i> | <i>3</i> |
|----------------|----------|-----------|----------|-----------|-----------|-----------|----------|----------|
| 1. Materialism | 3.63 | 0.53 | 1 | | | | | |
| 1a. DS | 3.52 | 0.83 | .79** | 1 | | | | |
| 1b. AC | 3.89 | 0.70 | .46** | -.07 | 1 | | | |
| 1c. PH | 3.38 | 0.88 | .79** | .66** | -.03 | 1 | | |
| 2. Openness | 3.58 | 0.48 | .33* | .23 | .18 | .26 | 1 | |
| 3. Creativity | 3.54 | 0.52 | .08 | .02 | .14 | -.01 | .43** | 1 |

Note. N = 50. DS = Defining Success; AC = Acquisition Centrality; PH = Pursuit of Happiness. * $p < .05$, ** $p < .01$

The Mediating Role of Openness

The correlation analysis indicated that, although materialism has no effect on creativity, materialistic people preferred variety and people who embrace new experience were more likely to rate themselves creative. Hence, it is openness may mediate the relationship between materialism and creativity. To investigate the hypothetical mechanism, Preacher and Hayes's (2008) multiple mediation procedure was used to test the mediating role of openness. The results showed that materialism was significantly associated with openness ($B = 0.30$, $SE = 0.12$, $t = 2.40$, $p = .02$). Moreover, there was a significant relationship between openness and (self-perceived) creativity ($B = 0.52$, $SE = 0.15$, $t = 3.54$, $p < .001$). The relationship between materialism and creativity (i.e., total effect or c path), as expected, was not significant ($B = 0.07$, $SE = 0.14$, $t = 0.53$, $p = .60$). Moreover, the direct effect (i.e., c' path) of materialism on creativity was not significant after controlling for the effect of openness ($B = -0.08$, $SE = 0.13$, $t = -0.60$, $p = .55$). Nevertheless, the results with 20,000 bootstrap revealed that the indirect effect of materialism on creativity via openness was significant, with a 95% confidence interval of .05 to .33. Therefore, the results indicated that openness mediates the relationship between materialism and creativity.

DISCUSSION

The present study investigated the linkage between materialism and creativity as well as the underlying mechanism by testing the mediating role of Openness to New Experience. Two interesting findings were revealed. First, materialism was found to be conducive to creativity. The result is in line with the dopamine hypothesis (Ashby et al., 1999) and thus lends empirical support to the facilitation hypothesis. More important, as expected, our results showed that openness mediated the relationship between materialism and creativity. Taken together, the findings suggest that the possession of material acts as a reward to materialistic individuals and stimulates the release of dopamine. The activation of dopaminergic system leads people to be more open to variety which, in turn, facilitates creativity.

In contrast to the past findings that materialism is negatively related to openness (e.g., Otero-López and Villardefrancos, 2013; Sharpe and Ramanaiah, 1999), materialism was found to have positive association with openness. In other words, materialistic individuals are more likely to embrace new experience than non-materialistic people. The inconsistent finding could be due to the difference in definition and measurement of materialism. For example, Sharpe and Ramanaiah (1999) used the Belk Materialism Scale (Belk, 1984, 1985) to measure participants' materialism. Belk (1984, 1985) tapped into three sub constructs of materialism, namely, possessiveness, non-generosity, and envy, and believed that materialists struggle with possession of material wealth and social status.

On the contrary, materialism was evaluated using the MVS (Richins & Dawson, 1992) in the current study. Richins and Dawson (1992) emphasized the importance of ownership in achieving desired states and believed that acquisition of material goods may lead to happiness and life satisfaction. Although the difference in definition may partly account for the inconclusive findings, the approach is not plausible. Otero-López and Villardefrancos (2013) used the MVS but found a negative relationship between materialism and openness among Spain women. It is worth to note that the past findings were mainly derived from Western sample whereas the current study was conducted within Asia context. The inconsistent findings, therefore, could be due to cultural differences in the perception (of the positive facet) of materialism. Future cross-cultural studies are warranted to examine this assumption.

LIMITATION AND SUGGESTION

The findings should be interpreted with caution because of several limitations. First, the present study was carried out in Asia context and involved a relatively small sample. The latter may produce biased results such as over-estimating the magnitude of the relationship (Hackshaw, 2008). Therefore, a larger sample covering distinct cultures would be required to replicate the results. Including individuals from different cultures may clarify the inconsistent findings (of the relationship between materialism and openness) by testing the hypothesized cultural differences. Nevertheless, the sample size is appropriate for an exploratory study and the findings also serve as the basis for future studies to further investigate the relationship between materialism and creativity.

The MVS consists of three subscales but none of them was found to have relationship with openness. Moreover, some of the subscales (e.g., AC) were found to have low reliability, although the overall reliability of the MVS was good. The results imply that the original structure of the MVS may not be adequate to our sample. The current study, however, is not able to answer this question due to the small sample size. Future studies are suggested to examine components of the MVS (e.g., factor analysis) first, rather than adapting the scale directly.

Participants' creativity was determined by self-report in the current study. Given that self-evaluation is prone to biases such as social desirability and social approval (Adams et al., 2005; Chuang and Monroe, 2003; Holtgraves, 2004; van de Mortel, 2008), there could be a gap between self-evaluation and actual performance. Therefore, it remains open to what extent individuals who rated themselves creative can generate original and useful ideas in the actual tasks. Future studies are suggested to use objective assessments, such as story writing (Zenasni and Lubart, 2011) and Remote Associates Test (Mednick, 1962, 1968; Akbari Chermahini et al., 2012) to examine individuals' creative performance and its relationship with materialism. Moreover, researchers are encouraged to measure the eye blink rate (Akbari Chermahini and Hommel, 2010, 2012) to further examine the hypothetical relationship between materials possession and the activation of dopaminergic system.

Last but not least, although openness was found to mediate the relationship between materialism and creativity, caution should be taken when interpreting the findings for two reasons. First, the total effect of materialism on creativity was not observed. In other words, the mediating role of openness is not robust because the emergence of total effect is one of the prerequisites for mediation (Baron and Kenny, 1986). However, it has been argued that significance of the total effect is not necessary and overemphasizing the effect may lead to misleading conclusions (e.g., Hayes, 2009; Rucker et al., 2011; Zhao et al., 2010). One explanation is that there could be multiple mediation effects in the relationship. The multiple effects cancel each other out and hence, the total effect will not be observed (Wu and Zumbo, 2008). Another major shortcoming of the design that should be addressed is that independent variable (materialism) and mediator (openness) were not manipulated. Mediation is a causal model that explains the underlying process of a cause-and-effect link (Rose et al., 2004; Wu and Zumbo, 2008). Therefore, independent variable and mediator should be manipulated in order to provide convincing evidence to the causal relationship between independent variable and mediator and between mediator and dependent variable. Given that both independent variable and mediator in the present study were observed but not manipulated, the results should be interpreted in correlational terms, for example, the strength of correlations between materialism and creativity is dependent on openness. Unless experimental studies are carried out to examine the mediation model (i.e., causal relationship) and the findings are replicated,

it is far from mature and inappropriate to claim that materialism influences creative performance through openness.

CONCLUSION

Materialism is alleged to have negative impact on individual's behavior and well-being. However, it is not clear to what extent materials possession influences creativity. The present study was the first to directly examine the relationship between materialism and creativity. In contrast to the previous findings that possession of materials is detrimental to openness to new experience; our results showed that materialism facilitates openness to variety. More important, openness was found to mediate the relationship between materialism and creativity. The findings not only shed light on the underlying mechanism of the association between materialism and creativity, but also point out the inconsistency in the perception of materialism. Therefore, researchers are advised to shift their attention to explore the positive side of materialism in future studies.

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