Intention to upload video content on the internet : the role of social norms and ego-involvement

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**Intention to Upload Video Content on the Internet:
The Role of Social Norms and Ego-Involvement**

Abstract

This study examined the factors that are associated with people's intention to upload video content online within the framework of the theory of planned behavior (TPB). Using data from a survey of college students ($N = 241$), structural equation modeling analyses revealed that individual descriptive norm is associated with the intention to upload video content online. In addition, ego-involvement played an essential role in accounting for both attitude toward the uploading behavior and the intention to upload. These findings suggest that integration of the constructs of the TPB, social norms, and ego-involvement can be a fruitful theoretical endeavor for understanding people's intention to upload video content online. The theoretical implications and limitations were discussed.

Keywords: Uploading videos, Subjective norm, Descriptive norm, Injunctive norm, Ego-involvement

**Intention to Upload Video Content on the Internet:
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1. Introduction

The last few years have witnessed remarkable growth of watching video programs from, and user participation in uploading video content on, websites such as YouTube or Google Video. According to a report from the Pew Internet & American Life Project, fully 62% of adult Internet users and 89% of Internet users aged 18-29 watched a video program in those websites, as of 2009 (Madden, 2009). Further, 22% of American people shoot their own videos and 14% of them post some of those videos online in 2008 (Rainie, 2008). This unprecedented phenomenon comes with notable changes and unique characteristics in the ways in which video programs are produced and distributed. First, the distinctive boundary between video program producers and audiences has been waning (Stoeckl, Rohrmeier, & Hess, 2007). Now, it is possible for ordinary people to make video programs beyond the traditional passive role of audiences and to distribute them on the Internet. This changing role is in line with the role of users in other user-generated or user-centered Internet applications such as weblogs or Wikis. Second, uploaded video content online in particular is appealing to a broader range of Internet users compared to other content of Internet applications such as social networking sites (e.g., Facebook, etc.), which focus more on interpersonal and/or group communication.

These characteristics are in parallel with Castells' (2007) claim of "mass self-communication" of social media. According to him, the behavior of uploading video content online is a new form of social communication, which materializes the "many to many" communication with the web of horizontal communication networks. As Castells (2007) suggests, uploading video content online can be mass communication because such videos reach

potentially a global audience through the Internet and peer-to-peer networks. The uploading behavior can also be self-communication in that it is oftentimes self-generated in content, self-directed in distribution, and self-selected in watching by many that communicate with many (Castells, 2007). Given that uploading video content online is a behavior that significantly transforms the methods of video program production and watching, the factors that make people upload video content online deserve research attention.

Another important research rationale for studying the behavior of uploading video content online is that it has generated significant social consequences, such as immediate delivery of information, being an alternative tool for information access, or functioning as a platform for effective learning. For instance, YouTube was the vehicle for information dissemination when the Virginia Tech shooting and Minneapolis bridge collapse occurred in 2007. Also, as Pandey, Patni, Singh, Sood, and Singh (2010) demonstrated, YouTube could be utilized as an effective information source during the initial phase of the H1N1 (swine flu) outbreak in 2009. Further, college classes are employing YouTube as a way of collaboration to make self-made learning resources (Burke & Snyder, 2008), while online education can be effectively enhanced by archiving free Internet-based video content (Snelson, 2008). Overall, these studies suggest that individuals' uploading behavior can contribute to knowledge sharing or information distribution from the grassroots, in addition to playing a key role in the changing status of traditional audiences or transformed patterns of communication.

Despite the current phenomenon of watching and/or uploading video content online, accompanied social consequences, and potential to be an interesting target of research on media user behaviors, few academic studies about the behavior of uploading video content have been located. Lange (2007) analyzed how YouTube participants develop and maintain social networks

by manipulating physical and interpretive access to their video programs. Stoeckl and colleagues (2007) compared motivations to produce user-generated content between webbloggers and videobloggers. Also, Haridakis and Hanson (2009) investigated whether motives and individual differences are associated with viewing videos on YouTube and sharing videos with others. In addition, Gueorguieva (2008) discussed the influences of YouTube on elections and campaigns in the area of political communication. However, little is known about the factors that affect people's intention to upload and share video programs online.

The present study has the following three research purposes: First, this study identifies the factors that are associated with ordinary people's intention to upload video content online by employing the theory of planned behavior (TPB). Given that the number of people who upload video content online is still limited, it will be worthwhile to examine people's future intention to conduct the behavior rather than the actual behavior. Second, the present study replicates the distinctiveness of different types of social norms, which have conceptual/theoretical connections with the subjective norm in the TPB, in the context of uploading video content online. And third, the study integrates ego-involvement (Johnson & Eagly, 1989; Lapinski & Boster, 2000; Sherif, Kelly, Rogers, Sarup, & Tittler, 1973) as an antecedent of attitude and behavioral intention in the TPB. These theoretical integrations are a worthy endeavor for the following reasons: First, given that the uploading behavior is largely targeting other people who would watch video programs, social influences and norms from other people could play an important role in affecting the behavior. Second, the uploading behavior is a kind of self-expression considering that people who upload video programs present not only videos themselves but also what they want to (or are supposed to) deliver or how the videos are demonstrated, especially when they upload self-made video programs. Thus, people's perception about self can be an important part that is

associated with their uploading behavior. In sum, the present study seeks to help understand the social psychological antecedents that facilitate people's intention to upload video content online more fully.

2. Literature review

2.1. The theory of planned behavior as a theoretical framework

The TPB (Ajzen, 1988, 1991) is a well-established theoretical model for explaining motivational and informational influences on individuals' behaviors. As an extension of the theory of reasoned action (TRA: Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), the TPB employs three determinants of human behavior: attitude toward a certain behavior, subjective norm related to the behavior, and perceived behavioral control for the behavior. Attitude refers to "an individual's positive or negative feelings (evaluative affect) about performing the target behavior" (Fishbein & Ajzen, 1975, p. 216), while subjective norm is "the person's perception that most people who are important to him/her think he/she should or should not perform the behavior in question" (Fishbein & Ajzen, 1975, p. 302). Perceived behavioral control refers to "people's perception of the ease or difficulty of performing the behavior of interest" (Ajzen, 1991, p. 183), being compatible with Bandura's (1997) concept of self-efficacy. According to the TPB, these three factors are associated with behavioral intention—an indication of how hard an individual is willing to try and of how much of an effort the individual is planning to exert, in order to perform the behavior (Ajzen, 1991). The TPB also posits that the relative importance of the three factors in the prediction of intention is expected to vary depending on specific behaviors and contexts (Ajzen, 1991). It is notable that the TPB focuses equally, if not more, on the individual's intention to perform a given behavior compared to the actual behavior.

According to the TPB, the stronger the intention to engage in a behavior, the more likely its performance should be (Ajzen, 1991).

Since Ajzen's introduction of the TPB, it has been widely utilized in communication research, including health communication behaviors, such as organ donation (Bae, 2008; Bae & Kang, 2008; Bresnahan et al., 2007; Park & Smith, 2007); information and communication technology adoption and use (Taylor & Todd, 1995); and religious activities (Ho, Lee, & Hameed, 2008). In addition, as to online behaviors in particular, Lu, Zhou, and Wang (2009) found that the three components of the TPB positively affected people's intention to adopt instant messaging (IM) in China, while Liao, Chen, and Yen (2007) confirmed the effects of the three factors on students' intention to use an e-learning system in Taiwan. Hsu and Lin (2008) also discovered that attitude and subjective norm are significant predictors of intention to participate in blog activities. Further, some studies tested the applicability of the TPB in the context of e-commerce and consumer behavior (e.g., Hsu, Yen, Chiu, & Chang, 2006; Lim & Dubinsky, 2005; Pavlou & Fygenson, 2006). Overall, these studies suggest that the TPB is a powerful and parsimonious model for identifying the determinants of a variety of human behaviors.

In the case of uploading video content online, as described earlier, the number of people who watch video programs through video content websites such as YouTube has been continuously increasing and becoming more popular. It suggests that users of such websites may have positive feelings and favorable evaluations toward uploading video content online thanks to familiarity to and enjoyment of such websites. This positive attitude will, in turn, facilitate their intention to upload video content online by themselves. Also, given that uploading video content online requires a considerable amount of time and basic Internet skills, more confidence and

controllability will increase future likelihood of uploading video content online. Thus, based upon this reasoning and the aforementioned TPB studies' findings, the following hypotheses were proposed:

Hypothesis 1: More positive attitude will be associated with greater intention to upload video content online.

Hypothesis 2: A higher level of perceived behavioral control will be associated with greater intention to upload video content online.

2.2. Subjective norm and social influences

A few recent studies have explicated different types of social norms in relation to the subjective norm in the TPB. Similar to the TPB, the social norms approach (SNA: Lapinski & Rimal, 2005; Perkins, 2003; Rimal & Real, 2003) posits that there are two types of social norms: descriptive norms and injunctive norms. Descriptive norms can be defined as beliefs about what is actually done by most others in one's social group. This concept of descriptive norms is closely related to other constructs such as the concept of critical mass (Markus, 1990), perceived popularity (Zhu & He, 2002), or positive network effects or network externalities (Katz & Sapiro, 1985). That is, descriptive norms mean that if one perceives that everybody is performing a certain behavior, such a perception facilitates him or her to conduct the same behavior (Lapinski & Rimal, 2005; Rimal & Real, 2003). Injunctive norms, on the other hand, refer to people's beliefs about what ought to be done (Cialdini, Reno, & Kallgren, 1991) and sometimes involve social sanctions when an expected behavior is not performed or underperformed.

According to the definitions of these social norms, subjective norms in the TPB are similar to injunctive norms, yet the TPB does not address descriptive norms (Lapinski & Rimal, 2005). In fact, Ajzen (2002), who developed the TPB, also suggested that the measure of

subjective norms should include items designed to capture descriptive norms. It seems that there is no disagreement with respect to the distinction between descriptive norms and injunctive norms. Recent research, however, has used subjective norms and injunctive norms differently in a conceptual/theoretical sense. For instance, in an effort to distinguish different types of social norms, Park and Smith (2007) and Park, Klein, Smith, and Martell (2009) differentiated subjective norms from personal descriptive and injunctive norms, and broader societal descriptive and injunctive norms. Similarly, other studies (Cialdini, 2003; Dunleavy, 2008; Rimal, 2008) also explicated descriptive norms and injunctive norms. In contrast, Bae (2008) and Bae and Kang (2008) regarded subjective norms as having two subcategories of norms: injunctive norms and descriptive norms. These different uses of the constructs of social norms call for further replications and clarification.

Another dimension that distinguishes social norms is whether they are collective or individual. Collective norms function at the level of the social group or community, and they represent a collective social entity's guideline on expected behaviors. Individual norms, in contrast, operate at the individuals' psychological level, representing each individual's interpretation of the prevailing collective norm (Lapinski & Rimal, 2005). This distinction of collective and individual norms is equivalent to that of societal and personal norms in the study of Park and Smith (2007). In order to clarify the conceptual differences of various social norms, the current study tests distinctiveness of these constructs by employing the method of confirmatory factor analysis.

In the context of uploading video content online, it is expected that both subjective norms (and/or injunctive norms) and descriptive norms contribute to explaining the intention of uploading. As mentioned earlier, unlike many TPB study settings such as technology adoption or

online purchasing behavior in e-commerce contexts in which a given behavior is dependent largely upon people's internal motivations rather than external influences, the video uploading behavior is inherently related to other people. For example, the uploaded video content is appealing mainly to other people, thereby the uploading decision is likely to be influenced by significant others.

In a similar vein, users' intention of uploading video content online is affected by the perceived popularity. Given the increasing number of people who watch and upload video content online, users of such websites are likely to regard that uploading video content online is a general trend among the people who visit those websites. For the people who actively utilize such websites (young people) in particular, online video watching is almost a universal phenomenon, and uploading video content online can be a fashion to follow. Thus, the popularity of using online video content websites is expected to encourage the users to upload video content online. However, prior research to date has not investigated the associations both between subjective (and/or injunctive) norms and intention to upload video content online and between descriptive norms and such intention. Thus, we set forth the following research question:

RQ1: What are the different types of social norms, and how are they associated with intention to upload video content online?

2.3. Ego-involvement as an antecedent to attitude and intention

The TPB is a general and parsimonious model for identifying the determinants of various human behaviors. To improve explanatory power of the TPB in different research contexts, past research has either paid attention to the extension of the original TPB model or made context-specific modifications. In the current study, we employ the construct of ego-involvement that may be related to the components of the TPB in the context of uploading video content online.

Ego-involvement refers to “the extent to which individuals’ self-concept is connected with their position on a particular issue and forms an integral part of how individuals define themselves” (Lapinski & Rimal, 2005, p. 136). Similarly, Sereno and Mortensen (1969) defined ego-involvement as “the importance or relevance of the topic to an individual as revealed by the person’s commitment or stand on the issue” (p. 8). Perloff (1989) also suggested that it can be an important component of the individual’s self image. Further, ego-involvement is inevitably linked to other aspects of the self as a way of self-identification (Eagly & Chaiken, 1993). Overall, prior research indicates that ego-involvement is likely to be connected to an individual’s core values and willingness to commit a given behavior.

An important reason for including ego-involvement in the present study is that ego-involvement or self-identity has been argued to be one of the TPB’s omitted key variables that explain human behaviors or behavioral intentions (Conner, Warren, Close, & Sparks, 1999). Previous studies have demonstrated that the extent to which an individual thinks of himself or herself as a person who would conduct a certain behavior should predict his or her intentions and behavior in question (e.g., Sparks & Shepherd, 1992; Sparks, Shepherd, Wieringa, & Zimmermanns, 1995; Theodorakis, 1994). Further, research has indicated that ego-involvement is closely related to behaviors in various communication contexts (Bodaken & Sereno, 1976; Conner & Armitage, 1998; Lapinsky & Boster, 2001; Onyekwere, Rubin, & Infante, 1991). Also, discussions about ego-involvement have concluded that the construct is connected to attitude (Fazio, 1989; Johnson & Eagly, 1989; Sherif et al., 1973).

In the context of uploading video content online, it is notable that the behavior does not provide immediate financial profits or personal gain despite a considerable amount of required time and effort. Thus, in order to account for the positive attitude toward, and the intention for,

the voluntary behavior of uploading video content online, it is necessary to examine more intrinsic motivations that are associated with attitude and intention. We propose that the extent to which people internalize the uploading behavior into their core values and self-concept is associated with their attitude toward the behavior. In other words, if an individual regards the uploading behavior as a kind of self-expression by taking advantage of the novel Internet application, he or she is more likely to form a positive attitude toward the behavior. Further, an individual who thinks that the behavior of uploading video content online could be a central part of his/her future self-concept is likely to exhibit a greater intention to perform the behavior in order to realize the commitment to the behavior. Thus, the following hypothesis was proposed:

Hypothesis 3: A higher level of ego-involvement will be associated with (a) more positive attitude toward uploading video content online and (b) greater behavioral intention to upload video content online.

To sum up, integrating the literature and hypotheses described above, the proposed research model of the current study is presented in Figure 1.

3. Method

3.1. Sampling and survey administration

In order to test the hypotheses and answer the research question, the present study employed an online survey in a large public university in the Southwestern US in January and February 2009. From the university-issued directory of the whole students, the current study randomly selected 1,500 students. An email invitation, which included a link to the survey questionnaire on SurveyMonkey (<http://www.surveymonkey.com>), was sent to these selected students. After the first invitation to participate in the survey, two follow-up reminders were sent to students who had not yet responded. Participants who completed the survey were compensated

with a \$5 credit to their on-campus spending account. Of these 1,500 students, 347 students completed the survey, resulting in a response rate of 23.13%.

3.2. Measures

Attitude toward uploading video content online was measured with eight 7-point semantic differential items. Following Ajzen's (2002) suggestion, the current study measured both affective and instrumental aspects of attitude. The affective items are: "Uploading video programs on websites such as YouTube will be enjoyable—not enjoyable (reverse-coded), unpleasant—pleasant, favorable—unfavorable (reverse-coded), foolish—wise." The instrumental items include: "Uploading video programs on websites such as YouTube will be useful—not useful (reverse-coded), unimportant—important, beneficial—not beneficial (reverse-coded), worthless—valuable" ($\alpha = .88$).

Subjective norm was measured with three statements anchored by a 7-point Likert scale ranging from "strongly disagree (1)" to "strongly agree (7)" (all statements for other variables were also anchored by the same scale unless otherwise indicated): 1) "Most people important to me think that I should make video programs and upload them on the Internet," 2) "Most people whose opinion I value consider that I should make video programs and upload them on the Internet," and 3) "It is expected of me that I make video programs and upload them on the Internet" ($\alpha = .87$). *Individual descriptive norm* was measured with two statements: 1) "Most people important to me will make video programs and upload them on the Internet," and 2) "Most people whose opinion I value will make video programs and upload them on the Internet" ($\alpha = .92$). *Individual injunctive norm* was measured with three statements: 1) "Most people important to me would endorse my uploading of video programs on the Internet," 2) "Most people whose opinion I value would approve my uploading of video programs on the Internet,"

and 3) “Most people important to me would support that I make video programs and upload them on the Internet” ($\alpha = .87$). *Collective descriptive norm* was measured with two statements: 1) “A majority of people in the U.S. will upload video programs on the Internet,” 2) “A majority of people in the U.S. will share their video programs on the Internet” ($\alpha = .89$). *Collective injunctive norm* was measured with three statements: 1) “A majority of people in the U.S. would endorse my uploading of video programs on the Internet,” 2) “A majority of people in the U.S. would approve my uploading of video programs on the Internet,” and 3) “A majority of people in the U.S. would support that I make video programs and upload them on the Internet” ($\alpha = .90$).

Perceived behavioral control included two sub-concepts: self-efficacy and controllability. Self-efficacy was measured with: 1) “It is easy to make video programs and upload them on the Internet,” 2) “I am confident about making video programs and uploading them on the Internet,” and 3) “I know how to make video programs and upload them on the Internet.” Controllability was measured with one question and one statement: 1) “How much control do you believe you have over making video programs and uploading them on the Internet?” which was answered by “no control at all (1)” to “absolute control (7),” and 2) “It is mostly up to me whether or not I make video programs and upload them on the Internet.” These two sub-concepts were summed to create the composite variable of perceived behavioral control ($\alpha = .77$).

Behavioral intention to upload video content online was an index composed of four statements suggested by Ajzen (2002): 1) “I plan to upload video programs on the Internet in the near future,” 2) “I intend to upload video programs on the Internet in the near future,” 3) “I expect to upload video programs on the Internet in the near future,” and 4) “I am likely to upload video programs on the Internet in the near future” ($\alpha = .98$).

Ego-involvement was measured with four statements modified from Conner et al.'s (1999) self-identity scale: 1) "Uploading video programs on the Internet will be an important part of who I am," 2) "I would feel a loss if I were forced to give up uploading video programs on the Internet," 3) "Uploading video programs on the Internet is something I rarely even think about" (reverse-coded), and 4) "Uploading video programs on the Internet will be a normal part of everyday life" ($\alpha = .82$).

3.3. Data analysis

Structural equation modeling (SEM: Bollen, 1989) with LISREL 8.80 program was used to test the hypotheses and build a theoretical model. The following criteria were tested to evaluate the overall fit of the hypothesized model (Bentler, 1988): 1) nonsignificant chi-square statistic; 2) the goodness-of-fit index (GFI) and the adjusted goodness-of-fit index (AGFI), both of which should be close to 1.00; 3) the Bentler-Bonett normed fit index (NFI), which should be greater than .90; 4) the comparative fit index (CFI) being recommended to be greater than .90; and 5) the root mean square error of approximation (RMSEA), which needs to be less than .05. Although a RMSEA of less than .05 is a more robust indicator of a good fit, its value of less than .08 is considered as practical evidence of a good fit (Browne & Cudeck, 1993).

The present study also employed the ratio of chi-square to degrees of freedom and the chi-square difference test to judge the hypothesized model. A conventional interpretation of the ratio of chi-square to degrees of freedom is that it should be less than 5 in order to be accepted as a good fit (Bollen, 1989). In the chi-square difference test, a significant decrease in chi-square relative to a decrease in degrees of freedom is assumed to be an improvement in the fit of the model (Monge, Bachman, Dillard, & Eisenberg, 1982). Finally, *t* scores were used to evaluate the significance of individual paths.

4. Results

4.1. Descriptive statistics

Among 347 participants from the survey, only 311 participants were valid ones because the rest did not answer more than a half of the survey questions. Among these 311 students, five students had not visited video content websites such as YouTube, and thus, they were not included in further analyses. In addition, 65 students (20.9%) had experience of uploading video content on such websites. These students were also deleted for further statistical analyses because the present study examines participants' future intention of uploading video content online rather than the behavior already conducted. There are significant differences between the participants who had experience of uploading video content online and the participants who did not, in terms of the variables of the present study (see Table 1).

Of the final 241 participants who did not have experience of uploading video content online, there were 153 female participants (63.5%) and 83 male participants (34.4%), while five did not indicate their sex. The average age of the participants was 22.17 ($SD = 5.17$). The ethnic composition of the sample was: 72.2% White, 3.3% African American, 3.3% Hispanic, 6.2% American Indian/Alaska Native, 10.0% Asian or Pacific Islander, and 2.9% Other. Five participants did not indicate their ethnicity.

With respect to the use of video content websites, such as YouTube, participants visited such websites about six times per week on average ($M = 5.74$, $SD = 8.61$, $Median = 3$). The time spent on such websites was more than two hours per week on average ($M = 126.95$, $SD = 200.26$, $Median = 60$ in minutes). In terms of the experience of visiting such websites, 58.1% had been visiting such websites for more than two years (140 participants).¹

4.2. Distinctiveness of subjective norm, descriptive norm, and injunctive norm

In order to test whether the concepts of subjective norm, descriptive norm, and injunctive norm both in the individual level and in the collective level are distinctive constructs as previous literature suggests, the current study conducted a confirmatory factor analysis (CFA). Given that subjective norm and individual injunctive norm are conceptually similar, we ran both the four factor model in which subjective norm and individual injunctive norm were factored together and the five factor model in which both norms were separated.

For the one factor model in which all concepts of social norms were factored together, $\chi^2(65, N = 241) = 1322.15, p < .001$, and the ratio of chi-square to degrees of freedom was not acceptable at 20.34 (1322.15/65). For other indices, GFI was .54, AGFI was .36, NFI was .59, CFI was .60, and RMSEA was .28. In contrast, for the four factor model in which subjective norm and individual injunctive norm were factored together, $\chi^2(59, N = 241) = 499.93, p < .001$, and the ratio of chi-square to degrees of freedom was not acceptable at 8.47 (499.93/59). For other indices, GFI was .76, AGFI was .63, NFI was .82, CFI was .87, and RMSEA was .18. Finally, for the five factor model in which all five different social norms were separated, $\chi^2(55, N = 241) = 108.04, p < .001$, and the ratio of chi-square to degrees of freedom was acceptable at 1.96 (108.04/55). For other indices, GFI was .94, AGFI was .89, NFI was .96, CFI was .98, and RMSEA was .06, indicating that the five factor model is better than both the one factor model and the four factor model. Moreover, the chi-square difference test between the four factor model and the five factor model also indicates that the five factor model is significantly better than the four factor model. Specifically, the chi-square difference between the five factor model and the four factor model was 391.89 (499.93 – 108.04), while the difference in the degrees of freedom was 4 (59 – 55), which is statistically significant at both 95% and 99% significance levels. In sum, these results confirm the findings of Park and Smith (2007) that the five constructs of social

norms are distinctive empirically, although subjective norm and individual injunctive norm are similar conceptually.

4.3. Tests of the hypothesized model and hypotheses

Prior to SEM analyses, a correlation analysis with all the variables was conducted. The correlation matrix is shown in Table 2. All pairwise associations were positively correlated with one another. The highest correlation coefficient among these variables was .64 (association between subjective norm and individual descriptive norm), below the recommended threshold of .70 (Tabachnik & Fidell, 2001), suggesting that the constructs do not exhibit severe multicollinearity problems.

Maximum likelihood estimation was employed to estimate the hypothesized research model. The chi-square statistic was significant for the hypothesized model, $\chi^2(6, N = 241) = 49.47, p < .001$, and the ratio of chi-square to degrees of freedom was not acceptable at 8.25 (49.47/6). For other indices, GFI was .96, AGFI was .67, NFI was .94, CFI was .95, and RMSEA was .18. Examination of modification indices (MIs), which help capture evidence of a poor fit (Byrne, 1998), yielded a few conceptually reasonable suggestions of adding the paths that had not been included in the hypothesized model. The MIs suggested that 1) subjective norm might be a positive predictor of attitude, and 2) individual injunctive norm might be a positive predictor of attitude. Given the interdependency of attitude and subjective norm in the TPB, these additional paths may be reasonable to be included. With these modifications, the chi-square statistic was significant for the revised model, $\chi^2(4, N = 241) = 10.91, p < .05$, and the ratio of chi-square to degrees of freedom was acceptable at 2.73 (10.91/4). For other indices, GFI was .99, AGFI was .89, NFI was .99, CFI was .99, and RMSEA was .09. These indices indicated that the revised model was significantly improved from the hypothesized model. Further, in the

chi-square difference test, the chi-square difference between the hypothesized model and the revised model was 38.56 (49.47 – 10.91), while the difference in the degrees of freedom was 2 (6 – 4), which is statistically significant at both 95% and 99% significance levels. This revised model was used to test the hypotheses and to answer the research question. In sum, overall summary statistics indicate that the revised model represents a good fit with various indices. The final model is presented in Figure 2.

With respect to hypothesis testing, Hypotheses 1 and 2 proposed that attitude toward the uploading behavior and perceived behavioral control, respectively, would be positively associated with behavioral intention to upload video content online. Attitude toward the behavior was not significantly associated with behavioral intention, whereas perceived behavioral control exhibited a significant association with behavioral intention ($\gamma = .20$, $t = 4.13$), supporting Hypothesis 2, but not Hypothesis 1.

RQ1 explored the different types of social norms and their association with behavioral intention to upload video content online. The results of SEM indicated that, as described earlier, the five different types of social norms are distinctive empirically, and further the hypothesized model with the five social norms demonstrated that only individual descriptive norm ($\gamma = .32$, $t = 5.03$) was significantly associated with the intention to upload.

Hypothesis 3 proposed that ego-involvement would be associated with attitude (Hypothesis 3a) and behavioral intention to upload video content online (Hypothesis 3b). Ego-involvement was significantly associated with both attitude ($\gamma = .14$, $t = 2.02$) and behavioral intention ($\gamma = .34$, $t = 5.94$). Thus, Hypotheses 3a and 3b were supported.

5. Discussion

This study investigated the factors that are associated with people's intention to upload video content online within the theoretical framework of the TPB. It also looked into the different dimensions of social norms and their association with the intention to upload. Finally, it examined the role of ego-involvement as an antecedent of attitude toward the uploading behavior and the intention to do so.

5.1. Interpretations of the findings

First, it is notable that the constructs of the TPB functioned differently in the present study compared to the original theoretical predictions. Specifically, the paths from attitude and subjective norm to behavioral intention were not significant. The finding of no significant direct effect of subjective norm on behavioral intention can be attributed to the inclusion of another social norm of individual descriptive norm. Individual descriptive norm is more about people's perception that significant others are conducting (or will be conducting) a given behavior, while subjective norm is more associated with compulsory social pressure. Thus, the impact of subjective norm could be weaker than that of individual descriptive norm or could be nonsignificant, considering that the behavior of uploading video content online is a voluntary activity. This finding is in parallel with the claim that subjective norm could play a marginal role with an indirect effect via perceived critical mass (Cho, 2011), which is similar to the concept of individual descriptive norm in the present study.

In addition, attitude was also not associated with the intention to upload video content online. Given that many studies that employed the TPB or the TRA have found attitude's significant association with the behavioral intention of a behavior in question (Armitage & Conner, 2001; O'Keefe, 2002), the present study's finding is somewhat surprising. Possibly, the fact that the uploading behavior may require a considerable amount of time and effort, especially

for self-made video content, made even positive attitude toward the behavior not be translated into the intention to upload video content online. The finding that perceived behavioral control, in other words, confidence and controllability on the uploading behavior, was a significant contributor to the behavioral intention partially supports this explanation. Alternatively, the nonsignificant association between attitude and the intention to upload is possibly due to the question items' wording of the attitude measure. In the current study, we measured attitude by asking how participants "will" feel when they conduct the uploading behavior, as described earlier. This measurement might create a cognitive inconsistency for those who do not have the intention to upload video content online in the future because they are forced to express their attitude toward the behavior which they would not conduct. A longitudinal study may be able to illuminate the relationship between attitude and the intention to upload video content online more clearly.

Another interesting finding is that neither collective descriptive norm nor collective injunctive norm has any association with the intention to upload video content online, despite the distinctiveness of these collective social norms from the individual ones. It implies that the behavior of uploading video content online is not yet a universally accepted conduct among Internet users although visiting video content websites is already a popular phenomenon. Thus, the uploading behavior can be influenced only by significant others in the users' social circles rather than by a general population. The similarities and differences between the findings from the present study and those from previous studies suggest that more research on the study of the uniqueness and roles of social norms in a variety of research contexts is needed.

Ego-involvement played an essential role in explaining the intention to upload video content online. Specifically, the total effect of ego-involvement (.34) on the intention is similar

to that of individual descriptive norm (.32), indicating that the involvement variable is more important than attitude and perceived behavioral control (.20) of the TPB in accounting for the intention to upload video content online. It should be noted that ego-involvement is associated with both attitude and the intention to upload, yet attitude was not significantly associated with the intention. These findings indicate the importance of self-concept in committing a voluntary behavior, the uploading behavior in the present study. In other words, what makes people conduct a certain behavior or what leads them to have the intention to perform the behavior can be found from their internal desire of self-expression, or from identification of self with a given behavior. For those people who value the uploading behavior as a way to express themselves, spending some time and effort cannot be a big concern even if there is no immediate gain.

It is notable that subjective norm and individual injunctive norm affect attitude, while individual descriptive norm does not. This finding shows that significant others' compulsory pressures may affect people's attitude toward the uploading behavior, yet the attitude is not channeled into the intention to upload video content online. Rather, what actually leads to an individual's intention is his/her own perception that the uploading behavior is widely implemented by significant others in the individual's social circles. It suggests that the determining factor of the intention to upload is people's awareness or perceived popularity of the uploading behavior rather than enforced influences from others. Overall, these findings demonstrate that an integration of ego-involvement with the TPB constructs and social norms can enrich the theorizing of social influences on human behaviors.

5.2. Theoretical implications

Results of this study offer some important theoretical insights and implications. First, the present study proposed an integration of the constructs from the TPB and ego-involvement, as an

effort to make the model building process of explaining the uploading behavior more fruitful. Future studies are encouraged to further replicate and validate the integration of these constructs in different contexts. Second, the present study contributes to the literature by replicating the distinctiveness of different types of social norms. Although a few recent studies have paid attention to the distinctiveness of various social norms (e.g., Dunleavy, 2008; Park et al, 2009; Park & Smith, 2007; Rimal, 2008), the different roles of those social norms in explaining given behaviors or behavioral intention in different contexts call for more replications and further elaborations. The present study demonstrates that subjective norm is not associated with behavioral intention in the context of uploading video content online, concurring with Cho's (2011) finding. Also, the current study uncovered the conceptual and empirical distinctiveness of descriptive norm and injunctive norm, and further, it found that injunctive norm is not significantly associated with the intention to upload video content online, unlike the significant impact of injunctive norm in the context of organ donation behavior in Park and Smith's (2007) study. The context of organ donation in their study may be more relevant to perceived social responsibility as a good citizen. In this regard, the nonsignificant impact of injunctive norm in the present study is understandable. Unlike organ donation, uploading video content online does not require public consensus in performing the behavior, but the behavior rather involves individuals' own perception about the perceived popularity of the behavior or individual concerns such as ego-involvement instead of societal issues. In sum, following Cialdini's (2007) claim, the current study sheds another light on the importance of descriptive norm in accounting for the uploading behavior by replicating previous studies that examined the distinctiveness of different social norms, and further by applying the distinctive norms to a different research context.

5.3. Limitations

The limitations of the current study include the following: First, although the hypotheses and the research question of the present study were drawn from previous research and theoretical grounds, the path analytic method of the study assumes directional associations with causal orders that are somewhat hard to justify in a cross-sectional study. Thus, longitudinal studies will better explain and clarify the associations between the variables examined in the present study.

Second, the present study was conducted with college students in one university, which suggests a problem of external validity. Although the random sampling method was utilized in order to maintain representativeness of the sample in the given university, future studies are recommended to employ more representative samples as a way to validate the associations between the constructs included in the present study.

Third, the measure of ego-involvement is somewhat questionable. Although the reliability of the scale is relatively high (Cronbach's $\alpha = .82$), some of the items were focusing on the importance of uploading videos to their life or their dependence on the behavior, rather than measuring individuals' self-identification or self-expression. Future studies need to use more relevant measures in order to capture the meaning of the concept more precisely.

Fourth, it should be noted that the current study could have extended the TPB by including other relevant variables, in addition to ego-involvement. Although ego-involvement was included on the basis that self-identity or self-expression is closely related to attitude and the behavior in question, other variables such as personal innovativeness, perceived needs, or perceived enjoyment would have enriched the explanation of the uploading intention of video programs on the Internet. For instance, Cho, Chen, and Chung (2010) integrated the variables of belongingness, altruism, reputation, and generalized reciprocity with the TPB constructs in the

context of Wikipedia. Future studies should include more variables which would enhance the explanatory power of the TPB and social norms variables in the context of uploading video content on the Internet.

In conclusion, the present study examined the factors that are associated with people's behavioral intention to upload video content online within the framework of the TPB and replicated the distinctiveness of different social norms derived from the TPB and the social norms approach. Unlike the previous studies' findings, only individual descriptive norm was associated with the intention to upload video content online, while either subjective norm or individual injunctive norm was not. Further, ego-involvement was also found to be significantly associated with the intention. More research is called for in order to validate and elaborate the model proposed in the present study.

Notes

¹ There was a significant difference in terms of the number of visiting video content websites between the participants who had experience of uploading video content on such websites ($n = 65$, $M = 13.40$, $SD = 26.51$) and the participants who did not ($n = 241$, $M = 5.74$, $SD = 8.61$), $t(67.68) = 2.30$, $p < .05$. With respect to the time spent on such websites, there was no significant difference between the participants who had experience of uploading video content on such websites ($M = 162.38$, $SD = 162.16$ in minutes) and the participants who did not ($M = 126.95$, $SD = 200.26$ in minutes), $t(304) = 1.32$, $n.s.$ In terms of the experience of visiting such websites, the majority of both groups had been visiting such websites for more than two years (41 participants [63.1%] vs. 140 participants [58.10%]).

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Table 1

Comparisons of the Participants Who Have Uploaded and Those Who Have Not

Variable	<i>M (SD)</i>		<i>df</i>	<i>t</i>
	Participants	Participants not		
	uploaded (<i>n</i> = 65)	uploaded (<i>n</i> = 241)		
Ego-involvement	3.02 (1.41)	2.08 (1.03)	83.21	5.03***
Attitude	4.85 (1.04)	4.21 (.94)	304	4.75***
Subjective norm	3.71 (1.38)	2.62 (1.20)	304	6.29***
Individual descriptive norm	3.57 (1.54)	3.03 (1.41)	304	2.66**
Individual injunctive norm	4.75 (1.24)	4.26 (1.17)	304	3.00**
Collective descriptive norm	4.66 (1.51)	4.29 (1.47)	304	1.82 ⁺
Collective injunctive norm	4.83 (1.12)	4.46 (1.05)	304	2.50*
Perceived behavioral control	5.75 (.89)	4.80 (1.04)	115.47	7.34***

Note. ⁺*p* < .10, **p* < .05, ***p* < .01, ****p* < .001.

Table 2

Zero-Order Correlations, Means, and Standard Deviations (N = 241)

Variable	1	2	3	4	5	6	7	8	9	<i>M</i>	<i>SD</i>
1. Ego-involvement	1	.30**	.53**	.40**	.12	.14*	.11	.09	.54**	2.08	1.03
2. Attitude		1	.41**	.38**	.38**	.20**	.20**	.24**	.38**	4.21	.94
3. Subjective norm			1	.64**	.37**	.19**	.29**	.12	.50**	2.62	1.20
4. Individual descriptive norm				1	.40**	.28**	.29**	.14*	.56**	3.03	1.41
5. Individual injunctive norm					1	.12	.42**	.29**	.30**	4.26	1.17
6. Collective descriptive norm						1	.42**	.01	.22**	4.29	1.47
7. Collective injunctive norm							1	.06	.24**	4.46	1.05
8. Perceived behavioral control								1	.30**	4.80	1.04
9. Behavioral intention									1	2.60	1.44

Note. * $p < .05$, ** $p < .01$ (2-tailed).

Figure captions

Figure 1. Hypothesized Model.

Figure 2. Revised Model.

Figure 1. Hypothesized Model.

Figure 2. Revised Model.

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.