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Publisher: Routledge

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## Interactive Learning Environments

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/nile20>

### Can blogging increase extroverts' satisfaction in the classroom? Lessons from multiple case studies

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Published online: 09 Oct 2014.

To cite this article: Tal Samuel-Azran & Gilad Ravid (2014): Can blogging increase extroverts' satisfaction in the classroom? Lessons from multiple case studies, *Interactive Learning Environments*, DOI: [10.1080/10494820.2014.961483](https://doi.org/10.1080/10494820.2014.961483)

To link to this article: <http://dx.doi.org/10.1080/10494820.2014.961483>

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## Can blogging increase extroverts' satisfaction in the classroom? Lessons from multiple case studies

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(Received 17 September 2013; final version received 1 September 2014)

In light of systematic evidence that extroverts are disadvantaged in the classroom, we examined whether an online environment assignment that builds on extroverts' character strengths can increase their overall course satisfaction. Based on previous studies demonstrating that extroverts are energized by feedback from outsiders, we asked 180 students to blog regarding classroom material with the aim of attracting maximum attention from strangers. The questionnaires completed at the beginning of the course confirmed that extroverts believed, significantly more so than introverts, that outsiders would be interested in what they have to say, illustrating the potential of such task. The questionnaires completed at the end of the course ( $N=109$ ), however, revealed that participants expressed disappointment with their ability to attract attention to their blogs. Follow-up interviews revealed that students liked the nature of the assignment but not the platform. Most of them suggested using more extrovert-friendly platforms in the future.

**Keywords:** blogging; extroverts; introverts; satisfaction; personality

Over the course of the last three decades, studies have found that while extroverts have an advantage in classroom participation (Reilly, 2000), introverts have a significant advantage in all other aspects of learning that contribute to final grades, such as exams and essays (Dewar & Whittington, 2000; Geen, McCown, & Broyles, 1985; Nipper, 1989). Extroverts' main advantage – their propensity to participate in class – is usually not acknowledged or endows a very small bonus in their final grades. Furthermore, studies (Edwards, Domínguez, & Rico, 2008; Haisworth, 2008; Nussbaum, 2002; Ryan, 2004) found that the advent of various online learning tools (such as asynchronous discussion boards) in the last decade further benefits introverts, who are sometimes too shy to talk in the classroom environment, and encourages their participation in a manner that is not possible in face-to-face classroom interactions (Dow, 2013).

The differences between introverts and extroverts in the classroom highlight the need to develop tasks, and particularly tasks in online environments that cater to extroverts, build on their character strengths, and subsequently increase their satisfaction with courses. We

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argue that while the rising trend of student-centered education has motivated universities to widely acknowledge learning disabilities (e.g. by granting extensions in exams to students with attention disorders), the system should extend its efforts to other realms such as personality differences, and particularly work toward narrowing the current gap between introverts and extroverts. Specifically, since asynchronous discussion boards, which support independent and solitary work, were found to be introvert-friendly (Offir, Bezalel, & Barth, 2007), educators should add assignments that build on the extroverts' affinity for interaction to their repertoire of online learning materials. Such assignments, particularly if they are recognized in the course grade, could increase extroverts' overall course satisfaction and a sense that their character strengths are acknowledged by the system. Importantly, the goal of increasing extroverts' satisfaction in class is not meant to disempower the introverts. Instead, we recommend that teachers interested in increasing class satisfaction find creative solutions to strengthen extroverts' satisfaction while including introverts. For example, teachers can use multiple assignments to address personality differences in students. Indeed, a recent prediction by IBM suggests that schools will increasingly use big data techniques in order to better fit students' strengths with the appropriate task (IBM, 2014). The abundance of currently availability platforms and tools can ensure good fit of online learning assignments to different personality traits (Negreiros, Baptista, & Lee, 2012).

This study is a pioneering attempt to examine the potential of a specific online task to build on extroverts' personality strengths and contribute to overall class satisfaction. Previous studies have found that extroverts seek feedback from others, feel empowered in the company of many people, and are energized by human interactions (e.g. Dewar & Whittington, 2000). On the basis of these findings, we assigned a task to 180 students from two academic institutions in Israel (one public university and one private college) enrolled in four non-elective courses, requiring them to communicate their insights on the classroom lectures on a personal blog and attract comments from as many outsider respondents as possible. Successful performance on the task, measured by the students' self-assessment of the attention their blogs attracted from strangers, was worth 20 of 100 points in their final grade. As the task platform, we chose blogging, an e-learning tool that has been used increasingly by educators since 2005, although it has not yet been studied in the context of introversion or extroversion. The study contributes to the scarce literature on the interplay between student personality type and classroom integration of Web 2.0 tools.

### **Introverts versus extroverts in face-to-face and online classroom**

The terms introversion and extroversion were first popularized by Jung (1921). According to Jung, individuals who feel energized in the company of a large crowd can be classified as extroverts, whereas those who feel energized in solitude or in the company of a small number of very close friends may tend toward introversion. Since the introduction of Jung's analysis, introversion-extroversion has been persistently used as one of the basic defining traits in personality analysis (Digman, 1990). Eysenck and Eysenck (1985) included the extroversion-introversion trait as one of the three basic traits of personality in their psychotism, extroversion, and neuroticism model. Briggs and Myers (1987) included introversion and extroversion in their famous Myers-Briggs-type indicator; Digman (1990) also included extroversion-introversion in his five-factor model of personality, which was operationalized in Costa and McCrae's classic questionnaire (1992).

As a trait, extroversion-introversion offers an advantage or disadvantage, depending on the individual's circumstances, environment, and level of introversion-extroversion. Many

studies have focused on introversion-extroversion as a predictor of success in the classroom. Several early studies of extroversion and introversion in the classroom identified introverts' advantage over extroverts in the classroom. Reynolds and Hope (1970) found that the mean achievements of introverted students in a science course were higher than those of extroverted students in the same course (although the difference was not statistically significant in this study). In 1971, Eysenck found that introverts tend to be more successful in academic environments, which extroverts may find boring. In the same year, Borod, Grossman, and Eisenmann (1971) found that introverts tend to have higher grades in college. Studies attributed introverts' advantage to the weight of school tasks that build on the inherent traits of introverts. Specifically, while extroverts, described by Nipper (1989) as "noisy learners," thrive in the classroom due to their outgoing nature (Geen et al., 1985), and thus have an advantage over introverts in the part of the final grade affected by participation (Keirsey & Bates, 1984), introverts were found to perform better when it comes to grades that are largely affected by exams and essays (e.g. Dewar & Whittington, 2000). Thus, despite the fact that introverts tend to be slower to participate in the classroom and hesitate to share their ideas with others (Geen et al., 1985), the grading system gives them a competitive edge over their extrovert peers.

In the late 1990s, with the Web's entry into public life and the development of e-learning tools, scholars explored the potential of online tools to empower students who are too shy to talk in class (Ravid, Kalman, & Rafaeli, 2008). Asynchronous discussion boards, for example, allowed such students to express their thoughts without the fear of speaking in the classroom, an environment described by one scholar as the "tyranny of extroverts" (Reilly, 2000). As Ornstein (1995) stated, these early studies confirmed that online discussion boards allowed introverts – who perform better in quiet environments – to reflect on the material before responding to class forums. Indeed, studies found that the use of online discussion boards during and after class benefited students in subordinated positions, such as those who are shy, introverted, reticent, or have language difficulties (Belcher, 1999; Kern, 1995).

Subsequent studies confirmed that virtual classrooms offer an advantage to introverts over extroverts. Young and Wilhelm (2001) argued that extroverts are disadvantaged in distance learning courses, as isolation in online learning could be more of a problem for them than for introverted students (Downing & Chim, 2004). Palloff and Pratt (1999) stated that the absence of facial and body cues in the online classroom allows introverts to develop an "electronic personality" (Pratt, 1996). These scholars also share Johnson's (2001) notion that the text-based nature of online collaborations allows introverted participants to share their ideas on an equal footing with extroverts, or even to gain advantages (Voorn & Kommers, 2013). A study by Offir et al. (2007) revealed that introverts attained significantly higher achievements than extroverts in asynchronous distance learning environments. Downing and Chim (2004) found that blended learning (a combination of online and in-class environments) significantly improves introverts' satisfaction levels compared to an exclusively face-to-face course.

Numerous studies have been conducted on the wave of new classroom tools that have accompanied Web 2.0, including studies examining the use of wikis (Raman, Ryan, & Olfinan, 2005; Ravid et al., 2008), podcasts (Knight, 2006), social networks (Reuben, 2008), and virtual reality environments (Antonacci & Modaress, 2005) in the classroom. While most of these studies did not focus on the differences in the interactions of introverts and extroverts with these tools, those studies that did touch on these groups confirmed the advantage they confer to introverts in terms of participation and achievements. Edwards et al. (2008) suggested that Second Life may promote introverts' participation in the

virtual classroom. Haisworth's (2008) study on Second Life's virtual tutorials found that the virtual environment made it easier to involve introverts and ensure that "everyone gets a say."

Several studies also addressed the role of blogging as an educational tool and its interplay with students' personalities. A large-scale study revealed that personality predictors of blogging include openness to new experience and neuroticism, although extroversion–introversion was not found to be a significant predictor of blogging (Guadagno, Okdie, & Eno, 2008), thus leaving open the question of its contribution to either introvert or extrovert students. Earlier studies argued that the interlinked nature of blogs connects learners to contexts beyond the classroom (Baim, 2004; Downes, 2004; Ferdig & Trammell, 2004; Oravec, 2003; Richardson, 2004), an environment in which extroverts might feel more comfortable. At the same time, blogs have features that are very similar to asynchronous discussion boards as they allow students who do not feel comfortable participating in class to interact with the lecturer and their peers and express their thoughts in a non-threatening environment after class. Recent studies found that extroverts prefer tools with high social presence, such as blogs or social network sites (Nadkarni & Hofmann, 2012; Ryan & Xenos, 2011).

### **Blogging as a promising educational tool for extroverts and introverts**

Although blogs have existed since 1997, major literature on their role in education first appeared only in 2003, with the popularization of blogs. While empirical research on blogs is still scarce, and is mainly limited in scope, the few studies argue almost unanimously for the incorporation of blogs in the classroom. Bartlett-Bragg (2007) suggested that blogs can facilitate "deep learning," a learning style that promotes profound engagement with the material studied in the form of thinking about the context and applicability of material studied (Rosie, 2000). Chen et al. (2005), who studied the use of blogs and wikis in design courses at Stanford University, found that more than two-thirds of the students in the two classes in which the study was conducted reported that the experience increased their interest, motivation, and confidence regarding the course materials. Research also suggests that blogs promote more creative responses from students (Oravec, 2003).

Blogging's popularity makes it a natural candidate for use as an educational tool in the classroom. Oliver and Georke (2007) noted a significant blog culture among incoming first-year students, given that 34.9% indicated they kept their own blog in the preceding year and more (58.6%) routinely read and commented on (43.9%) other people's blogs. A substantial proportion of students (21.2%) indicated that they were contributing to their own blog on a weekly basis. The researchers found a strong relationship between students' frequency of blog use and their support for the incorporation of blogging in university courses. Respondents who use blogs on a daily basis strongly agreed that blogs should be used in the classroom more extensively.

There is, however, a debate on blogging's potential to promote collaborative learning. Dickey's (2004) study of the interactions between students throughout an online course found that blogging also facilitates the emergence of a sense of community, which in turn reduced alienation and loneliness among distance learning students. Oravec (2003) and Farmer (2006), on the other hand, suggest that blogging helps restore a vital sense of individual empowerment and valorization, which are lost in the virtual communities formed around discussion boards and wikis.

## Student satisfaction in higher education

Students' satisfaction refers to students' subjective evaluation of their education experience (Oliver & Desarbo, 1989). Various trends, including the commercialization of higher education, which causes universities to think of themselves as service providers (Bok, 2004), and the rise of the student-centered approach to education, which contradicts the teacher-centered classroom approach (Armstrong, 2012), have led many universities to focus more than ever on students' needs and satisfaction. Not surprisingly, course curriculum plays a central role in increasing student satisfaction. Browne, Kaldenberg, Browne, and Brown (1998) found that overall satisfaction with a university was strongly driven by a student's assessment of the quality of the courses and other curriculum-related factors. Fraser (1994) found that student satisfaction may be specifically related to how well the classroom environment matches student preferences.

Thus, many universities increasingly aim to cater to those who are challenged by the current system in various manners. For example, it is very common for universities to take into account aspects such as learning disabilities by opening empowerment centers to students with learning disabilities and granting accommodations in academic assignments to students with recognized disabilities. In the current atmosphere, universities also offer more custom-made programs that allow students to tailor a curriculum that fits their own character strengths and personal interests. Accordingly, based on the available knowledge on introverts and extroverts in the classroom, it is very feasible for universities to increase overall satisfaction by considering custom-made assignments based on this central personality trait.

Since introverts report that they feel comfortable with contemporary Web 2.0 tools, such as asynchronous discussion boards, which allow them to communicate without face-to-face interaction, academics aiming to increase student satisfaction should consider expanding their course repertoire by adding tools that appeal to the extroverts in class. One way to do it is to use tools that both introverts and extroverts are comfortable with, such as blogging, which is the chosen platform for this study. Another option is to assign separate tasks to students based on their personality and assign extroverts online tasks in platforms that are extrovert-oriented. For example, studies found that Facebook in particular is a social media platform that appeals to extroverts. The more extroverted, exhibitionistic, and narcissistic people appear to be attracted especially to Facebook (Correa, Hinsley, & de Zuniga, 2010; Nadkarni & Hofmann, 2012; Ryan & Xenos, 2011).

In line with all the above, our two hypotheses are as follows:

*H1:* Extroverts' expectations of success in the course will be higher than introverts' expectations, in view of the course's online component.

*H2:* Extroverts' satisfaction at the end of the course will be higher than introverts' satisfaction.

## Method

Participants in this study were 180 (127 women and 53 men) students enrolled in the media communications department at a university in southern Israel ( $N=87$ ) and a private college in the center of Israel ( $N=93$ ). Students registered in a required semester-long course in the 2012 fall semester, taught by the authors of the study. At the beginning of each course (the first week), students were informed that 20% of their course grade (20 points) would be based on the following mandatory assignment: after each class, students were required to reflect on the class material in a blog, which they should open on a platform of their

choice (such as Blogger, Blogspot, etc.). The minimum length of each blog post was to be 250 words. Students were allowed to blog on any topic of their choice as long as it had some relevance to the lecture material. Students were informed that the main goal of this assignment was to attract as much attention from the “outside world” as possible, and therefore, they were encouraged to use various platforms to attract friends and strangers to comment on their posts. Accordingly, students who attracted the largest volume of traffic and received the most feedback (responses to their posts from outsiders), in comparison to their colleagues, to their 13 posts (corresponding to the 13 lectures in each semester-long course), would receive the full 20 points for this task in their final grade. The students self-assessed their level of success in attracting attention from outsiders at the end of the course.

After receiving an explanation of the task at hand, the students completed a questionnaire. The first part of the questionnaire included basic demographic items (gender, age, country of birth, computer skills) and a request to enter the first four digits of their ID number, to allow the researchers to pair the beginning-of-course and end-of-course questionnaires. The second part of the questionnaire included items on which respondents rated their agreement with items related to the use of blogging in education, on a Likert scale from 1 to 5 (sample items include “Blogging can improve my understanding of the topic” and “Other people will be interested in what I have to say on my course blog”) and to collaborative learning in general. In the third part of the questionnaire, participants described their actual Web 2.0 activity (usage of Wikipedia and Flickr) and their general attitude toward Web 2.0 applications. The fourth and final part of the questionnaire was designed to measure extraversion–introversion, based on Costa and McCrae’s (1992) Five Factors of Personality test (sample items include, “Are you looking for new friends?” and “Do you prefer having a few good friends?”).

Throughout the semester, the instructors maintained close contact with the individual participants, frequently assisting students in setting up a blog, suggesting how to write interesting blogs, and discussing the posts that managed to attract the most attention and online debate every week, to keep the students focused on the assignment. The final session of each course was attended by a total of 120 participants, who completed a follow-up questionnaire. The posttest questionnaires largely included follow-up questions, such as satisfaction with the blog assignment, support for blogging as an educational tool, interest in Web 2.0, and whether their original expectations of the course were fulfilled. Finally, to better understand the findings, we conducted open-ended interviews with 42 of the participants.

## Results

We found no gender-based differences in extroversion or introversion in the sample population. Slightly over one-fifth (23%) of the respondents reported using sharing sites such as Flickr, and a similar proportion (26%) reported reading blogs. Slightly over one-quarter (26%) of the participants reported commenting online on blogs and/or social network sites. Blog readers thought that other Web surfers would be interested in their posts ( $t(182) = -3.19, p < .005$ ). They also more highly appreciated blogs’ potential contribution to learning ( $t(180) = -2.54, p < .05$ ). Blog readers also tended to agree that blogs have potential to serve as an efficient learning tool, in contrast to participants who reported that they do not write blogs ( $t(45) = -2.4, p < .5$ ).

All participants were interested in acquiring Web 2.0 skills: the vast majority (92%) reported using Wikipedia, although only 7.78% had ever edited or added information to

wiki posts. Those who participated in Wikipedia writing agreed that collaborative learning is more efficient than self-learning ( $t(178) = -2.42, p < .05$ ), but did not believe that reading blogs could help you understand school material more profoundly.

Introverts ( $M = 16.1; N = 83$ ) were found to post comments on blogs more frequently than did extroverts ( $M = 14.3; N = 98$ ) ( $F(1, 179) = 1.5032, p < .5$ ). On blog reading and photo sharing sites like Flickr, the usage was higher for extroverts; there was no significant difference in Wikipedia usage.

Compared with introverts, extroverts were more confident in their ability to attract attention from outsiders and agreed more than introverts with the item: "Internet users will be interested in what I say" ( $F(1, 182) = 5.363, p < .05$ ); and not expect that they would write more posts than the required minimum. High social interaction scores were correlated with high extroversion scores ( $r = .42, p < .05$ ).

Descriptive results of the two questionnaires are presented in Table 1.

### Pretest and posttest comparisons

For the total 180 participants, 109 posttest questionnaires were paired to their pretest questionnaires. In these comparisons, we found that whereas in the pretest questionnaires respondents thought other Web users would be interested in their blogs, at the end of the course they were much less likely to think that people were interested in what they had to say ( $t(37) = 3.45, p < .5$ ). They also expected more contributions and responses from their readers before the course than actually received. Furthermore, when we checked all respondents (including those who were not paired), we found greater acceptance regarding

Table 1. Questionnaire descriptive results.

Question number		Range	Mean	SD
2	Age		24.83	3.6
5	Writing a blog can contribute to my understanding of the topic	1–5	3.53	1.01
6	Surfers outside of class will be interested in my blog	1–5	2.45	1.02
7	I expect to write more blogs than the minimum required	1–5	2.57	1.18
8	Reading other people's comments to my blog can contribute to my understanding of the topic	1–5	3.37	1.14
9	Collaborative learning is more efficient than individual learning	1–5	3.97	1.10
10	Do you read blogs?	% yes	26	
11	Are you writing a blog already?		14	
13	Do you read entries in wikipedia?		92	
14	Do you add entries on Wikipedia?		6.5	
15	Do you edit entries on Wikipedia?		5.4	
16	Do you take pictures from Flickr?		27.7	
17	Do you add pictures to Flickr?		9.3	
20	Are you using other collaborative software (Google docs, twitter, wiki)?		30.9	
22	Web 2.0 interests me a lot		72.3	
23	I'm ready to make many efforts to master this subject		74.3	
24	Understanding Web 2.0 is very important to me		65.5	
25	I'll be very happy to know this subject in depth		70.3	

Note: Q26–49 are the 24 items developed by Eysenck as they appear in Aharony (2009).

Web 2.0 learning prior to the course than after the course. Specifically, we found a significant decline in allotted time, level of interest, perceived contribution, and willingness to learn Web 2.0 materials and tools for educational purposes after the course, clearly reflecting a disappointment with Web 2.0's potential as an educational tool.

### **Follow-up interviews**

To shed further light on the findings, two research assistants conducted individual open-ended interviews with 42 participants. We recorded the interviews and analyzed the transcripts. Responses regarding the task were mixed. Several students stated that they were very enthusiastic about the assignment at the beginning, stating that "Finally I can communicate to family, friends and the world the interesting issues that I care about." Others said that they were surprised and bewildered by the assignment at the beginning but, as one student said, "I felt that it could be interesting to cooperate and flow and see where it leads me." At the same time, various students candidly noted that the assignment was time-consuming and "not worth the 20 points bonus."

Importantly, most interviewees admitted that the task of attracting strangers' attention had been too challenging for them. One participant, whose blog was entitled "Hamevaleget Be-Kfiya" ["The Coerced Blogger"], sarcastically stated, "I am sure that the faculty and the whole world was blown away by my analyses," expressing skepticism that people were interested in what she had to say on her blog. Others stated that the task frustrated them because they failed to attract comments and that "The goal was unrealistic." One student said, "Everyone I know is so busy that I do not understand why anyone would be interested in my class insights."

Accordingly, we sought to further understand why the participants did not like the task. Here, the general response was that students were originally captivated by the idea that they could attract the attention of other Web users to what they have to say, but they felt that the choice of platform hindered their efforts to attract traffic. Many recommended the use of Flickr or Facebook, which they thought would allow students to use images related to the course material, and would have greater potential as "attention-grabbers" and be more viral than blog texts. One student stated, "If I really want to grab attention I need to make my appeal sexy and this can only be done on visual platforms."

Several bloggers were, however, successful in attracting readers and posts to their blog, and they expressed satisfaction with the blogging assignment. One blogger wrote that *The Cosby Show* is similar to Israeli shows that portray Sephardi Jewish families that immigrated from Arab-speaking countries, in the sense that these shows aim to portray them as "normal" but that these portrayals distort reality and are offensive, attracting 117 comments to his blog. The blogger explained that he initially sent the post to his Facebook group, which has friends who are highly connected in the Israeli online scene. This prompted the first few responses to his post and triggered the subsequent virality of the post. In an interview with another student, we learned that a post that she wrote in her blog about women and feminism was uploaded to an Israeli website on feminism, triggering a debate with 48 posts. This blogger stated that she thoroughly enjoyed the course and the opportunity to share her thoughts with the world.

### **Discussion and conclusions**

This study examined whether an online blogging assignment can benefit currently disadvantaged extrovert students and increase overall course satisfaction. Blogging has

become very popular as an educational tool in the classroom. Students were asked to create an online buzz to the course material and attract much attention from the “outside world,” a task that fits extroverts’ natural affinities. The pretest confirmed that extroverted students believed more strongly than introverted students that other people would be interested in what they have to say. Thus, H1 was confirmed. Contrary to H2, students’ responses to the posttest questionnaire revealed that extroverts and introverts were equally unhappy with the task. Follow-up interviews revealed that both introvert and extrovert participants were frustrated by their failure to attract the level of interest that they originally had hoped to attract at the beginning of the course, which suggests that either the goal of gaining attention from the outsiders about academic issues was overly ambitious or that the same attempt should take place on other platforms rather than blogs.

Indeed, in addition to their opinions on the challenging nature of the assignment, most students also expressed dissatisfaction with the choice of the platform used in the assignment. Both at the beginning and at the conclusion of the course, extroverts expressed a greater dislike of blogging in general, and as an educational tool in particular, compared to introverts. This finding contrasts with previous studies that found extroversion/introversion did not significantly predict blogging (e.g. Guadagno et al., 2008). According to the findings of the present study, blogging is not an extrovert-friendly tool in general, and specifically not an extrovert-friendly educational classroom tool.

Interestingly, the interviews revealed that the few people who were successful at gaining outside world attention and gained dozens of comments and shares to their posts managed to do so via publication of the posts in influential hubs such as popular feminism blogs or via influential Facebook members. This indicates that in the future teachers and lecturers who choose to assign to their students similar tasks need to recommend that students will try to post them in central places, transfer them to influential bloggers and online networks’ members. From a theoretical perspective, these findings strengthen the “networked keeping” argument, which views virality results from the actions of popular elite members of the social networks who choose which contents will gain popularity in the online world (Nahon & Hemsley, 2013).

To conclude, the study reveals that extrovert students were initially enthusiastic about tasks that capitalize on their ability to attract total strangers to what they have to “tell the world,” which indicated the potential of conducting future studies with similar attempts to increase extroverts’ satisfaction in class. However, either the task or the platform caused general dissatisfaction among the participants. Future studies that aim to increase extroverts’ satisfaction in the classroom should consider, for example, developing tasks that use alternative Web 2.0 platforms, such as asking students to upload photos that related to class material on Flickr, or use Facebook, which was recently identified as an extrovert-friendly platform (Correa et al., 2010; Nadkarni & Hofmann, 2012; Ryan & Xenos, 2011), as the chosen platform for extrovert-oriented assignments.

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