

# The Needs and Motivation of Japanese University Students with Low English Proficiency within the Framework of Self-determination Theory

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## Abstract

Self-determination theory explains that the fulfillment of the three basic psychological needs—autonomy, competence, and relatedness—will lead to intrinsic motivation or the internalization of extrinsic motivation, which can result in successful learning. In this pilot study, I focused on non-English major Japanese university students with low English proficiency to find out the relationships between their basic psychological needs and motivation. Unlike the initial expectation, the autonomy factor did not emerge and the competence related factors played a marginal role in affecting students' motivation.

## Introduction

### *Review of the Literature*

**Three basic psychological needs and intrinsic motivation.** Self-determination theory (e. g., Deci & Ryan, 1985, 2000, 2002; Ryan & Deci, 2000, 2002) explains that humans have three basic psychological needs: autonomy, competence, and relatedness. Autonomy is the perception of being in charge of his/her own behavior. Competence is a feeling of being competent of ones' ability, and relatedness refers to the feeling of having intimate and friendly relationships with others. When these three basic psychological needs are fulfilled, according to Ryan and Deci (2000), humans will naturally engage in activities with intrinsic motivation: the most self-determined form of motivation that stems from one's inherent interest or enjoyment (p. 55).

**Extrinsic motivation.** While intrinsic motivation is considered to be the vital motivational force for learning (Deci & Ryan, 2000), in educational settings, there are cases when it is important for the students to participate in activities to become better members of the society, even when the activities themselves may not be interesting or enjoyable (Koestner & Losier, 2002). In such cases, the students need to be led to internalize the initially external motivation; i.e., extrinsic motivation. Extrinsic motivation refers to the motivation that stems from external reasons (Ryan & Deci, 2000). It is divided into several sub-categories (e. g., external regulation, introjection, and identification) depending on the extent to which the motivational force is internalized or self-determined. In order to usher students to internalize their external reasons to study, teachers need to fulfill some of or all of the students' three basic needs (Ryan & Deci, 2002, pp. 19-20).

**Studies based on Self-determination theory.** Based on Self-determination theory, several studies were conducted in Canada by Noels et al., which identified the relationships between

the fulfillment of the basic needs and motivation (e.g., Noels, Clement, & Pelletier, 1999; Noels, Pelletier, Clement, & Vallerand, 2000; Noels, 2001). Even in the Japanese university English teaching context, Hiromori (2005, 2006) and Tanaka and Hiromori (2007) found that the fulfillment of the three needs plays a significant role for motivational arousal. They also identified how perceived needs fulfillment differ among groups of students with different motivational level, and demonstrated the impact of teacher intervention on such needs fulfillment and motivation.

### ***Statement of Purpose***

While Hiromori and Tanaka's findings are quite encouraging for Japanese university English teachers who have been trying hard to motivate their students, their studies do not focus on non-English major Japanese university students with low English proficiency—a group of students who deserve more attention. In many Japanese universities, English is one of the required elective (Sentaku hisshu) subjects that students may have to take regardless of their majors. In other words, there are more non-English major students than English major students studying English in Japanese universities, considering the various numbers of departments there. It is fair to conjecture that, in general, such non-English major students will have lower motivation to study English than their English-major counterparts, especially if their English proficiency levels are low. As a result, even such non-English major students with low English proficiency and motivation end up sitting in English classes without their volition. In addition, the arrival of the “Daigaku zennyu jidai” (the era of all university applicants accepted) only aggravates the situation. In this respect, it is becoming increasingly important for us Japanese university English teachers to focus on such students, investigate their needs and motivation, and find ways to help them become more motivated learners.

***Research questions.*** Based on the purpose mentioned above, my research questions are as follows.

1. For non-English major Japanese university students with low English proficiency (Test of English for International Communication (TOEIC) score below 400), to what extent are their three basic psychological needs fulfilled through English lessons?
2. What are the motivational levels of these students?
3. How are these students' perceived needs fulfillment and motivational subtypes correlated?
4. What are the causal relationships between these students' perceived needs fulfillment and motivational subtypes?

## **Methods**

### ***Participants***

Participants are 65 university freshmen students in a university located in Tokyo. The

students are non-English major students who were enrolled in the two compulsory TOEIC preparation classes. In the beginning of the semester, these students had taken the adapted semi-TOEIC test, implemented by the university. Based on the results, the students' TOEIC scores were estimated as below 400; thus, they were assigned to these classes. The syllabus, teaching materials, teaching procedures, and the final exam were all predetermined by the university. Both of the classes were taught by me.

### ***Materials***

A 7-point Likert-scale questionnaire was used for the research. The questionnaire is composed of two scales: psychological needs scale for English learning (Appendix 1; 27 items) and motivation scale for English learning (Appendix 2; 42 items). Psychological needs scale for English learning was designed to measure participants' perception regarding to what extent their three basic psychological needs were fulfilled through English learning. The scale consists of three subscales—the need for autonomy (eight items), the need for competence (ten items), and the need for relatedness (nine items). The second scale, motivation scale for English learning, was designed to measure participants' motivation to study English. The items are divided into five sub-scales to measure the following: 1. amotivation (seven items), 2. external regulation (eight items), 3. introjection (ten items), 4. identified regulation (eight items), and 5. intrinsic motivation (nine items).

The questionnaire items were adapted from multiple sources (Hiromori, 2005, 2006; Sugimori, 2006). Among the seven options ranging from “Does not correspond at all” (1 point) to “Correspond completely” (7 points), students were asked to choose an answer that matched with their feelings the most.

### ***Procedures***

The questionnaire was conducted during regular class hours. Before conducting the questionnaire, the students were informed of the voluntary nature and the anonymity of the questionnaire. Also, they were told that their participation would not affect their course grades and the results obtained would be used merely for academic and educational purposes.

### ***Analyses***

First, students' replies to each of the two scales (Tables 1 and 2) were factor analyzed and factors were extracted. The reliability of each of the factors was checked using Cronbach's  $\alpha$ . Then, the descriptive statistics for the extracted factors and the inter-correlations among these factors (needs and motivation) were checked. SPSS Base 14.0 was used for this procedure. Finally, in order to find out the effects of the perceived needs fulfillment on motivation, Amos 7.0 was used to conduct structural equation modeling.

## Results

### *Descriptive Statistics*

Descriptive statistics for the participants' perceived needs fulfillment and motivational state are shown in Tables 1 and 2.

**Table 1**  
*Descriptive Statistics for the Perceived Needs Fulfillment in Studying English (N = 65)*

| Item | <i>M</i> | <i>SD</i> |
|------|----------|-----------|
| 101  | 4.55     | 1.73      |
| 102  | 3.34     | 1.50      |
| 103  | 4.29     | 1.53      |
| 104  | 5.11     | 1.51      |
| 105  | 5.20     | 1.47      |
| 106  | 5.08     | 1.64      |
| 107  | 4.69     | 1.44      |
| 108  | 5.20     | 1.69      |
| 109  | 3.46     | 1.37      |
| 110  | 4.28     | 1.28      |
| 111  | 3.29     | 1.49      |
| 112  | 3.58     | 1.48      |
| 113  | 3.45     | 1.28      |
| 114  | 3.20     | 1.43      |
| 115  | 3.45     | 1.50      |
| 116  | 3.92     | 1.79      |
| 117  | 3.74     | 1.78      |
| 118  | 4.34     | 1.64      |
| 119  | 4.46     | 1.59      |
| 120  | 5.74     | 1.36      |
| 121  | 5.42     | 1.58      |
| 122  | 5.65     | 1.26      |
| 123  | 6.02     | 1.23      |
| 124  | 5.89     | 1.46      |
| 125  | 5.80     | 1.25      |
| 126  | 5.97     | 1.12      |
| 127  | 5.44     | 1.40      |

*Note.* For items 105, 118, and 127, there was a missing value. They were replaced with the variable mean.

### *Factor Analysis*

*Psychological needs scale for English learning.* The dimensionality of the 27 items for the three needs was analyzed using principle axis factoring analysis. The number of factors to rotate was checked using the scree test result and the interpretability of the factor solution (Initial Eigenvalues Total being above 1.0 for each factor and cumulative % being above 60%). Based on the checking, five factors were rotated using Promax rotation procedure. The rotation solution, as shown in Table 3, yielded five interpretable factors:

**Table 2**  
***Descriptive Statistics for the Motivational Subtypes (N = 65)***

| Item | <i>M</i> | <i>SD</i> |
|------|----------|-----------|
| 201  | 3.38     | 1.65      |
| 202  | 3.25     | 1.57      |
| 203  | 3.35     | 1.70      |
| 204  | 3.03     | 1.59      |
| 205  | 2.97     | 1.45      |
| 206  | 2.65     | 1.47      |
| 207  | 3.75     | 1.66      |
| 208  | 5.11     | 1.77      |
| 209  | 3.97     | 1.58      |
| 210  | 4.15     | 1.65      |
| 211  | 3.60     | 1.57      |
| 212  | 2.45     | 1.38      |
| 213  | 2.32     | 1.34      |
| 214  | 3.17     | 1.88      |
| 215  | 2.45     | 1.64      |
| 216  | 3.78     | 1.86      |
| 217  | 3.71     | 1.58      |
| 218  | 3.62     | 1.57      |
| 219  | 3.63     | 1.61      |
| 220  | 2.95     | 1.59      |
| 221  | 2.89     | 1.48      |
| 222  | 2.02     | 1.42      |
| 223  | 1.98     | 1.39      |
| 224  | 4.66     | 1.74      |
| 225  | 4.92     | 1.51      |
| 226  | 4.88     | 1.60      |
| 227  | 4.35     | 1.60      |
| 228  | 5.45     | 1.67      |
| 229  | 4.49     | 1.63      |
| 230  | 5.45     | 1.34      |
| 231  | 5.40     | 1.62      |
| 232  | 4.25     | 1.88      |
| 233  | 5.57     | 1.36      |
| 234  | 4.71     | 1.62      |
| 235  | 4.91     | 1.66      |
| 236  | 5.03     | 1.65      |
| 237  | 5.02     | 1.44      |
| 238  | 4.00     | 1.60      |
| 239  | 5.17     | 1.65      |
| 240  | 4.95     | 1.39      |
| 241  | 4.12     | 1.44      |
| 242  | 4.68     | 1.54      |

*Note.* For item 225, there was a missing value. It was replaced with the variable mean.

**Table 3**  
**Summary of Factor Loadings for Promax Five-Factor Solution for the Psychological Needs Questionnaire**

| Item | Factor Loadings |            |            |            |            |
|------|-----------------|------------|------------|------------|------------|
|      | 1               | 2          | 3          | 4          | 5          |
| 104  | <b>1.02</b>     | -.11       | -.09       | -.02       | .02        |
| 105  | <b>.97</b>      | -.04       | -.09       | .03        | .05        |
| 106  | <b>.60</b>      | .18        | .12        | .08        | -.20       |
| 107  | .03             | .16        | <b>.56</b> | .07        | .10        |
| 109  | -.09            | .21        | <b>.59</b> | .19        | .13        |
| 111  | -.01            | -.01       | -.19       | .09        | <b>.57</b> |
| 112  | .00             | -.15       | <b>.97</b> | .07        | -.03       |
| 113  | .06             | -.08       | <b>.83</b> | -.11       | -.11       |
| 114  | -.20            | .10        | .07        | -.04       | <b>.84</b> |
| 115  | .23             | -.17       | .13        | -.11       | <b>.75</b> |
| 116  | -.05            | <b>.95</b> | -.01       | -.06       | .00        |
| 117  | .09             | <b>.90</b> | -.04       | -.04       | .03        |
| 118  | .03             | <b>.87</b> | -.04       | .04        | -.07       |
| 119  | <b>.56</b>      | .20        | .24        | -.17       | .05        |
| 122  | <b>.64</b>      | .05        | .09        | .07        | -.03       |
| 123  | -.11            | .05        | .16        | <b>.54</b> | -.11       |
| 125  | -.01            | -.08       | .05        | <b>.80</b> | .04        |
| 126  | .07             | -.10       | .05        | <b>.90</b> | -.10       |
| 127  | .12             | .13        | -.22       | <b>.67</b> | .22        |

relatedness with the teacher (first factor), future competence (second factor), class competence (third factor), relatedness with other students (fourth factor), and course grade competence (fifth factor). Items that loaded either on multiple factors or none of the factors were eliminated. Similarly, items loading together with less than three items were eliminated. Also, one item was eliminated after the reliability check. While item 104 had an abnormal loading, which seemed to be the result of the limited number of participants, it was kept as it is.

Each factor accounted for the following item variance: first factor, 29.16%; second factor, 13.43%; third factor, 9.65%; fourth factor, 8.18%; fifth factor, 5.95%. Using .40 as a cutoff point, none of the remaining items loaded on more than one factor. The Cronbach's  $\alpha$  for the five factors were as follows: first factor,  $\alpha = .88$ ; second factor,  $\alpha = .92$ ; third factor,  $\alpha = .85$ ; fourth factor,  $\alpha = .81$ ; fifth factor,  $\alpha = .73$ . All Corrected Item-Total Correlation scores, which demonstrate the correlations between each item and the total score from the questionnaire, were above .30, which means that all items correlate well with the scale overall.

**Motivation scale for English learning.** The dimensionality of the 42 items for the motivational subtypes was analyzed using principle axis factoring analysis. The number of factors to rotate was checked using the scree test result and the interpretability of the factor solution (Initial Eigenvalues Total being above 1.0 for each factor and cumulative %

Table 4

*Summary of Factor Loadings for Promax Five-Factor Solution for the Motivational Subtypes Questionnaire*

| Item | Factor Loadings |      |      |      |      |
|------|-----------------|------|------|------|------|
|      | 1               | 2    | 3    | 4    | 5    |
| 201  | -.15            | .83  | .09  | .06  | .13  |
| 202  | .11             | .83  | -.16 | -.03 | .12  |
| 203  | -.10            | .98  | .13  | .05  | -.16 |
| 206  | -.20            | .70  | -.07 | -.13 | .09  |
| 207  | .29             | .74  | -.11 | .09  | -.10 |
| 209  | .30             | .26  | -.01 | .51  | .07  |
| 212  | .01             | -.02 | -.16 | .02  | .89  |
| 213  | -.05            | .02  | .04  | .32  | .48  |
| 216  | -.10            | .25  | .22  | .58  | .09  |
| 217  | .03             | -.00 | -.09 | .91  | -.08 |
| 218  | -.07            | -.20 | .04  | .87  | .08  |
| 225  | .98             | .03  | -.22 | .08  | -.07 |
| 227  | .70             | .06  | -.07 | .09  | -.01 |
| 228  | .68             | -.19 | .05  | .04  | -.02 |
| 231  | .60             | .05  | .26  | -.28 | .11  |
| 232  | .57             | .06  | .25  | -.26 | .09  |
| 233  | .76             | .04  | .16  | .09  | -.00 |
| 234  | .10             | -.16 | .65  | .16  | -.03 |
| 236  | .02             | -.15 | .82  | .03  | .05  |
| 237  | .02             | -.18 | .69  | .02  | .10  |
| 238  | -.05            | .20  | .87  | -.01 | -.23 |

being above 60%). Based on the checking, five factors were rotated using Promax rotation procedure. The rotation solution, as shown in Table 4, yielded five interpretable factors: identified regulation (first factor), amotivation (second factor), intrinsic motivation (third factor), introjection (fourth factor), and external regulation (fifth factor). Items that loaded either on multiple factors or none of the factors were eliminated. Also, one item was eliminated after the reliability check.

Each factor accounted for the following item variance: first factor, 34.48%; second factor, 15.21%; third factor, 8.40%; fourth factor, 4.92%; fifth factor, 3.83%. Using .40 as a cutoff point, none of the remaining items loaded on more than one factor. The Cronbach's  $\alpha$  for the five factors were as follows: first factor,  $\alpha = .87$ ; second factor,  $\alpha = .92$ ; third factor,  $\alpha = .87$ ; fourth factor,  $\alpha = .87$ ; fifth factor,  $\alpha = .70$ . All Corrected Item-Total Correlation scores, which demonstrate the correlations between each item and the total score from the questionnaire, were above .30, which means that all items correlate well with the scale overall.

*Descriptive Statistics for the Extracted Factors*

*Perceived fulfillment of the needs.* Descriptive statistics were calculated for the extracted needs factors (Table 5). Looking at the mean differences and the 95% confidence level, we

**Table 5****Descriptive Statistics for the Perceived Fulfillment of the Five Needs (N = 63\*)**

|                | Comp (C) | Comp (G) | Comp (F) | Relate (T) | Relate (S) |
|----------------|----------|----------|----------|------------|------------|
| <i>M</i>       | 3.83     | 3.35     | 4.02     | 5.07       | 5.78       |
| 95% Confidence |          |          |          |            |            |
| Lower Bound    | 3.55     | 3.07     | 3.61     | 4.76       | 5.53       |
| Upper Bound    | 4.11     | 3.65     | 4.42     | 5.38       | 6.03       |
| <i>SD</i>      | 1.11     | 1.18     | 1.61     | 1.24       | 1.00       |
| Skewness       | -.12     | -.19     | -.05     | -.60       | -.46       |
| <i>SES</i>     | .30      | .30      | .30      | .30        | .30        |
| Kurtosis       | -.17     | -.63     | -.51     | .11        | -.74       |
| <i>SEK</i>     | .60      | .60      | .60      | .60        | .60        |

Note. *Comp (C)* = class competence. *Comp (G)* = course grade competence. *Comp (F)* = future competence. *Relate (T)* = relatedness with the teacher. *Relate (S)* = relatedness with other students.

\*Missing data (two participants) excluded from the analysis.

**Table 6****Descriptive Statistics for the Motivational Subtypes (N = 64\*)**

|                | AM   | ER   | INT  | IR   | IM   |
|----------------|------|------|------|------|------|
| <i>M</i>       | 3.29 | 2.41 | 3.76 | 4.97 | 4.68 |
| 95% Confidence |      |      |      |      |      |
| Lower Bound    | 2.94 | 2.11 | 3.42 | 4.65 | 4.34 |
| Upper Bound    | 3.64 | 2.70 | 4.10 | 5.29 | 5.01 |
| <i>SD</i>      | 1.40 | 1.18 | 1.34 | 1.28 | 1.36 |
| Skewness       | .34  | .48  | -.22 | -.91 | -.60 |
| <i>SES</i>     | .30  | .30  | .30  | .30  | .30  |
| Kurtosis       | .11  | -.57 | -.32 | -.55 | .02  |
| <i>SEK</i>     | .59  | .59  | .59  | .59  | .59  |

Note. *AM* = amotivation. *ER* = external regulation. *INT* = introjection. *IR* = identified regulation. *IM* = intrinsic motivation. \*Missing data (one participant) excluded from the analysis.

**Table 7****Correlations between Psychological Needs and Motivational Subtypes (N = 65)**

|              | Comp (C) | Comp (G) | Comp (F) | Relate (T) | Relate (S) |
|--------------|----------|----------|----------|------------|------------|
| Amotivation  | -.43*    | -.39*    | -.61*    | -.15       | -.03       |
| ER           | -.06     | -.14     | -.19     | -.03       | -.20       |
| Introjection | .03      | -.27     | -.14     | .05        | .03        |
| IR           | .25      | .24      | .25      | .27        | .06        |
| IM           | .35      | .39*     | .38*     | .15        | -.05       |

Note. *Comp (C)* = class competence. *Comp (G)* = course grade competence. *Comp (F)* = future competence. *Relate (T)* = relatedness with the teacher. *Relate (S)* = relatedness with other students. *ER* = external regulation. *IR* = identified regulation. *IM* = intrinsic motivation.

\* $p < .05$ .

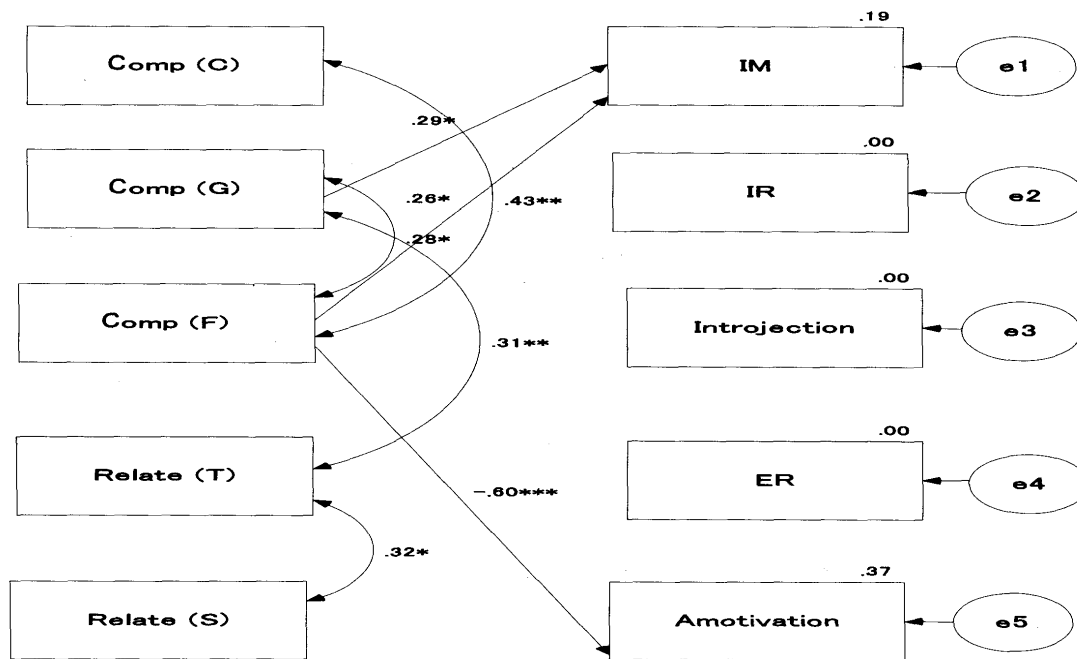
can say that the scores for the two relatedness factors are higher than the scores for the three competence factors. The skewness also tells that the scores for the relatedness factors are negatively skewed, meaning that the students perceived their need for relatedness to be quite fulfilled as compared to the need for competence.



**Motivational subtypes.** Descriptive statistics were calculated for the extracted motivational factors (Table 6). Looking at the mean differences and the 95% confidence level, we can say that the scores for the lower forms of motivation (Amotivation and External regulation) are lower than those of the higher forms of motivation (Identified regulation and Intrinsic motivation). The skewness also shows that the scores for the lower forms of motivation are positively skewed while the scores for the higher forms of motivation are negatively skewed, meaning that the participants possess more higher forms of motivation than lower ones.

**Correlation Coefficients**

Inter-correlations were computed among the five factors for the psychological needs and the five factors for motivation. The Holm’s sequential Bonferroni procedure was used to control for Type I error. In other words, for the *p* value to be significant at .05 level, the strongest correlation had to be below .0011 (.05/45 = .0011), the second, .0012, the third, .0013, and so forth. The results of the correlation analyses presented in Table 7 show that five out of the 25 correlations (intra-correlations excluded from the table) were statistically significant.



$\chi^2 = 108.821$ ,  $df = 38$ ,  $p = .000$ ,  $GFI = .753$ ,  $AGFI = .642$ ,  $RMSEA = .171$ ,  $AIC = 142.821$ .  
 \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Figure 1.** Path analysis for the fulfillment of needs and motivational subtypes ( $N = 65$ ).  
 Note. Comp (C) = class competence. Comp (G) = course grade competence. Comp (F) = future competence. Relate (T) = relatedness with the teacher. Relate (S) = relatedness with other students. IM = intrinsic motivation. IR = identified regulation. ER = external regulation.

### ***Structural Equation Modeling***

Structural equation modeling was conducted in order to find out the effects of the fulfillment of the needs on motivational subtypes. Path diagram was drawn based on the intra-correlations among the needs factors and the inter-correlations (Table 7). Maximum likelihood was chosen. The results of the analysis are shown in Figure 1 (Although the five needs and the five motivational types are latent variables, in the figure they are shown as observed variables since they were imported from SPSS factor analysis results.). While the path coefficients from the needs factors to motivational factors were statistically significant (course grade competence to intrinsic motivation, .29; future competence to intrinsic motivation, .26; future competence to amotivation,  $-.60$ ), the measurement of fit showed that the model fit was not good (GFI = .753, AGFI = .642, RMSEA = .171, AIC = 142.821). The perceived needs fulfillment accounted for 19% of intrinsic motivation and 37% of amotivation.

## **Discussion**

### ***Perceived Fulfillment of the Three Basic Psychological Needs***

***Lack of autonomy factor.*** The factor analysis (Table 3) could not identify any factor related to the fulfillment of the need for autonomy. For example, items 104, 105, and 106, which were intended to measure to what extent the participants perceived their teacher to be autonomy supporting, loaded with items which intended to measure how friendly and considerate the teacher was (items 119 and 122). Also, an item which was intended to measure participants' willingness to do homework autonomously (item 107), loaded with items that measured the fulfillment of course related competence (items 109, 112, and 113). The results may partly be due to the misfit of autonomy related questionnaire items to the participants' learning environment. Some previous research results suggest that the autonomy factor can be affected by cultural factors (e.g., Iyengar & Lepper, 1999). If we conceptualize culture in a wider way, including classroom culture and learning situation, the concept of autonomy may have to be defined differently to fit each situation. As explained in the participants' section, these participants' learning conditions are somewhat controlled. In this kind of learning environment, the fulfillment of the need for autonomy may have to be redefined and measured in a different way.

***Competence and relatedness.*** As mentioned, the descriptive statistics for the five factors (Table 5) show that the participants, in general, perceived their need for relatedness to be more fulfilled than their need for competence. We cannot say, however, that students' perceived fulfillment of the need for competence is low, considering that 4 is the midpoint of the 7-point Likert-scale ( $M$  of Comp (C) = 3.83, Comp (G) = 3.35, Comp (F) = 4.02). In other words, comparatively speaking, the students may have been enjoying the friendly atmosphere more than their academic achievements in class. One possible explanation for this result can

be the relative difficulty of fulfilling the need for competence. By frequently using pair and group works, and by personally knowing the students and chatting with them after lessons, the need for relatedness may be fulfilled to some degree. Nevertheless, when the students have low TOEIC scores to begin with and when the major goal of the course is to raise their scores, it will not be easy to fulfill their need for competence unless their actual scores are raised—which requires time and efforts. The result, therefore, can be due to situation specific factors.

### ***Motivational State***

As intended, five factors emerged through factor analysis. However, as can be seen in Table 6, the participants scored higher on the higher forms of motivation instead of the lower ones, which was unexpected.

### ***Correlations between the Needs and Motivational Factors***

As can be seen in Table 7, all three competence factors—class competence, course grade competence, and future competence—had a statistically significant negative correlation with Amotivation. Also, course grade competence and future competence had a statistically significant positive correlation with intrinsic motivation. The two relatedness factors—relatedness with the teacher and relatedness with other students—didn't have any correlation with motivational factors. The results suggest the importance of fulfilling student competence in motivating students and in evading amotivation.

### ***Structural Equation Modeling (SEM)***

Unfortunately, the SEM model did not fit well and the needs factors' effects on motivation was rather marginal, possibly because of the small sample size and the inappropriate questionnaire items for the autonomy factor. Even taking into consideration such shortcomings of this model, however, the results have some implications. As can be seen in Figure 1, course grade competence and future competence had positive effect on intrinsic motivation. Similarly, future competence had negative effect on amotivation. While class competence did not have statistically significant direct impact on intrinsic motivation or amotivation, its correlation with future competence suggested that it may be indirectly affecting intrinsic motivation and amotivation. Similarly, the correlation between course grade competence and future competence suggests that course grade competence may be indirectly affecting amotivation.

Finally, the pedagogical implication for this research is that, by fulfilling different forms of competence, English teachers may be able to affect the motivation of non-English major students with low English proficiency. This can include using tasks and activities that the students can experience success with reasonable efforts (class competence), providing

positive feedbacks (course grade competence), and allowing the students to envision their future using English (future competence).

## Conclusions

As mentioned previously, there were some limitations in this study; the small sample size and the inappropriate questionnaire items for autonomy, which may have affected the factor analysis results and the model fit of the structural equation modeling. In future research, a more situation appropriate questionnaire items should be made and used on larger sample sizes to find out the effects of the autonomy factor on motivation. Even with such limitations, the results of the research suggest the importance of fulfilling the need for competence of non-English major Japanese university students with low English proficiency.

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## Appendix 1

### Psychological Needs Scale for English Learning

7-point scale varying from (1) "Does not correspond at all." to (7) "Correspond completely"

#### The Need for Autonomy

101. All I can do is to take classes according to the syllabus (reversed item).
102. If I want to, I can express my opinion to the university regarding the teaching materials and activities used in this English class.
103. If I want to, I can express my opinion to the teacher regarding the teaching materials and activities used in this English class.
104. If I express my opinion regarding what materials to use in class, I think my English teacher will consider it seriously.
105. If I express my opinion regarding what classroom activities to conduct in class, I think my English teacher will consider it seriously.
106. The teacher gives us some choices regarding what to do in class.
107. I do my homework because I think it is useful for my English development.
108. I feel pressured in class (reversed item).

#### The Need for Competence

109. I feel that my English proficiency has developed since the beginning of the semester.
110. I think that I have understood most subjects covered in class.
111. I feel that I am less proficient in English than my classmates (reversed item).
112. I usually feel that I have learned something new after my English classes.
113. I usually feel that I have learned something new after doing my English homework.
114. I think I can get good grades in my English class.
115. I think that my English teacher is satisfied with my performance in class.
116. I think I will be able to get better scores on my TOEIC test if I continue studying English.
117. I think I will be able to speak English if I continue studying English.
118. I think I will be able to read English books if I continue studying English.

#### The Need for Relatedness

119. I feel that my English teacher cares about my learning difficulties.
120. I have no fear talking to my English teacher after class if I need to.
121. I have no fear e-mailing my English teacher if I need to.
122. My English teacher speaks to us in a friendly manner during class.
123. I have close friends in this English class.

124. I have difficulty finding a partner during pair work or group work (reversed item).
125. I think that I am cooperating well with my friends in this English class.
126. I think I can seek for my classmates' help when I don't understand how to do my English tasks in class.
127. I think I will help my classmate if she doesn't understand how to do an English task in class.

Appendix 2

### Motivation Scale for English Learning

7-point scale varying from (1) "Does not correspond at all." to (7) "Correspond completely"

#### ***Q: Why are you studying English?***

##### **Amotivation**

201. I don't know. I don't want to study English because I would not be able to gain higher TOEIC scores even if I studied hard.
202. I don't know. I don't want to study English because I would not be able to gain good grades even if I studied hard.
203. I don't know. I don't want to study English because I would not be able to use the language even if I studied hard.
204. I don't know. I don't want to study English because TOEIC scores don't mean much to me.
205. I don't know. I don't want to study English because I don't care about my English grades.
206. I don't know. I don't want to study English because I will not use it in the future.
207. I don't know. I don't understand the objectives of the activities in class.

##### **External Regulation (Extrinsic Motivation)**

208. Because it is a required subject.
209. Because I will get bad grades if I don't.
210. In order to get a good score on the final exam.
211. In order to score higher on the TOEIC test.
212. Because my teacher will get mad at me if I don't do my homework.
213. Because my teacher pressures me to study hard.
214. I don't want to but I go to class because I cannot skip classes.
215. Because my caretakers pressure me to study hard.

##### **Introjection (Extrinsic Motivation)**

216. Because I will feel guilty for my caretakers if I don't study hard.
217. Because I will feel guilty for my teacher if I don't study hard.
218. Because I will feel guilty if my teacher learns that I didn't do my homework.
219. Because I will feel guilty for my teacher if I get bad score on my exam.
220. Because I will feel ashamed if my teacher learns that I am not studying properly in class.
221. Because I will feel ashamed if my teacher learns that I didn't do my homework.
222. Because I want my classmates to think that I am smart.
223. Because I want my teacher to think that I am smart.

- 224. Because I can look cool if I am able to speak English.
- 225. Because being able to use English is becoming a global standard.

**Identified Regulation (Extrinsic Motivation)**

- 226. In order to get a better job in the future.
- 227. Because it allows me to have access to more information.
- 228. Because I would like to be able to speak English.
- 229. Because I would like to be able to read English books.
- 230. Because I would like to understand English movies and songs.
- 231. Because I would like to travel around the world using English.
- 232. Because I would like to be an international person.
- 233. Because I will have more advantage in doing many things.

**Intrinsic Motivation**

- 234. Because I enjoy the feeling of developing my vocabulary.
- 235. Because I enjoy the feeling of being able to express new things in English.
- 236. Because I enjoy the feeling of being able to understand more in English.
- 237. Because I enjoy the feeling of being able to read more in English.
- 238. Because I enjoy the feeling of being able to do difficult tasks in English.
- 239. Because I enjoy the feeling of being able to sing English songs.
- 240. Because I enjoy the feeling of learning about foreign cultures and their ways of life.
- 241. Because I enjoy the feeling of being a more valuable individual.
- 242. Because I enjoy my English class.

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