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MAY I CONTINUE OR SHOULD I STOP?

THE EFFECTS OF REGULATORY FOCUS AND MESSAGE FRAMINGS ON VIDEO GAME PLAYERS' SELF-CONTROL

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May I Continue or Should I Stop? The Effects of Regulatory Focus and Message Framings on Video Game Players' Self-control

Abstract

Two types of motivations exist in terms of regulatory focus: a promotion orientation concerned with advancement and achievement and a prevention orientation concerned with safety and security. The central premise of this research is that promotion-focused and prevention-focused players differ in their sensitivity to message frames and therefore respond with different levels of self-control. This study adopted a 2 (message frames: positive vs. negative) × 2 (regulatory focus: promotion vs. prevention) between-subjects design; the results confirmed the hypotheses that, for promotion-focused players, negative messages are significantly effective in preventing them from becoming addicted to the games; meanwhile, for prevention-focused players, positive messages significantly influenced players, leading them to become addicted. Hence, video games' negative and addiction-related messages should be enhanced whereas positive messages should be cautiously released.

Keywords: Regulatory focus, regulatory fit, message frames, self-control, video game.

1. Introduction

As video games have become rapidly and broadly integrated into society, psychological and social phenomena have emerged (Chuang, 2006; Wood, Griffiths, Chappell, & Davies,

2004). Players play video games due to various motivations and purposes. Some believe video games help them boost mental skills and improve physical coordination. Those players who can maintain a healthy attitude and effective self-control are able to benefit through reduced stress and the ability to enjoy hedonic experiences. However, some players use video games as their shelter to avoid dissatisfaction with real life issues. Video games serve as a compensatory function that might satisfy their unfulfilled roles. These different orientations toward game-playing result in distinctive attitudes and behaviors.

News and academic research have reported both positive and negative video game messages. Positive messages emphasize the games' positive outcomes: "Playing video games may improve your intellectual skills, reading ability, attention, hand-eye coordination, and speed reactions to novel situations." (Griffiths, 2002, 2003; Yee, 2006). Meanwhile, negative messages focus on the negative aspects of games: "Playing video games induces addiction, ill-health, anxiety, violence, relationship deterioration and poor performance." (Carnagey, Anderson, & Bushman, 2007; Gentile, Lynch, Linder, & Walsh, 2004; Salguero & Morán, 2002). Researchers have extensively studied the persuasiveness of such messages in affecting consumer behaviors (Block & Keller, 1995), and both positively and negatively framed messages have been found to influence decision-making processes. Indeed, players' belief of the positive or negative messages may affect their capacity for self-control. Gailliot, et al.

(2007) defined self-control as the ability to control or override one's thoughts, urges, and behavior.

The current research aims to explore how effective messages can increase players' self-control and keep players from becoming addicted to games. Regulatory focus theory (Higgins, 1997) distinguishes two basic motivational orientations that individuals adopt during goal achieving: promotion focus and prevention focus. The promotion focus directs individuals' attention to advancement, achievement, and aspirations (i.e., promotion goals) and causes them to focus on approaching positive outcomes. The prevention focus directs individuals' attention to responsibilities, safety, and security (i.e., prevention goals) and causes them to focus on avoiding negative outcomes. We assume that players' regulatory focus affects how they react to positive and negative messages. Therefore, this study will examine and compare the influences of both positive and negative messages in regards to promotion- and prevention-focused players' self-control, respectively. The interaction effects of regulatory focus and messages on players' behavior will be examined and discussed based on the results of the 2 (messages: positive vs. negative) x 2 (regulatory focus: promotion vs. prevention) between-subjects design. Implications and future research will also be provided based on these results.

2. Regulatory Focus and Video Game Players

A promotion-focused individual tends to seek matches to the desired outcomes; however, a prevention-focused individual attempts to avoid mismatches to the desired outcomes (Crowe & Higgins, 1997; Shah, Higgins, & Friedman, 1998). Among promotion players, video games emphasizing the benefits achieved with compliance induce the use of goals to ensure positive outcomes (e.g., "games can improve one's deductive and logical reasoning skills and enhance players' problem-solving ability and agile decisions") and, theoretically, produce regulatory fit that leads to engagement in the target behavior. Likewise, among prevention players, video games emphasizing the costs associated with noncompliance induce the use of goals to avoid negative outcomes (e.g., "games are deemed as a sanctuary and shelter; without games, life would be boring and meaningless.") and, accordingly, produce regulatory fit that should lead to behavior changes (Latimer et al., 2008).

The value of video game experiences can be enhanced when strategic means for achieving the goal match the regulatory focus. Therefore, promotion players primarily seek achievement and happiness whereas prevention players look for security and fantasy in games. For prevention players, the more time they hide in the game, the harder it may be to withdraw from it, leading to addiction.

3. Regulatory Focus and Message Frames

Kirmani and Zhu (2007) claimed that promotion people seek matches to their desired

end-states; hence, they are likely to focus on the messages with positive outcomes and use matched approach strategies. While playing games, promotion players consider their lives with a balance of enjoyment and achievement. In other words, they may evoke higher levels of self-control and restrict themselves from overindulging in games if they read gaming messages that emphasize negative outcomes, such as the tendency to become addicted and develop violent tendencies. Thus, their self-control is more likely to reach a higher level from negative messages than positive messages.

In contrast, prevention people are inclined to avoid mismatches to the desired end-states (Kirmani and Zhu, 2007); they are more likely to focus on negative outcomes and use avoidance strategies when viewing a message. While happily playing games, prevention players feel relaxed, free, and safe in the virtual world and may try activities that they are not able to or are afraid to do in the real world. They have a higher chance of becoming addicted or problematic players, especially if they believe the positive gaming messages that emphasize positive outcomes of games, such as providing stress relief, improving intellectual skills, dissolving anguish and frustration, and stimulating physical reaction. These messages accelerate players' immersion in the games, making them more likely to become addicts.

Based on the discussion thus far, the following hypotheses have been developed:

Hypothesis 1: When exposed to negative video game messages, promotion players will

demonstrate higher levels of self-control than prevention players.

Hypothesis 2: When exposed to positive video game messages, prevention players will demonstrate a higher tendency to become addicted to the game than promotion players.

4. Methods and Results

4.1 Study 1

Study 1 examined the influences of positive and negative messages on players' self-control. To examine the proposed hypotheses, participants filled out a two-part survey. First, participants were categorized as a promotion or prevention player based on the results of a regulatory measurement (Higgins, Friedman, Harlow, Idson, Ayduk, & Taylor, 2001; Lockwood, Jordan & Kunda, 2002; Summerville & Roese, 2008). Once identified with their regulatory orientation, participants were randomly assigned to read either positive or negative video game messages.

Positive messages reported the benefits of video games and encouraged people to play; these messages emphasized the benefits of video games, such as quick thinking, reasoned judgments, memory, pattern recognition, estimating skills, and self-esteem. Meanwhile, negative messages illustrated the negative influences of video games on players (e.g., addiction, poor work performance, health problems, and deterioration of interpersonal

relationships) and discouraged them from playing. As different types of messages can influence players' perceptions and self-control in playing the game, participants exposed to negative messages were expected to demonstrate increased levels of self-control while those exposed to positive messages were expected to lower their levels of self-control.

4.1.1 Participants and Design A total of 120 Taiwanese high school students and university students (both undergraduate and graduate students) participated in this study. The sample ranged from 13 to 24 years old. The quantitative tool used was a self-administrative questionnaire. Data from six respondents were missing on one measure, leading to a usable sample of 114 (mean age = 15.63; 63.2% male, 36.8% female) on the first dependent measure—namely, self-control. In regards to the second dependent measure—addiction—data from nine respondents were missing, and 18 participants dropped out during the experiment, leaving a usable sample of 93 (mean age = 15.87; 67.7% male, 32.3% female).

Using a 2 (message frames: positive vs. negative) × 2 (regulatory focus: promotion vs. prevention) between-subjects design, participants were randomly assigned to read either positive or negative messages. After the experiment, a discussion workshop was available for all participants, in which they could debate the negative and positive effects of video games to nullify the effects of messages received in the experiment. Before leaving, all participants were debriefed and thanked.

4.1.2 Measures Regulatory focus items were averaged to produce promotion and prevention subscales of adequate reliability. The values of Cronbach's α fell within the acceptable range: .67 and .82, respectively (Poels & Dewitte, 2008; Vaughn, Baumann, & Klemann, 2008). Promotion players exhibited significantly higher promotion ($M_{\text{promotion}}$ = 4.75, SD = 0.953) than prevention ($M_{\text{prevention}}$ = 3.69, SD = 0.94, $F(1, 112) = 33.68$, $p < .001$), whereas prevention players had higher prevention (M = 4.58, SD = 1.03) than promotion (M = 2.64, SD = 1.03, $F(1, 112) = 108.15$, $p < .001$). Based on the responses to the regulatory focus items, promotion-focused participants pursued the advantages from video games. They were able to distinguish from reality and fantasy, refresh their energy, relieve stress, and enjoy the video games in a positive manner. On the contrary, prevention players were motivated to play games because they were looking for security and belongingness, looking to escape from reality, and the difficulty of maintaining real interpersonal relationships.

To assess participants' levels of self-control and addiction, participants responded to a scenario that involved two parts: "Assume that your friend drops by unexpectedly while you are playing video games. How would you feel and what would you prefer to do?" The first part ("how would you feel") measured participants' level of self-control; the second part ("what would you prefer to do") measured their level of addiction. Self-control measures were adapted from Tangney, Baumeister, & Boone's (2004) survey items. Meanwhile, the addiction measure was based on Whang and Chang's (2002) online game addiction scale. A

seven-point agree/disagree response scale was used rather than five-point scale to increase statistical variation.

4.1.3 Manipulation Check As expected, respondents who read the positive messages were significantly more likely to believe that video games help players with positive outcomes ($M_{positive}$ = 4.98 vs. $M_{negative}$ = 2.42; $F(1, 112) = 28.61$, $p < .001$); those who read negative messages turned out to be more negative to video games ($M_{negative}$ = 5.49 vs. $M_{positive}$ = 3.15; $F(1, 112) = 33.74$, $p < .001$). No other effects were significant.

4.1.4 Results and Discussion To test whether a difference existed between players' level of self-control with regulatory focus and message frames, the data were examined in the context of a 2 (regulatory focus: promotion or prevention) × 2 (message frames: positive or negative) between-subjects analysis of variance (ANOVA) of participants' stated self-control. The ANOVA yielded a significant main effect of message frames ($F(1, 110) = 19.35$, $p < .05$); respondents were significantly more likely to have higher levels of self-control when they were exposed to negative messages than positive messages. This main effect was qualified by a significant two-way interaction ($F(1, 110) = 4.07$, $p < .05$) between regulatory theory and message frames. Promotion players showed significantly higher levels of self-control when exposed to negative messages (M = 6.33) than positive messages (M = 4.87; $F(1, 110) = 32.43$, $p < .05$). Moreover, prevention players did not show a significant proclivity to limit their play time in either case ($M_{positive}$ = 4.91 vs. $M_{negative}$ = 4.37; $F(1, 110) = 1.77$, $p > .19$).

This result supported the proposed idea that promotion players are more likely to respond to negative messages, become vigilant to video games, and consequently increase self-control in game playing whereas prevention players did not reflect the same discernment and self-control.

The second dependent measure, tendency to addiction, also yielded a significant main effect of messages ($F(1, 89) = 14.00$, $p < .05$), which indicated that respondents were more likely to become addicted when they believed in positive messages rather than negative messages. This main effect was qualified by a significant two-way interaction ($F(1, 89) = 5.44$, $p < .05$) between regulatory focus and message frames. Prevention players demonstrated a significantly higher tendency to addiction under the influence of positive messages ($M = 4.60$) than negative messages ($M = 2.88$; $F(1, 89) = 14.07$, $p < .05$). Promotion players did not show a significant difference of addiction between positive and negatives message conditions ($M_{positive} = 3.35$ vs. $M_{negative} = 2.95$; $F(1, 89) = 1.73$, $p > .19$). Thus, prevention players are likely to become addicted to games when they believe in the positive messages; meanwhile, they showed relatively high levels of self-control when they received negative messages. However, promotion players do not reflect the same responsiveness.

Furthermore, the evidence suggests that a prevention focus does not lead to a consistent preference for change relative to the promotion focus. Prevention players showed a relatively

higher tendency to become addicted (M = 4.60) than promotion players (M = 3.35; $F(1, 89)$ = 10.19, $p < .05$) in the positive message condition. This result implies that promotion players will not indulge themselves and get lost in games even if they believe video games can benefit their lives. Meanwhile, prevention players tend to have a greater discrimination about addiction in terms of the type of messages received. Indeed, the messages had a significant influence on prevention players' attitudes. Prevention players demonstrated higher levels of addiction when exposed to positive messages (M = 4.60) than negative messages (M = 2.88).

The level of self-control was indeed influenced by message frames: positive messages made it harder for players to resist games whereas negative messages helped players organize their game-playing time appropriately. Demographic variables were omitted from further analysis because they did not significantly interact with regulatory focus or message frames.

4.2 Study 2

The regulatory focus measurement and messages frames from study 1 were also used in study 2; however, this study used a different scenario, which resulted in minor changes to the corresponding survey items. The scenario was set to investigate participants' decision related to academic situations rather than the social situation examined in study 1. The objective of this study was to assess whether, under the influences of negative messages, participants with a promotion focus induced higher levels of self-control than those with a prevention focus.

By contrast, prevention participants were expected to be significantly influenced by positive messages, thereby resulting in lower levels of self-control and higher tendencies for addiction. A different scenario was presented to determine whether the importance of incidents moderates the effect of messages on participants' decisions.

4.2.1 Participants and Design A 2 (message frames) × 2 (regulatory focus) between-subjects ANOVA was used to analyze the data. 107 Taiwanese high school students, undergraduate students, and graduate students participated in this study (mean age = 16.79; 65.4% male, 34.6% female). The sample also ranged from 13 to 24 years old. The quantitative tool used was self-administrative questionnaire as well. They participated in the first dependent measure—namely, self-control—while the other 109 students (mean age = 16.88; 67% male, 33% female) participated in the second dependent measure—namely, addiction. All participants were randomly assigned to the two message conditions.

4.2.2 Procedure The procedure for this study was similar to that in study 1. Measures of self-control and addiction involved minor changes subject to the new scenario. Whereas the scenario in study 1 focused on a situation in which players were interrupted by a friend's unsolicited visit, the scenario in study 2 was set with a more serious situation associated with the choice between playing a game or preparing for a midterm.

4.2.3 Measures The responses were averaged to calculate distinct promotion and

prevention scores. In this study, both subscales were reliable ($\alpha_{promotion}$ = .61; $\alpha_{prevention}$ = .83). Participants were introduced to the same measures used in study 1. Higher scores on the separate subscales indicated greater promotion or prevention orientations. Promotion players exhibited significantly higher promotion scores ($M_{promotion}$ = 4.80, SD = 0.92) than prevention ($M_{prevention}$ = 3.70, SD = 0.94, $F(1, 105) = 37.44$, $p < .001$) whereas prevention participants had higher scores in prevention (M = 4.68, SD = 1.03) than promotion (M = 2.67, SD = 0.93, $F(1, 105) = 112.94$, $p < .001$).

Differentiating from the social scenario in study 1, study 2 designed a more serious condition in terms of an academic situation. Participants were asked to rate the likeliness of listed reactions based on the following situation: "Assume that, while you were playing video games, you realized that you had a midterm the next day that you had not sufficiently prepared for. What would your decision and reaction be according to the described alternatives?" The alternatives included keep playing, stop to study, play a little bit longer and then prepare, among others. The same measures of self-control and addiction as in study 1 were adopted.

4.2.4 Results and Discussion The ANOVA yielded a significant main effect of message frames ($F(1, 103) = 15.59$, $p < .05$): respondents were significantly more likely to have higher self-control when they were exposed to negative messages than positive messages. This main effect was qualified by a significant two-way interaction ($F(1, 103) = 5.73$, $p < .05$) between

regulatory focus and message frames. Prevention players who received negative messages were significantly more cautious about playing the game (M = 5.09) than those who received the positive messages, indicated less self-control, and indicated a greater tendency to become addicted to the game. (M = 2.98; $F(1, 103) = 20.14$, $p < .05$). Specifically, this result highlighted that prevention players who received positive messages demonstrated significantly less self-control in the academic decision than in the social situation provided in study 1 ($M_{exp.1}$ = 4.37 vs. $M_{exp.2}$ = 2.98; $F(1, 38) = 7.846$, $p < .05$). Promotion players did not show a significant difference in regards to self-control in either case ($M_{exp.1}$ = 4.87 vs. $M_{exp.2}$ = 4.97; $F(1, 38) = 1.38$, $p > .786$), although they did demonstrate relatively high levels of self-control in both the positive and negative message conditions (similar to the results of study 1). Furthermore, the prevention focus did not lead to a consistent preference for the status quo. When prevention players with negative perceptions of video games faced an important decision, such as midterm preparation, they demonstrated high levels of self-control—as did promotion players ($M_{prevention}$ = 5.09, $M_{promotion}$ = 5.49, $F(1, 103) = 0.94$, $p > .34$).

The results yielded a significant main effect of messages ($F(1, 105) = 22.28$, $p < .05$), confirming speculations that players have a higher tendency for addiction in the positive message condition. The main effect was qualified by a significant two-way interaction ($F(1, 105) = 9.52$, $p < .05$) between regulatory focus and message frames. Prevention players had

higher tendency for game addiction in the positive message condition (M = 5.17) than negative message condition (M = 2.97; $F(1, 105) = 23.98$, $p < .05$). However, promotion players did not show a significant difference in regards to addiction tendencies in either case ($M_{positive}$ = 3.30 vs. $M_{negative}$ = 2.84; $F(1, 105) = 1.69$, $p > .2$). The results demonstrated that prevention players are at risk for addiction if they believe games can help them in many ways; however, they have relatively high levels of self-control when they possess negative perceptions of video games. Meanwhile, promotion players are not affected by the types of messages received and demonstrate a low tendency for addiction in both positive and negative message conditions. When prevention players received the positive messages, they showed significantly higher levels of addiction (M = 5.17) than the promotion players (M = 3.30; $F(1, 101) = 25.91$, $p < .05$). From this result, it can be concluded that the types of messages significantly influence prevention players' attitudes—a finding that supports the assertion that prevention players have increased sensitivity to the variations in positive and negative messages.

5. Discussion

The two studies were designed with two objectives: first, to examine the theoretical relationship between regulatory focus and message frames and, second, to assess whether the regulatory-message fit affects players' self-control. The results support the hypotheses

presented herein. Promotion players with negative perceptions of video games demonstrate the highest level of self-control among the 2 x 2 experimental groups ($M_{exp.1}$ = 6.33, $M_{exp.2}$ = 5.49). In contrast, prevention players with positive perceptions of video games are at the very highest risk of becoming addicted to the game ($M_{exp.1}$ = 4.60, $M_{exp.2}$ = 5.17).

In addition, players' perceptions and behaviors are influenced by message frames and regulatory focus, thereby illustrating the proposed theoretical framework for how messages and regulatory focus interact to influence players' behaviors. Negative messages about video games alert players to the negative outcomes, thereby increasing players' self-control, whereas positive messages may give players an excuse to play, increasing the risk of addiction. Promotion players demonstrated significant discipline, but prevention players were weaker in their ability to resist the temptation of video games. These results are consistent with previous research, showing that—relative to a prevention focus—a promotion focus increases not only the intensity of desire experienced upon encountering a temptation, but also the success of subsequent resistance to it (Dholakia, Gopinath, Bagozzi, & Nataraajan, 2006).

Finally, individuals experience regulatory fit when they use the means of goal pursuit that matches their regulatory focus (Higgins, 1997). Regulatory fit makes people "feel right" about what they are doing and strengthens engagement in goal-directed behaviors (Higgins, 2000). According to regulatory fit theory, promotion players fit into negative messages

because negative messages enhance their achievement and performance. Meanwhile, positive messages provide reasons for the players to remain in the game, thereby fitting prevention players' need to hide in the virtual world.

5.1 Implications for Future Research and Practice

In the current study prevention players demonstrated significantly low levels of self-control ($M_{positive}$ = 5.09 vs. $M_{negative}$ = 2.98; $F(1, 103) = 20.14$, $p < .05$) and a high tendency for addiction ($M_{positive}$ = 5.17 vs. $M_{negative}$ = 2.97; $F(1, 105) = 23.98$, $p < .05$) in the positive message condition during study 2 (academic scenario). Similar results were evident in study 1. Specifically, prevention players with positive messages exhibited significantly lower levels of self-control in study 2 ($M_{exp.1}$ = 4.37 vs. $M_{exp.2}$ = 2.98; $F(1, 38) = 7.85$, $p < .05$). Based on these results, members of this group are susceptible to game addiction and problematic game usage because they choose to run further away when facing more challenging and demanding situations. Future research could explore two directions in regards to these players: exploring the ways to convert their positive perceptions into negative perceptions of video games and further studying the psychology and backgrounds of prevention players who possess positive perceptions of video games. Applying the knowledge of this research, social marketers should realize to what particular level they would market their video game products in order to persuade youngsters to consumemore

products while preventing gamers from becoming excessively addicted to playing the games. Moreover, social marketers may use the demarketing strategy by introducing the campaign to warn youngsters against overindulgement resulting from game addiction.

In summary, Shigeru Miyamoto, a prodigious Japanese video game designer, said "video games are bad for you? Well, that's what they said about rock 'n roll." Regardless of whether video games are a positive or negative influence, the current research demonstrates that people who have positive perceptions of a video game have a tendency for addiction and lower self-control while players who are convinced that video games have negative effects tend to be more vigilant and increase their self-control while demonstrating a greater willingness to pursue other activities. Nowadays both positive and negative news and research about video games have emerged; readers may selectively choose their preferred perception. Notwithstanding, for youngsters, they may need advice from their parents. Even though, when exposed to convincing positive news about video games, they may have the ability and appropriate attitudes to deal with the multifarious information effectively. Nonetheless, since positive messages may weaken players' self-control, parents should help their children to unmitigatedly understand and digest such news. In addition, this research tries to make a social impact by educating parents to monitor their children to which extent their children should play video game. Overplaying game can lead to serious social issues. For example, in December 2004, a Chinese student committed suicide after playing the game

for 36 hours consecutively. He had left behind a letter written the reason for his suicide that he would like to join the heroes of the game he worshipped. At last, his parents decided to file lawsuit against the game manufacturer (Fox News 2006). From this evidence, it proved that marketing should be in accordance with sustainability. Undue marketing practice can lead to excessive consumption and sometimes tragic results. This is where social marketing differs from traditional marketing.

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