

Flow Experience, Culture, and Well-being: How Do Autoelic Japanese College Students Feel, Behave, and Think in Their Daily Lives?

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Flow Experience, Culture, and Well-being:
How Do Autotelic Japanese College Students Feel, Behave, and Think in Their Daily Lives?*

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Flow Experience, Culture, and Well-being:

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ABSTRACT. This study attempted to show how autotelic people who live in a non-Western culture feel, behave, and think in their daily lives. Using a sample of 315 Japanese college students, a series of correlation analyses were conducted between the frequency of flow experience as an indicator of autotelic personality and a broad range of well-being measures. A distribution analysis revealed that on average Japanese college students experienced flow more than a “few times a year,” but less than “once a month”. In the examination of relations between flow and well-being measures, autotelic Japanese college students, or those who experienced flow more often in their daily lives, were more likely to show higher self-esteem and lower anxiety, use active coping strategies more often and use passive coping strategies less often, as compared to their less autotelic counterparts. They were more likely to report active commitments to college life, search for future career, and daily activities in general. They also reported more Jujitsu-kan, a Japanese sense of fulfillment, and greater satisfaction with their lives. Implications of these findings are discussed in terms of what experiencing flow means and what effects flow potentially has for college students in a non-Western culture.

KEY WORDS: Flow experience, autotelic personality, culture, well-being, Japanese college students

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Flow Experience, Culture, and Well-being:

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INTRODUCTION

Flow is an optimal state of experience in which an individual feels cognitively efficient, deeply involved, and highly motivated with a high level of enjoyment (Csikszentmihalyi, 1975/2000, 1990). In the state, an individual is fully functioning by stretching existing skills while tackling optimal challenges perceived in an activity. There most of attention or “psychic energy” (Kahneman, 1973; Csikszentmihalyi, 1978; Csikszentmihalyi and Csikszentmihalyi, 1988; Hoffman, Nelson, and Houck, 1983) is directed to the activity at hand to express and realize personal potentials. Csikszentmihalyi and Nakamura have suggested that this optimal state of fully engaged experience is a way to achieve “a good life” (Csikszentmihalyi, 1999; Nakamura and Csikszentmihalyi, 2002a, 2002b, in press).

Originally, flow research started with investigation of the phenomenology of flow in the 1970s, and in the past two decades or so, it has developed several new directions in the understanding of flow. Among them, the investigation of the consequences of flow has become a central interest of researchers because of its potential for personal growth and improvement of quality of life (Nakamura and Csikszentmihalyi, 2002a, in press). Several studies have shown that experiencing flow is positively associated with commitment and achievement in academic work (Carli et al., 1988; Csikszentmihalyi et al., 1993; Heine, 1996; Nakamura, 1988), self-esteem (Adlai-Gail, 1994; Wells, 1988), psychological resilience (Schmidt, 2003), and a sense of fulfillment and life satisfaction (Asakawa, 2004; Bryce and Haworth, 2002; Clarke and Haworth, 1994; Han, 1988; Ishimura and Kodama, 2006; Peterson et al., 2005). In terms of its application, flow’s growth-enhancing aspect has been directly utilized in psychotherapy to assist individuals to recover from negative psychological symptoms and further to cultivate meaningful life challenges and promote social integration (Delle Fave and Massimini, 1992; Inghilleri, 1999; Massimini et al., 1987; Massimini and Delle Fave, 2000).

Related to this research direction, the investigation of the autotelic personality has also been

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recognized as an important and promising direction in flow research (Nakamura and Csikszentmihalyi, 2002a, in press). Flow theory defines an autotelic individual as one who does things for their own sake, rather than in order to achieve some external goal (Csikszentmihalyi, 1975/2000, 1990, 1997). In other words, an autotelic individual is a person who has a strong tendency to find flow in his or her daily activities. In flow theory, autotelic personality is distinguished by *meta-skills* which predispose individuals to entering and remaining in flow, and to making the process evolve (Csikszentmihalyi and Nakamura, 1984; Nakamura and Csikszentmihalyi, 2002a, in press). Nakamura and Csikszentmihalyi (2002a) suggested that such meta-skills include “a general curiosity and interest in life, persistence, and low self-centeredness, which result in the ability to be motivated by intrinsic rewards” (p. 93). Relevant to this point, Abuhamdeh (2000) showed that autotelic American adults experienced less stress and strain in the flow context than outside of it, whereas the reverse was true for their non-autotelic counterparts. Asakawa (2004), using a sample of Japanese college students, showed that autotelic students’ levels of perceived challenges and skills were more balanced than those of their non-autotelic counterparts. Moreover, in the same study, autotelic students tended to position themselves in situations where the perceived challenges were higher than their perceived skills, whereas the reverse was true for non-autotelic students. Thus, according to these results, autotelic individuals are those who can create more optimal challenges which are conducive to flow and those who enjoy more the flow context itself, as compared to non-autotelic individuals. In terms of research focus, the studies by Abuhamdeh (2000) and Asakawa (2004) have examined the phenomenology and dynamics of the autotelic personality, while other studies have taken different approaches from a developmental perspective. Focusing on possible consequences of autotelic qualities, Adlai-Gail (1994) showed that an autotelic group of American adolescents had more positive experiences in daily life, had higher self-esteem, and had more well-defined future goals than their non-autotelic counterparts. More recently, using a longitudinal design with a national sample of American adolescents, Asakawa and Nakamura (2008) reported that autotelic tendency was positively associated with community orientation and personal expressiveness. Although these studies have certainly made significant contributions to flow theory and research, it is also true that the number of studies on autotelic personality is quite limited because the disposition has received little empirical attention from researchers until recently. Thus, in

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order to extend our understanding of flow, further investigations on autotelic personality are surely needed. In any case, previous research has suggested that the flow experience has significant potential for fostering important aspects of personality, such as self-esteem (Adlai-Gail, 1994; Wells, 1988) and psychological resilience (Schmidt, 2003), developing academic and social skills and commitment (Asakawa and Nakamura, 2008; Carli et al., 1988; Csikszentmihalyi et al., 1993; Heine, 1996; Nakamura, 1988), cultivating and promoting meaningful life challenges and social integration (Delle Fave and Massimini, 1992; Inghilleri, 1999; Massimini et al., 1987; Massimini and Delle Fave, 2000), improving the quality of life and life satisfaction (Asakawa, 2004; Bryce and Haworth, 2002; Clarke and Haworth, 1994; Han, 1988; Ishimura and Kodama, 2006; Peterson et al., 2005), and promoting positive attitudes toward future (Adlai-Gail, 1994). Moreover, considering these findings in the two directions of flow research, flow may be considered a fundamental and dynamic factor which shapes how people feel, behave, and think in their daily lives and for their future, as Massimini and Delle Fave's theory of psychological selection (2000) has suggested. People choose or select "behaviors that make them feel fully alive, competent, and creative" (Seligman and Csikszentmihalyi, 2000, p. 9) in a certain culture or cultures where they reside.

Then, what qualities would autotelic individuals who grew up and resided in non-Western cultures develop through their frequent experiences of flow? Are they more likely to show the positive associations of flow with commitment and achievement in academic work, self-esteem, psychological resilience, and life satisfaction that are reported by U.S. samples? Do they develop well-being in the same way as autotelics in Western cultures or do they develop it in somehow a more culturally embedded way? Or more simply, how do they feel, behave, and think in their daily lives? There is no clear answer for the questions in current flow research and literature, because to date, flow research has been conducted mostly on people who grew up and resided in Western cultures. Indeed, only a few studies have examined the flow experience and its potential for personal growth and improvement of quality of life for people in non-Western cultures. Among a few, Asakawa (2004), using a sample of Japanese college students, reported that a Japanese indigenous index of psychological well-being referred to as *Jujitsu-kan* was quite high during periods of flow. Using Ryff's psychological well-being scale (1989), Ishimura and Kodama (2006) showed that flow was positively related to several aspects of

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psychological well-being also for a sample of Japanese college students. Although these findings certainly indicate that flow is positively associated with psychological wellness of the Japanese, it is also true that these are only a few examples and we still know little about the features, situational/personal determinants, and behavioral/psychological implications as well as consequences of flow in non-Western cultures (Moneta, 2004). Thus, the investigation into “flow and culture” is certainly needed, and it may be quite essential for our further understanding of flow and its effects on human experience, motivation, and development. This study was conducted as a contribution to this line of research.

Drawing on these theoretical and empirical backgrounds, this study attempted to explore how autotelic Japanese college students feel, behave, and think in their daily lives, by performing a series of correlational analyses between the frequency of experiencing flow and a broad range of well-being measures. For this purpose, the well-being measures were selected to reflect three aspects of psychological and behavioral functioning which have previously been examined in relation to flow. That is, (1) relatively stable and disposition-like aspect, such as self-esteem, trait-anxiety, and stress coping strategies, (2) behavioral aspect, such as commitments to college life and search for future career, and (3) feelings and attitudes toward life and future, such as will for meaningful life, global life satisfaction, and *Jujitsu-kan*, a Japanese sense of fulfillment. Thus, this study is a follow-up on previous research in nature with a sample of Japanese college students. Besides, special attention was given to *Jujitsu-kan* in relation to experiencing flow in this study. *Jujitsu-kan* is a Japanese indigenous index of well-being and when talking about psychological wellness, the Japanese often mention the word to describe a feeling that they are fully and effectively functioning to the limits of their existing skills. It is a sense that they are vitally engaged in subjectively significant activities (Asakawa, 2004). Thus, this indigenous concept of well-being would be very important when flow’s potential for promoting psychological well-being is considered for the Japanese. Moreover, this study employed a wide range of well-being measures developed by both Western and Japanese psychologists. In this way, this study could possibly examine the associations between flow and well-being defined in Western cultures, as well as in Japanese culture. Conducting a series of correlational analyses with a cultural perspective, the author hoped to provide preliminary but fundamental information to consider what experiencing flow means and what effects flow potentially has for college students in a non-Western culture, and further to

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extend our understanding of the flow experience itself.

METHOD

Participants

A total of 372 undergraduate college students (168 men and 204 women) from a private university in Japan voluntarily participated in this study during the academic year of 2002-2003. All participants were enrolled in an introductory psychology course and obtained extra credit for participating in the study. The mean age was 19.7 years ($SD = 1.78$), with a range of 18 to 25 years. The participants were 143 freshmen, 168 sophomores, 51 juniors, and 10 seniors.

Measures

Frequency of flow experience. The Flow Questionnaire (Csikszentmihalyi, 1975/2000; Csikszentmihalyi, 1982; Csikszentmihalyi et al., 1993; Delle Fave and Massimini, 1988; Han, 1988) was used to measure how often participants experienced flow in daily life. The measure has been well-validated (Csikszentmihalyi, 1975/2000; Csikszentmihalyi et al., 1993) and widely used for the purpose (Nakamura and Csikszentmihalyi, 2002a, in press). For this study, participants read three quotations describing the flow experience and for each of the quotations they indicated (1) if they had ever had a similar experience (answered by “yes” or “no”) and, if yes, (2) what activities they were engaged in when they had such an experience (an open-ended question), and (3) how often they generally had such an experience. The last question was rated on a 7-point scale, ranging from 1 (*few times a year*) to 7 (*few times a day*) (Csikszentmihalyi et al., 1993). Thus, participants who reported they never had any of the experiences (i.e., “no” to the first questions of all three flow-quotations) received a score of 0 and participants who experienced flow the most frequently received a score of 27 (7 x 3 flow-quotations). In order to calculate each participant’s frequency of experiencing flow, his or her average score of three flow quotations was calculated by dividing total flow score by 3 (see also Han (1988) for a similar procedure). This average score was used as the indicator of autotelic personality for this study.

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The three quotations used to describe the flow experience were adapted from a study of talented teenagers by Csikszentmihalyi and his associates (Csikszentmihalyi, et al., 1993), and they were translated into Japanese by the author. The original quotations were shown in the Appendix.

Self-esteem, anxiety, and coping. A Japanese version of Rosenberg's self-esteem scale (1965), translated by Yamamoto et al. (1982), was used to measure individual differences in overall self-esteem. This scale is a commonly used 10-item self-report measure, and participants rated each item on a 5-point scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The validity of the scale was reported by Yamamoto et al. (1982). Cronbach's alpha was .65 for the final sample (see the procedure section about the final sample).

A Japanese version of the trait-anxiety scale of Spielberger's State Trait Anxiety Inventory (Spielberger et al., 1970), translated by Shimizu and Imasakae (1981), was used to measure participants' tendency to generate anxiety in daily life. The trait-anxiety scale is a 20-item measure, which estimates an individual's relatively stable internal tendency of experiencing anxiety in stressful situations. Participants rated each of 20 items on a 4-point Likert-type scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). The validity of this scale was reported by Shimizu and Imasakae (1981). Cronbach's alpha was .86 for the final sample.

A coping strategies inventory, Self-report Stress Scale for College Students developed by Ozeki (1993), was used to measure participants' coping styles. This 14-item inventory is designed to measure how respondents cope with stressors they face in everyday life, and it classifies three types of coping strategies: problem-focused coping, emotion-focused coping, and problem-avoidance coping. Participants were asked to write down the most stressful thing they were experiencing, and then rated the extent to which they used specific coping strategies on a 4-point scale, ranging from 1 (*not at all*) to 4 (*always*). Problem-focused coping was assessed by 5 items (e.g., "I try to find out the cause of the problem"), emotion-focused coping was assessed by 3 items (e.g., "I cheer myself up"), and problem-avoidance coping was assessed by 6 items (e.g., "I try not to think too much about what will happen"). Cronbach's alphas for problem-focused, emotion-focused, and problem-avoidance coping subscales were .63, .55, and .70, respectively, for the final sample. The validity of this scale was reported by Ozeki (1993).

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Disengagement from college life. Participants' psychological adjustment to college life was measured by Disengagement from College Life Scale developed by Shimoyama (1995). This measure consists of three subscales to evaluate college students' levels of disengagement from academic work, class work, and college life overall. Disengagement from academic work was measured by 5 items (e.g., "I get easily bored when I read books related to schoolwork"), disengagement from class work was measured by 5 items (e.g., "I sometimes skip classes for some reason or other") and disengagement from college life overall was measured by 5 items (e.g., "I feel that there is no place for me on campus"). Participants rated these 15 items on a 4-point Likert-type scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach's alphas for the subscales of disengagement from academic work, disengagement from class work, and disengagement from college life overall were .70, .72, and .69, respectively, for the final sample. The validity of the scale was reported by Shimoyama (1995).

Psychological moratorium in choosing future occupation. Participants' attitudes toward choosing their future occupation were measured by Moratorium Scale developed by Shimoyama (1992). This measure evaluates the tendency of psychological moratorium of college students by four types of engagement in decision making about future career; namely, "exploration," "postponement," "diffusion," and "avoidance." The first type of engagement, "exploration," was assessed by 6 items (e.g., "I have several ideas about my future occupation in my mind, and I am thinking about them a lot"), the second type of engagement, "postponement," was assessed by 6 items (e.g., "I got in college with considerable effort. So I don't want to think about my future occupation at this point"), the third type of engagement, "diffusion," was assessed by 6 items (e.g., "When I think about my future occupation, I become very anxious"), and the last type of engagement, "avoidance," was assessed by 6 items (e.g., "If possible, I just want to do things I like without having any occupation as long as I like"). Participants rated these 24 items on a 4-point Likert-type scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach's alphas for the subscales of exploration, postponement, diffusion, and avoidance were .60, .72, .75, and .78, respectively, for the final sample. The validity of the scale was reported by Shimoyama (1992).

Life satisfaction. Participants' life satisfaction was measured by the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS is a 5-item measure of global life satisfaction (e.g., "I am

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satisfied with my life” and “In most ways, my life is close to my ideal”) and it has been widely used and well validated across nations (Oishi et al., 1999). For this study, the SWLS was translated into Japanese by the author. Participants were asked to rate the 5 items on a 7-point Likert-type scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Cronbach’s alpha was .85 for the final sample.

Will for meaningful life and Jujitsu-kan. Kondo and Kamata’s Will for Meaningful Life Scale (1998) was used to measure participants’ motivation or will for meaningful life. This scale consists of 9 items (e.g., “I am doing things worth doing”) and respondents rated these items on a 4-point Likert scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*). Cronbach’s alpha was .86 for the final sample. The validity of the scale was reported by Kondo and Kamata (1998).

In addition, Jujitsu-kan, a Japanese sense of fulfillment, was measured by a single item, “I think my life is fulfilling (or I am getting Jujitsu-kan in daily life).” Participants were asked to rate this item on a 4-point Likert scale, ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

For the purpose of this study, a series of correlational analyses which examined Pearson product-moment correlations with two-tailed significance levels was performed between the frequency of experiencing flow and the well-being measures.

Procedure

Participants were told that the present study involved an examination of college students’ daily experience and college life. A questionnaire which was composed of the 9 measures described above was administered to all 372 participants in large groups ($n > 100$). The responses provided by 30 men and 27 women were dropped because they were incomplete. The responses provided by the remaining 315 participants (138 men and 177 women) were used for this study. The mean age of the sample was 19.7 years ($SD = 1.86$), with a range of 18 to 25 years, and they were 115 freshmen, 151 sophomores, 41 juniors, and 8 seniors. Participants were not made aware of the purpose of the study until after they had completed all measures. To protect the participants’ anonymity, only participant numbers were placed on the instruments.

RESULTS

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How often did the Japanese college students experience flow in their daily lives?

Before performing the main analyses, it is also important to get a general picture of how often the Japanese college students experienced flow in their daily lives. Figure 1 shows percentages of students in each of 8 categories which indicate how often the students experienced flow. As shown in the figure, 27.3 % of the Japanese college students reported that they never experience flow, 20.0 % reported experiencing flow a few time a year, and 30.1 % reported experiencing flow once a month, while only 1.2 % of them reported that they experienced flow more than once a day. The results also showed that more than 90 % of the Japanese college students reported experiencing flow less than once a week. The average of the flow frequency score for the total sample was 1.38 (SD = 1.32), which falls between a “few times a year” and “once a month.” In other words, the Japanese college students on average experienced flow more than a “few times a year,” but less than “once a month”.

 Figure 1 around here

Correlations of all study measures with demographic variables

The main focus of analyses for this study was to examine the relationships between the frequency of experiencing flow and diverse measures of well-being for a group of Japanese college students. However, it was possible that demographic factors might confound the analyses. Thus, correlations of all study measures with demographic variables were first examined. Table 1 shows the results. There were positive associations between age and emotion-focused stress coping ($r = .10, p < .10$) and life satisfaction (SWLS: $r = .13, p < .05$), and negative associations between age and disengagement from academic work ($r = -.14, p < .05$) and diffusion as an aspect of psychological moratorium ($r = -.13, p < .05$). For gender, there were positive associations with trait-anxiety ($r = .14, p < .05$), problem-avoidance stress coping ($r = .11, p < .10$), and diffusion as an aspect of psychological moratorium ($r = .15, p < .01$), and there were negative associations with self-esteem ($r = -.14, p < .05$), disengagement from class work ($r = -.17, p < .01$), and will for meaningful life ($r = -.14, p < .05$). This means that female college students were more likely to show higher anxiety, use problem-avoidance

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coping strategies, be confused with decision-making about future occupation, show lower self-esteem, disengage from class work, and have a weaker will for meaningful life, as compared to male college students. Finally for grade, a positive association was found with problem-avoidance stress coping ($r = -.14, p < .05$). Hence in the following analyses, partial correlation analyses were carried out, controlling for the effects of age, gender, and grade, to examine the relationships between the frequency of flow experience and the diverse indicators of well-being.

 Table 1 around here

Relationships between Flow Experience and Self-esteem, Trait-anxiety, and Stress Coping Strategies

The first examination of autotelics in the Japanese college students was performed on relatively stable and disposition-like aspects of psychological functioning; self-esteem, trait-anxiety, and stress coping strategies. Table 2 shows partial correlations between the flow experience and these psychological aspects, controlling for the effects of age, gender, and grade. The frequency of experiencing flow was positively associated with self-esteem, and negatively associated with trait-anxiety (self-esteem, $r = .14, p < .05$; trait-anxiety, $r = -.14, p < .05$). As for coping strategies, the frequency of flow experience was positively associated with the use of problem-focused and emotion-focused coping strategies and negatively associated with the use of problem-avoidance coping strategies (problem-focused coping, $r = .16, p < .01$; emotion-focused coping, $r = .17, p < .01$; problem-avoidance coping, $r = -.12, p < .05$). Thus, if a Japanese college student experienced flow more often in daily life than others, in other words if he or she was more autotelic, the student was more likely to show higher level of self-esteem, show lower level of trait anxiety, use active stress coping strategies (i.e., problem- and emotion-focused strategies) more often, and use passive stress coping strategies (i.e., problem-avoidance) less often, as compared to his or her less autotelic counterparts.

 Table 2 around here

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Relationship between Flow Experience and Disengagement from College Life

Disengagement from college life may be a much stronger sign of psychological maladjustment for Japanese college students than for their counterparts from different countries and cultures, because there exists a strong belief in Japan that graduating from a college and pursuing a career in a big and well-known company is one of the most successful and desirable career paths. Thus, it is interesting to see how autotelic Japanese college students were committed to their college lives and relevant activities. Three aspects of disengagement from college life were examined in this study, namely disengagement from academic work, disengagement from class work, and disengagement from college life overall. Table 3 shows partial correlations between the frequency of flow experience and the three aspects of disengagement, controlling for the effects of age, gender, and grade. As shown in the table, the frequency of flow experience was negatively related to the levels of disengagement from academic work and disengagement from college life overall (academic work, $r = -.29, p < .001$; college life overall, $r = -.16, p < .01$). In other words, if a student experienced flow more often in daily life than others, that is, if he or she was more autotelic than others, the student was less likely to disengage from academic work as well as from college life in general, as compared to his or her less autotelic counterparts. No significant association was found between the flow experience and the level of disengagement from class work ($r = -.08, ns$).

 Table 3 around here

Relationship between Flow Experience and Psychological Moratorium in Choosing Future Occupation

Career decision is one of the most important tasks in the college years, and how autotelic Japanese college students committed themselves to the task was another focal examination for this study. Table 4 shows partial correlations between the frequency of flow and the tendency of psychological moratorium in terms of exploring and choosing future occupations, again controlling for the effects of age, gender, and grade. This target psychological tendency was evaluated by four aspects, namely exploration, postponement, diffusion, and avoidance. As shown in Table 4, the frequency of flow experience was negatively associated with the levels of postponement, diffusion, and avoidance

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(postponement, $r = -.20, p < .001$; diffusion, $r = -.21, p < .001$; avoidance, $r = -.23, p < .001$). That is, if a Japanese college student experienced flow more often in daily life than others, the student was less likely to postpone, to be confused with, and to avoid decision-making about future occupation, as compared to his or her less autotelic counterparts. No significant relation was found between the frequency of flow experience and the level of exploration ($r = .00, ns$).

 Table 4 around here

Relationships between Flow Experience and Life Satisfaction, Will for Meaningful Life, and Jujitsu-kan

The last set of analyses for this study addressed how autotelic Japanese college students felt about their lives in general. Table 5 shows partial correlations between the frequency of flow experience and life satisfaction, will for meaningful life, and Jujitsu-kan (a Japanese sense of fulfillment), controlling for the effects of age, gender, and grade. A positive correlation was found between the frequency of flow and global life satisfaction ($r = .21, p < .001$). That is, the more the Japanese college students experienced flow in daily life, or the more autotelic they were, the more they indicated that they were satisfied with their lives.

The Japanese college students' will for meaningful life was also positively associated with how frequently they experienced flow in their daily lives ($r = .34, p < .001$). That is, if a Japanese student experienced flow more often in daily life than others, the student was more likely to have a stronger will for meaningful life, as compared to his or her less autotelic counterparts. In addition, partial correlation analyses between the frequency of flow and all items of the will for meaningful life scale were carried out (see Table 5), because each item of this measure was quite suggestive when thinking about "vital engagement," which has been conceptualized as the coincidence of enjoyed absorption and subjective significance (Nakamura & Csikszentmihalyi, 2002b). All items of the measure were positively related to the frequency of experiencing flow. That is, if a Japanese college student was more autotelic than others, the student was more likely to report having hope for the future ($r = .18, p \leq .001$), having high expectation of his/her own life ($r = .22, p < .001$), being highly motivated when doing things ($r = .26, p < .001$), having goals to accomplish ($r = .31, p < .001$), trying to

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work on things actively ($r = .21, p < .001$), doing things worth doing ($r = .27, p < .001$), sometimes finding his/herself fully absorbed in doing things he/she likes ($r = .25, p < .001$), demonstrating the best of his/her ability ($r = .17, p < .01$), and often encountering things which would become his/her hobbies or favorites ($r = .20, p < .001$), as compared to his or her less autotelic counterparts. These findings are discussed later as a manifestation of vital engagement in the daily lives of autotelic Japanese college students.

Finally, Jujitsu-kan, a Japanese indigenous indicator of well-being, was found to be positively associated with the frequency of experiencing flow ($r = .20, p < .001$). That is, if a Japanese college student experienced flow more often in daily life than others, the student was more likely to report getting more Jujitsu-kan, or a sense of fulfilling personal potential in subjectively meaningful activities, as compared to his or her less autotelic counterparts.

 Table 5 around here

DISCUSSION

This study attempted to show how autotelic Japanese college students, who resided in a non-Western culture, felt, behaved, and thought in their daily lives, by conducting a series of correlational analyses between the frequency of flow experience and diverse well-being measures. To get a general picture of the flow experience in the Japanese college students, this study first examined how often they experienced flow in their daily lives. The results showed that 27.3 % of students reported never experiencing flow, while only 1.2 % of students reported experiencing flow more than once a day. Moreover, more than 90 % of students reported experiencing flow less than once a week in this Japanese sample. Previous studies in the U.S. and Germany showed that 42 % of Americans and 35 % of Germans never experienced flow, whereas 16 % of Americans and 23 % of Germans had such experiences daily (Nakamura and Csikszentmihalyi, 2002a). The U.S. data was based on Gallup Poll 1998 which targeted adults in the U.S. (Gallup Poll, 1998) and the German data was based on a survey

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by Noelle-Neumann (1995) which targeted Germans at age of 14 and over. Thus, the sample of this study may not be comparable to those of the U.S. and German studies, and it was not assessed statistically, but based on these findings, it appears that the number of Japanese college students who experienced flow daily was far less than the American and German samples.

Relevant to this point, in the cultural psychology literature, it is argued that people in North American and Western European cultures have a self-enhancement tendency, while people in Asian cultures, as in Japan, have a self-criticism tendency (Kitayama et al., 1997; Markus & Kitayama, 1991). According to Kitayama et al. (1997), self-criticism represents a constructive process for the Japanese, which allows the individuals to obtain information vital to maintaining and supporting the group. That is, the Japanese tend to tune their attention into the shortcomings or defects of themselves and try to adjust and fix the negative for the group consonance. Thus, it may be the case that the Japanese college students concentrated their attention relatively less on an activity itself by monitoring how they were doing in order to maintain harmonious group dynamics, and as a result, they might experience less flow, as compared to the U.S. and German samples. This is only a speculation and cross-cultural studies on flow are certainly needed.

In order to explore what kind of people autotelic Japanese college students were, this study employed a broad range of well-being measures. Well-being is a culturally constructed concept, which has diverse meanings and modes of expressions embedded in a specific cultural context (Christopher, 1999). Thus, this study employed not only measures developed by Western psychologists, such as Rosenberg's self-esteem scale (1965), Spielberger's trait-anxiety scale (Spielberger et al., 1970), and Diener's satisfaction with life scale (SWLS; Diener et al., 1985), but also ones developed by Japanese psychologists, such as Ozeki's self-report stress scale for college students (1993), Shimoyama's disengagement from college life scale (1995) and moratorium scale (1992), and Kondo and Kamata's will for meaningful life scale (1998). In addition, this study employed a scale to examine a Japanese sense of fulfillment, Jujitsu-kan, as an indigenous indicator of well-being for the Japanese (Asakawa, 2004), in relation to the frequency of experiencing flow in daily life. In general, consistently positive associations between the flow experience and well-being measures were found for the sample of Japanese college students.

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In order to explore the characteristics of autotelic Japanese college students, this study first examined relatively stable and fundamental aspects of psychological functioning, such as self-esteem, trait-anxiety, and stress coping strategies, in relation to flow. As expected, the frequency of flow was positively related to self-esteem, and negatively related to trait-anxiety. As for coping strategies, the frequency of flow experience was positively related to the use of problem-focused and emotion-focused strategies (i.e., active coping) and negatively related to the use of problem-avoidance strategies (i.e., passive coping). Thus, Japanese college students who had a stronger tendency to experience flow, or who were more autotelic than others, had higher self-esteem, felt less anxiety, used active coping strategies more often and used passive coping strategies less often in their daily lives, as compared to their less autotelic counterparts. As mentioned in the methodology section, some of the measures used for these analyses showed relatively low reliabilities. Thus, we should not draw any decisive conclusions here. In general, however, it appears that autotelic Japanese college students had developed psychologically more positive and healthier functioning than their less autotelic counterparts.

In the next analyses, this study focused on two important tasks students usually face in their college years, namely commitments to college life and search for future career, and examined how autotelic Japanese college students dealt with these tasks. The results showed that the frequency of flow experience was negatively related to the levels of disengagement from academic work as well as from college life overall. However, no significant association was found between the flow experience and the level of disengagement from class work. This is probably because most of the Japanese college students attended classes and completed class requirements to earn credits to a similar extent no matter how they felt about their class work. Relating to this point, Asakawa (2004) reported that being autotelic or non-autotelic did not significantly influence how a sample of Japanese college students spent their time on productive activities which included school work, job/work, and life planning, but it influenced their subjective experiences while engaged in such activities. The scales of disengagements from academic work and college life overall measured the Japanese students' feelings and attitudes toward academic work and college life, while the scale of disengagement from class work measured their behavioral patterns, such as skipping classes or not going to school. Thus, if the Asakawa's

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findings (2004) show a real tendency of Japanese college students in general, it is possible that the Japanese students in this study also attended classes and completed class requirements to a similar extent no matter how autotelic they were and no matter how they felt about their class work. In sum, the results of this part of analyses appear to show that Japanese college students who experienced flow more often in their daily lives were committed more seriously to academic work and college life in general, as compared to their less autotelic counterparts.

For the tendency of psychological moratorium in the process of career decision, students' commitment showed a similar result. Their frequency of experiencing flow was negatively associated with their levels of postponement, diffusion, and avoidance in the process of searching for their future career. That is, students who had a stronger tendency to find flow reported that they were less likely to postpone, to be confused with, and to avoid decision-making on future occupation than their less autotelic counterparts. It appears that they tended to invest their psychic energy intensively in activities and engage constructively with their daily lives, as Asakawa (2004) previously suggested for Japanese autotelics. No significant relation was found between the frequency of flow experience and the level of exploration. As shown earlier, the measure for this aspect of psychological moratorium (i.e., exploration) showed relatively low reliability, and this factor might have affected the result. If it was not the case, the obtained result might indicate the real tendency of the Japanese college students. This subscale of psychological moratorium measured how much students understood social importance of career decision and to what extent they seriously explored and searched for their possible future careers. In Japan, most colleges regularly provide their students with opportunities for career search such as career seminars or career guidance as early as freshman year and it is quite a common practice. Moreover, as Asakawa (2004) suggested, autotelic and non-autotelic Japanese college students may not differ much in daily time usage. In other words, they may live quite similar patterns of lives. If this is the case, then it is possible that Japanese college students also attend such career events to a similar extent with their friends no matter how seriously they are interested, and this may be the reason why no significant association was found between the flow experience and exploration of future careers for the Japanese college students.

In the last set of analyses, this study examined how autotelic Japanese college students felt

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about their lives in general. First, it found that the Japanese students' level of will for meaningful life was positively associated with how often they experienced flow in their daily lives. That is, if a Japanese college student experienced flow more often than others, the student was more likely to show a stronger motivation to pursue meaningful life, as compared to his or her less autotelic counterparts. Moreover, partial correlation analyses between the frequency of flow and all question items of this scale revealed that students who were more likely to experience flow reported more having hope for the future, having high expectation of their own lives, being highly motivated when doing things, having goals to accomplish, trying to work on things actively, doing things worth doing, finding themselves fully absorbed in doing thing they liked, demonstrating the best of their ability, and encountering things which would become their hobbies or favorite activities, as compared to their counterparts. It appears that if a Japanese college student was more autotelic than others, the student was more likely to be "*actively and fully engaged or functioning*" in daily life (e.g., being highly motivated when doing things; trying to work on things actively; finding themselves fully absorbed in doing thing they liked; demonstrating the best of their ability) and also to "*see some meaning*" in there (e.g., having hope for the future; having high expectation of their own lives; having goals to accomplish; encountering things which would become their hobbies or favorite activities), as compared to his or her less autotelic counterparts.

From the perspective of flow theory, these results may be a manifestation of "vital engagement," which Nakamura and Csikszentmihalyi (2002b) have conceptualized as the coincidence of enjoyed absorption and subjective significance, because students who experienced flow more often were more likely to be actively engaged and also to have hopes, goals, or expectations as a form of subjective significance in their lives. Here, we see the coincidence of deep absorption and meaning among the Japanese college students who had autotelic tendency. Moreover, subjective significance, or meaning, would take shape and mature through experiencing flow (Nakamura and Csikszentmihalyi, 2002b). Thus, although this study did not directly examine the process of shaping meaning through the flow experience in any specific activities, the obtained positive association between Japanese college students' frequency of flow experience and their chances to encounter things which would become their hobbies or favorite activities may be an indication of a process of developing meaning in certain activities through the flow experience. Relating to this point, Nakamura and Csikszentmihalyi (2002b)

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suggested that “there must be a germ of subjective importance in even a brief flow experience” (p. 94), and it is the individual’s ability to see the minimal personal significance in any flow activities and develop it as meaning for his or her life by repeating flow. Supplementary partial correlation analyses (not shown in Table 5) indeed indicated that the feeling of often encountering future hobbies or favorite activities (i.e., *shaping personal importance*: item 9 in Table 5) was positively and strongly associated with important aspects of the flow experience, such as the feelings of doing things worth doing (i.e., *engagement with intrinsically rewarding activities*: item 6, $r = .38, p < .001$), finding themselves fully absorbed in doing thing they liked (i.e., *enjoyed absorption*: item 7, $r = .51, p < .001$), and demonstrating the best of their ability (i.e., *fulfilling personal potentials*: item 8, $r = .40, p < .001$). In other words, Japanese college students who reported these aspects of flow (i.e., engagement with intrinsically rewarding activities, enjoyed absorption, and demonstrating the best of their abilities) more intensively were more likely to encounter future hobbies or favorite activities. It appears that these students had developed personal significance in a certain activity through experiencing flow, as Nakamura and Csikszentmihalyi have suggested (2002b).

Finally, this study found positive associations of the frequency of flow with global life satisfaction and Jujitsu-kan for the Japanese sample. That is, if a Japanese college student was more autotelic than others, the student was more likely to report being satisfied with his or her life and also getting more Jujitsu-kan, a feeling of fulfilling personal potential in subjectively meaningful activities, than his or her less autotelic counterparts. It is as if the autotelic Japanese college students were those who enjoyed living their lives.

This study showed how autotelic Japanese college students, who resided in a non-Western culture, felt, behaved, and thought in their daily lives. In the attempt, although this study is preliminary in many ways, the author believes that it made several unique contributions to flow theory and research. Firstly, this study replicated previous findings on flow, such as positive associations of flow with self-esteem (Adlai-Gail, 1994; Wells, 1988), life satisfaction (Bryce and Haworth, 2002; Clarke and Haworth, 1994; Han, 1988; Ishimura and Kodama, 2006; Peterson et al., 2005) and Jujitsu-kan for the Japanese (Asakawa, 2004). Moreover, this study quantitatively provided evidence of vital engagement and its process of shaping meaning in daily activities by experiencing flow. In

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this sense, this study holds empirical significance for theory refinement. Secondly, by examining how often the Japanese college students experienced flow in their daily lives and comparing the result with previously reported findings for the U.S. and German samples, this study suggested that cultures affect how people experience flow. To date, flow theory has been developed by investigations conducted mostly on people in Western cultures. Thus, this study served as an opportunity to call our attention to cross-cultural flow research, especially comparing Western and non-Western cultures on this optimal state of experience. Relevant to this point, the author believes that research framed by Markus and Kitayama's (1991) theory of the self is quite promising. Thirdly, this study employed a broad range of well-being measures developed by both Western and Japanese psychologists, and found that flow was associated with both the Western and Japanese indicators of well-being. This suggests that flow might promote well-being in the ways defined in Western cultures, as well as in Japanese culture. Thus, it is quite possible that Japanese people who experience flow in Japan would develop their wellness in a way embedded in Japanese culture. Moreover, this study has introduced an indigenous concept of well-being, *Jujitsu-kan*, in flow research as well as in positive psychology. It is a feeling that people are fully and effectively functioning to the limits of their existing skills; it is a sense that they are vitally engaged in subjectively significant activities. Such indigenous conceptions may be far more valuable in understanding and promoting well-being of people in a particular culture, as compared to Western conceptions and measures. Thus, the positive association of the flow experience with *Jujitsu-kan* for the Japanese college students may be a quite significant finding for the further development of flow theory and literature. Fourthly and lastly, this study indicated that autotelic Japanese college students were more likely to be committed to college life and search for future career, as compared to their less autotelic counterparts. This is another significant finding of this study because it indicated that autotelic Japanese students were more likely to be committed to psycho-social activities as Japanese college students were normally expected in their college years. Relevant to this point, Asakawa and Nakamura (2008) reported that autotelic U.S. middle and high school students were more likely to develop community orientation as well as personal expressiveness. That is, the study suggested that flow would possibly play a significant role in psycho-social development (i.e., development of community orientation). According to the concept of vital engagement by Nakamura and

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Csikszentmihalyi (2002b), people develop meanings in their lives by repeating flow in an activity, and the process may more likely be promoted when experiencing flow and positive social feedback or social approval coincide. Social approval is a strong motivational factor especially for young generation such as college students. Thus, from a psycho-social perspective, experiencing flow together with positive social support in a certain culture may help individuals who live in the culture to develop socially and culturally preferable attitudes and to become respectable members of the cultural society. This is a very important issue in flow research, but the role of flow experience in psycho-social development has not been given much attention so far. Thus, this study illuminated this new direction in flow research.

In sum, this study surely made some unique contributions to both theory and research on flow, but it is also true that it had certain limitations. Firstly, a variety of measures used in this study showed relatively low Cronbach's alphas. Thus, any decisive conclusions should not be drawn from the results of analyses which used the measures. Secondly, this study provided a glimpse of how autotelic Japanese college students felt, behaved, and thought in their lives, but we still do not know if experiencing flow actually helped them to develop such psychological functioning and behavioral attitudes. This study conducted only correlational analyses with data gathered at one time, and there is no way to infer causality in this study. For example, we do not know if the flow experience promotes a lower level of trait-anxiety or vice versa. Theoretically, both may occur in this case because a lower level of trait-anxiety helps an individual to focus attention on an activity itself and experience flow, whereas there is no room for feeling anxiety in consciousness while in flow because most of psychic energy is directed to engaging in the activity at hand. In order to examine causality, longitudinal studies should be conducted. Particularly, causal analyses with cross-lagged effects model and synchronous effects model are promising for this purpose (Finkel, 1995). Thirdly, the obtained correlation coefficients between the flow experience and well-being measures were relatively small or moderate, which may indicate that there exist mediators between the two variables. Thus, for further investigation of the relation between flow and well-being, mediation models should be examined. For the purpose, longitudinal studies are also promising. Another possible reason for the relatively small correlation coefficients might be insensitivity of flow questionnaire. The measure has

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been widely used to identify the flow experience of people, but it may not be quite sensitive to measure the frequency of flow experience as we expect. Thus, it is recommended that the findings of this study should be reexamined with different measures of autotelic personality, such as the composite of a set of variables which in flow are expected to be concurrently high (Asakawa and Nakamura, 2008) or the time spent in flow state (Abuhamdeh, 2000; Adlai-Gail, 1994; Asakawa, 2004), both of which are available in ESM studies. In any case, further research is surely needed for our further understanding of flow experience and refinement of its theory. The author strongly believes that studies of flow with a longitudinal design and also those with a perspective of cultural psychology will make significant contributions to flow research and positive psychology in general, as well.

APPENDIX

Flow Quotations (adapted from Csikszentmihalyi, et al., 1993)

1. Do you ever do something where your concentration is so intense, your attention so undivided and wrapped up in what you are doing that you sometimes become unaware of things you normally notice (for instance, other people talking, loud noises, the passage of time, being hungry or tired, having an appointment, having some physical discomfort)?
2. Do you ever do something where your skills have become so “second nature” that sometimes everything seems to come to you “naturally” or “effortlessly,” and where you feel confident that you will be ready to meet any new challenges?
3. Do you ever do something where you feel that the activity is worth doing in itself? In other words, even if there were no other benefits associated with it (for instance, financial reward, improved skills, recognition from others, and so on), you would still do it?

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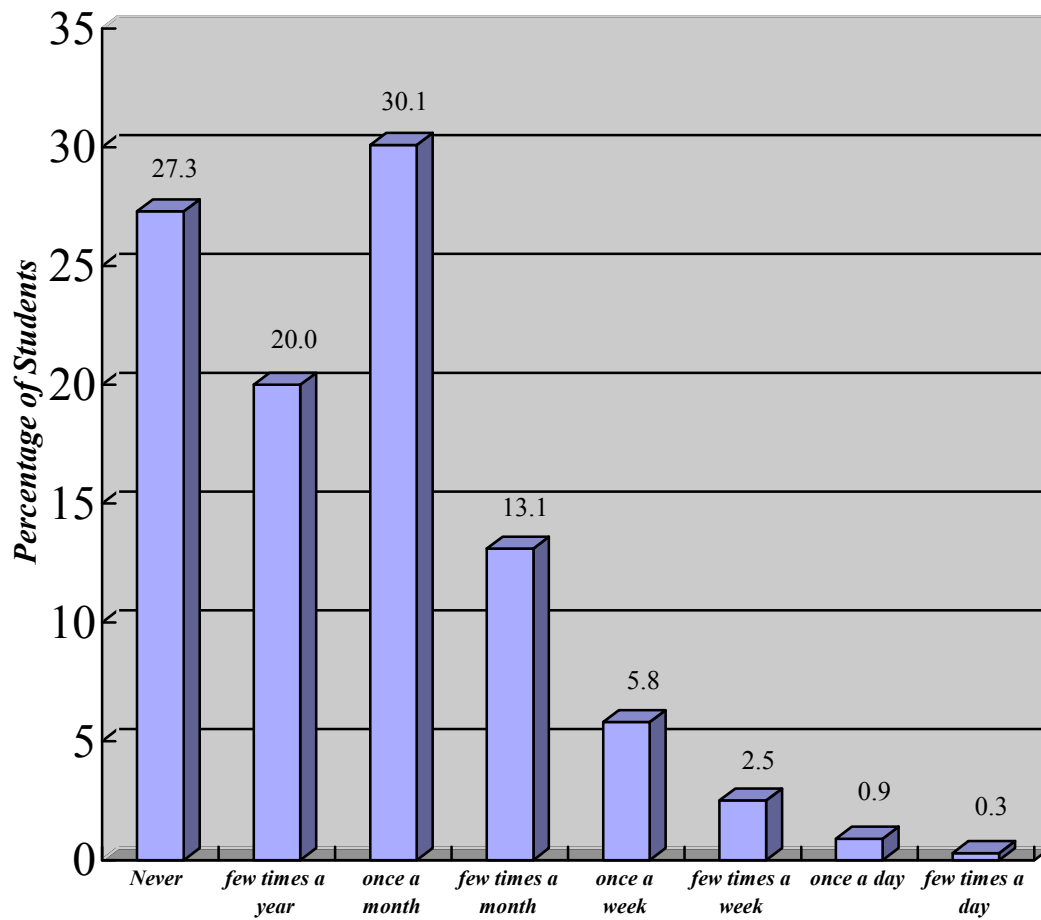


Figure 1. Japanese college students' frequency of flow experience in their daily lives.

$N = 315$.

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Table 1

Correlations of All Study Measures to Demographic Variables

	Age	Gender ^a	Grade ^b	<i>M</i>	<i>SD</i>
Flow	.03	.01	-.04	4.13	3.96
Self-esteem	.04	-.14*	.03	30.04	7.14
Trait-anxiety	-.03	.14*	.02	51.76	10.03
Stress coping strategies					
Problem-focused	.01	.02	-.02	8.43	3.14
Emotion-focused	.10~	.03	.07	5.58	2.14
Problem-avoidance	-.02	.11~	-.14*	9.33	3.72
Disengagement					
From academic work	-.14*	.00	-.06	12.69	2.92
From class work	-.04	-.17**	.02	11.82	3.40
From overall college life	.00	.08	.09	10.75	3.05
Psychological moratorium					
Exploration	-.04	.07	-.01	15.81	3.35
Postponement	-.03	.09	-.05	10.83	3.45
Diffusion	-.13*	.15**	-.03	15.32	3.93
Avoidance	.00	.04	-.01	12.92	4.35
SWLS	.13*	.03	.01	19.71	6.47
Will for meaningful life	.03	-.14*	.00	25.61	5.56
Jujitsu-kan in daily life	.02	.03	-.05	2.72	.87

Note. $n = 315$. Reported p -levels are two-tailed. ~ $p < .10$, * $p < .05$; ** $p < .01$.

^aGender was coded as 1 for male and 2 for female.

^bGrade was coded as 1 for freshman, 2 for sophomore, 3 for junior, and 4 for senior.

Table 2

Correlations between Flow Experience and Self-esteem, Trait-anxiety, and Stress Coping Strategies

Criterion	Partial r^a	M	SD
Self-esteem	.14*	30.04	7.14
Trait-anxiety	-.14*	51.76	10.03
Stress coping strategies			
Problem-focused coping	.16**	8.43	3.14
Emotion-focused coping	.17**	5.58	2.14
Problem-avoidance coping	-.12*	9.33	3.72

Note. $n = 315$. Reported p -levels are two-tailed. * $p < .05$; ** $p < .01$.

^aPartial correlations controlling for the effects of age, gender, and grade.

Table 3

Correlations between Flow Experience and Disengagement from College Life

Aspects of disengagement	Partial r^a	M	SD
Disengagement from academic work	-.29***	12.69	2.92
Disengagement from class work	-.08	11.82	3.40
Disengagement from college life	-.16**	10.75	3.05

Note. $n = 315$. Reported p -levels are two-tailed. ** $p < .01$; *** $p < .001$.

^aPartial correlations controlling for the effects of age, gender, and grade.

Table 4

Correlations between Flow Experience and Psychological Moratorium in Career Decision Making

Types of psychological moratorium	Partial r^a	M	SD
Exploration	0.00	15.81	3.35
Postponement	-.20***	10.83	3.45
Diffusion	-.21***	15.32	3.93
Avoidance	-.23***	12.92	4.35

Note. $n = 315$. Reported p -levels are two-tailed. *** $p < .001$.

^aPartial correlations controlling for the effects of age, gender, and grade.

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Table 5

Correlations between Flow Experience and Satisfaction with Life, Will for Meaningful Life, and Jujitsu-kan in Daily Life

Criterion	Partial r^a	M	SD
SWLS (Satisfaction with Life Scale)	.21***	19.71	6.47
Will for meaningful life (total score)	.34***	25.61	5.56
1. I have hope for the future.	.18***	3.03	.89
2. I have high expectation of my life.	.22***	2.88	.91
3. I am highly motivated when doing things.	.26***	2.76	.81
4. I have goals to accomplish.	.31***	3.13	.91
5. I am always trying to work on things actively.	.21***	2.90	.85
6. I am doing things worth doing.	.27***	2.71	.99
7. I sometimes find myself fully absorbed in doing things I like.	.25***	3.14	.92
8. I am now demonstrating the best of my ability.	.17**	2.33	.90
9. I often encounter things which would become my hobbies or favorites.	.20***	2.73	.91
Jujitsu-kan in daily life	.20***	2.72	.87

Note. $n = 315$. Reported p -levels are two-tailed. ** $p < .01$; *** $p \leq .001$.

^aPartial correlations controlling for the effects of age, gender, and grade.