Personal Investment Theory and Japanese University Students’ Achievement on the Test of English as a Foreign Language

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Researchers and theorists in the area of Second Language Acquisition (e.g., Ellis, 1994; Gass & Selinker, 1994; Larsen-Freeman & Long, 1991; Spolsky, 1989) consider there to be a wide variety of factors that contribute to language proficiency and achievement. These include motivation, language aptitude, the learning environment, learning styles and strategies, age, and personality factors. This paper focuses on motivational and sense-of-self characteristics, and their contribution to achievement on an academic English test. Data were collected from 500 female, Japanese, first-year university students using the Inventory of University Motivation, based on Maehr’s multiple goal model of Personal Investment (Maehr, 1984; Maehr & Braskamp, 1986). Results from multiple regression analyses showed that half of the components of the scales were effective in predicting academic English proficiency as measured by Test of English as a Foreign Language (TOEFL) scores. Three scales, Sense of competence at English, Competition in English, and Social Concern in English, had the highest predictive utility.

Introduction

Of all the various factors usually given as explanations for differential success in learning foreign languages (e.g., Ellis, 1994; Gass & Selinker, 1994; Larsen-Freeman & Long, 1991; Spolsky, 1989), such as age, language aptitude, and personality, motivation is often mentioned as the most important by teachers and by some researchers (e.g. Gardner, 1985). After being dominated by Gardner’s Socioeducational Model paradigm (Gardner, 1968; 1979; 1980; 1983; 1985; 1988; Gardner & Lambert, 1959; 1972) the early 1990s brought a renewed interest in the area of foreign language motivation (Crookes & Schmidt, 1991; Dörnyei, 1990; 1994a; 1994b; Gardner & Tremblay, 1994; Oxford, 1994; Oxford & Shearin, 1994; Tremblay & Gardner, 1995). This led to an expansion of the research agenda which has continued to the present (Dörnyei, 1998; 2001a; 2001b; Dörnyei & Schmidt, 2001; Oxford, 1996; Ushioda, 1998). Dörnyei & Schmidt (2001) in particular have been very instrumental in contributing to the goal of diversifying research in foreign language learning. Their collection includes various quantitative techniques and qualitative approaches, covering numerous target languages and cultural contexts, involving learners of all ages. This study aims to contribute to this growing body of research especially with regard to two of the challenges facing current research in motivation that Dörnyei (2001b) lists: the challenge of what he calls “parallel multiplicity” (p. 13), and the challenge of context.

By “parallel multiplicity,” Dörnyei (2001b) means “the interplay of the learners’ simultaneous focus on a number of different but interacting goals and activities” (p. 13). These different goals include social goals which may either conflict with or work in tandem with academic goals. For language learners, these may also include other subject goals, especially for learners in institutions such as schools and universities, where students have many classes, with regular urgent deadlines and forms of assessment which may have important influences on their futures. The second challenge, that of the context, refers to the difficulties of addressing the socio-cultural and contextual influences on learning behaviour. The present study aims to contribute to the development of our understanding and measurement of the construct of motivation and the role it plays in foreign language learning, by using a model of motivation and a measurement instrument based on it, which specifically addresses these two challenges.

Theoretical Framework

Maehr’s Personal Investment Model (Maehr, 1984; Maehr & Braskamp, 1986) is a comprehensive, multiple-goal model of motivation which has been used in a variety of contexts, including the context of adult work behaviour. In an educational context, it theorises that student behaviours are the result of the meaning they make of their situation. This personal meaning derives from their goals, their sense of self, and what they perceive as action possibilities. Figure 1 gives a diagrammatic representation of the model, the components of which have been expanded on, in order to describe the present research context. Four contributing factors — Information, the Teaching-Learning Situation, Personal Experiences, and the Sociocultural Context — influence these three core concepts, which, in turn, determine Personal Investment. Personal incentives refer to four kinds of achievement goals: task goals, ego goals, social solidarity goals, and extrinsic rewards, while Sense of Self comprises: Sense of Purpose, Sense of Competence, and Self-
Esteem. Figure 1 shows the scales for Personal Incentives and Sense of Self that were validated in an earlier part of this study. This model is used as the theoretical framework for this study in order to identify the variables that were most successful at predicting academic success at EFL of female Japanese university students.

![Diagram of Personal Investment Model](image)

**Personal Investment of Japanese female university students towards the study of EFL**

*Figure 1. An Expanded Version of Maehr’s Personal Investment Model*

**Method**

**Participants**

The participants were 500 first year students, from the three departments of Keisen University, British and American Studies (210), Japanese Studies (87), and International Socio-cultural Studies (203). All participants were female Japanese nationals aged 18-19. They had mostly come directly from high schools in or around Tokyo, though a few had come from prefectures further afield, and some had spent a year after graduating from high school preparing for university entrance examinations. The tuition fees at Keisen are relatively high compared to other women’s universities, and students in general are from middle to upper-middle class families.

**Site**

Keisen University is a small, mid-ranked women’s Christian university on the outskirts of western Tokyo. The educational institution of Keisen was founded in 1929 by Michiko Kawai, starting with a junior high
school, with the intention of providing educational opportunities for girls. It has slowly grown over the years adding a high school, junior college, and the university, which was started in 1988 with a Faculty of Humanities with two departments – British and American Studies, and Japanese Studies. A new Department of International Socio-cultural Studies was started in 1997. The data for this study were collected in the first semester of 1999 from students of these three departments. After the data were collected another department (Human Ecological Studies) was started, in 2001, along with a Graduate School.

The three main educational pillars of Keisen are: Christianity, Horticulture, and International Studies. Because of this focus on International Studies, Keisen has had a strong reputation for English language education since its founding. Most students want to get a ‘feminine’ job, with many within the Departments of British and American Studies and International Sociocultural Studies hoping to use English in their futures, for example as English teachers, airline employees, travel agency employees, working in foreign companies and non-government organisations. These two departments therefore have a wide range of compulsory and elective English classes, in order to help students be able to communicate using English as well as to be able to study academic content in English. Some examples of these classes are: Readings in British and American Studies, Current Affairs in English, Language Laboratory, Internet English, English through Music and Video, and English Expression. In addition to these department-specific classes, all first and second year students at Keisen University have to complete compulsory Communicative English classes in the four language skill areas of Listening, Speaking, Reading, and Writing, in order to be able to graduate. This is quite common at Japanese universities in general, but is especially so for women’s universities, which mainly focus on the Humanities.

Measurement Instrument

McInerney’s Inventory of School Motivation (ISM) (McInerney & Sinclair, 1991; McInerney & Swisher, 1995; McInerney, Roche, McInerney, & Marsh, 1997), based on Maehr’s theory of Personal Investment (Maehr, 1984; Maehr & Braskamp, 1986), was adapted for use with Japanese university students. The ISM is an exploratory instrument which can be, and has been, used to define scales for both etic and emic purposes. Items have been validated with Navajo populations (McInerney & Swisher, 1995), and across a variety of other cultural samples. It has also been recently revised, the Inventory of School Motivation Revised (ISMR), and validated in Hong Kong (McInerney, Yeung, & McInerney, 2001).

Two forms of this questionnaire were devised: one to assess student motivation towards learning English specifically, the Inventory of University Motivation towards English (IUM-Eng), and the other to measure student motivation towards university study in general, the Inventory of University Motivation in General (IUM-Gen). The total number of items for both forms of the questionnaire was 146. Items were scored using a Likert-type scale from strongly disagree (1) to strongly agree (5). Items were chosen to reflect seven motivational dimensions and three sense of self dimensions. The seven motivational dimensions are: Task/Effort, Competition, Power, Affiliation, Social Concern, Recognition, and Token Rewards. The three Sense of Self dimensions are: Sense of Purpose, Self-esteem, and Sense of Competence.

Many English teachers who would be helping to administer the survey requested that it be in English for two main reasons: it would be conducted in an English class, and many of the non-Japanese teachers do not read Japanese. However, for validity reasons, it was felt very strongly that the items should be translated into Japanese. Eventually, it was decided to have all items in both languages, with the English version of each item preceding the Japanese language one. Written instructions to students at the start of the questionnaires were in Japanese only.

Administration of the Survey

The questionnaire was administered towards the end of Semester 1, in June and July of 1999. Students are allocated to English classes of about 25 students per class. In each of the departments of British and American Studies and International Socio-cultural Studies there were 8 class groups. In the Japanese Studies Department there were 4. The cooperation of Communicative English teachers was requested, but they were given the opportunity not to participate if they preferred not to. All teachers showed interest in the survey and were willing to participate. They were asked to administer the questionnaires during the last three weeks of the semester, before their final tests or assignments. A brief explanation of the study and instructions on administering the survey were given to all teachers in English.

On completion of the questionnaires, teachers returned them to me. They were all checked for omission of name/student numbers and sorted by department and student number for input into the database. Omitted
name/numbers were excluded from the analysis. After input was completed, the results were examined for impossible data which were corrected by referring to the original questionnaires.

**Statistical Analyses**

Prior to the present study, the construct validity and reliability of the IUM-Eng and the IUM-Gen were examined. The theoretical basis of these instruments, Maehr’s Personal Investment Model, was supported as an appropriate one for use in studying the motivation of Japanese university students towards study at university in general as well as specifically towards EFL. Based on the exploratory Principal Components Analyses (PCA) conducted, mean scales were developed in order to further test the instruments and the model. In this study, these mean scales were used to measure the utility of the instruments, and of Maehr’s model, to predict student performance and achievement, through multiple regression analyses. All statistical analyses were completed using SPSS for Windows, Version 8.

**Research Questions**

In this part of the study the following research questions are addressed:
1. Is there a significant relationship between the predictor variables derived from the two forms of the IUM and the criterion variables?
2. What are the particular predictor variables of most significance, and how do these relate to theoretical perspectives on the motivation of Japanese university students towards the study of EFL?

**Predictor Variables**

Table 1 lists the predictor variables, which are the Mean Scales developed from prior exploratory PCA analyses.

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>IUM-Eng Scales</th>
<th>IUM-Gen Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Praise in English (PRAE)</td>
<td>Praise at university (PRAU)</td>
<td></td>
</tr>
<tr>
<td>Task/Effort in English (TASE)</td>
<td>Task/Effort at university (TASU)</td>
<td></td>
</tr>
<tr>
<td>Social Concern in English (SOCE)</td>
<td>Affiliation / Social Concern at university (AFLU)</td>
<td></td>
</tr>
<tr>
<td>Power in English (POWE)</td>
<td>Power at university (POWU)</td>
<td></td>
</tr>
<tr>
<td>Recognition in English (RECE)</td>
<td>Token Rewards at university (TOKU)</td>
<td></td>
</tr>
<tr>
<td>Affiliation in English (AFLE)</td>
<td>Sense of Purpose in English (SOPE)</td>
<td>Sense of Purpose at university (SOPU)</td>
</tr>
<tr>
<td>Sense of Competence in English (SECE)</td>
<td>Sense of Competence at university (SECU)</td>
<td></td>
</tr>
<tr>
<td>Self-esteem in English (SESE)</td>
<td>Self-esteem at university (ESTU)</td>
<td></td>
</tr>
</tbody>
</table>

**Criterion Variables**

Two criterion variables were used for the multiple regression analyses of the IUM-Eng and IUM-Gen. These were two results on the Test of English as a Foreign Language (TOEFL) Institutional Testing Procedure (ITP) that all first year students took in early April as a part of their placement into English classes, and then again towards the end of their first academic year in December to measure their improvement on this internationally-recognized academic English test. The ITP is a version of the TOEFL test that individual institutions can conduct at dates of their choice and for their own purposes. It is equivalent in difficulty level to the regular TOEFL conducted by Educational Testing Service. The TOEFL consists of three sections: Listening Comprehension, Structure and Written Expression, and Reading Comprehension. Possible total scores range from 217 to 677. These variables are clearly objective standardised measures, recognised by universities around the world.

Table 2 gives descriptive statistics for the criterion variables. The criterion variables are specific to English study, so the IUM-Eng was expected to be stronger than the IUM-Gen at predicting scores.
However, English study is a compulsory aspect of students’ university education, and therefore some correlation was expected.

**Table 2. Criterion Variables Descriptive Statistics**

<table>
<thead>
<tr>
<th>Criterion Variables</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL 1</td>
<td>373.6</td>
<td>34.3</td>
<td>483</td>
</tr>
<tr>
<td>TOEFL 2</td>
<td>381.5</td>
<td>39.4</td>
<td>386</td>
</tr>
</tbody>
</table>

**Analysis Procedures**

Multiple regression analysis was performed, for each of the above two scales separately to examine their effect on the criterion variables. Tables 3 and 4 show the correlation matrices for all the variables on these two scales. In general, the intercorrelations amongst the predictor variables are moderate to low (< .5). However, a small number of relatively high correlations (> .6) exist between related constructs: SOPE and TASE (+.77), and COME and PRAE (+.61) for the IUM-Eng, and for the IUM-Gen, SOPU and TASU (+.65) and POWU and PRAU (+.61). Theoretically, these correlations suggest that potentially a higher order factor may explain these related constructs. For the purposes of this study, they were treated as separate scales. All correlations fall below .80, suggested by Hatch and Lazaraton (1991) as the point at which multi-collinearity starts to become a problem. However, the multi-collinearity statistics were examined to ensure they met appropriate criteria for inclusion in multiple regression.

**Table 3. Correlation Matrix for criterion variables and predictor variables of the IUM-Eng**

<table>
<thead>
<tr>
<th></th>
<th>T 1</th>
<th>T 2</th>
<th>SOPE</th>
<th>SECE</th>
<th>SESE</th>
<th>TASE</th>
<th>SOCE</th>
<th>POWE</th>
<th>AFLE</th>
<th>COME</th>
<th>PRAE</th>
<th>RECE</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>T 2</td>
<td>.518</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOPE</td>
<td>.205</td>
<td>.202</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECE</td>
<td>.304</td>
<td>.259</td>
<td>.329</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SESE</td>
<td>.045</td>
<td>-.084</td>
<td>.244</td>
<td>.273</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TASE</td>
<td>.186</td>
<td>.224</td>
<td>.765</td>
<td>.363</td>
<td>.077</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOCE</td>
<td>-.041</td>
<td>.065</td>
<td>.282</td>
<td>.267</td>
<td>.155</td>
<td>.319</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWE</td>
<td>.023</td>
<td>-.066</td>
<td>.336</td>
<td>.234</td>
<td>.379</td>
<td>.285</td>
<td>.326</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFLE</td>
<td>.010</td>
<td>-.103</td>
<td>.254</td>
<td>.101</td>
<td>.194</td>
<td>.308</td>
<td>.415</td>
<td>.355</td>
<td>.100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>COME</td>
<td>.157</td>
<td>.143</td>
<td>.526</td>
<td>.258</td>
<td>.495</td>
<td>.441</td>
<td>.245</td>
<td>.520</td>
<td>.239</td>
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<td></td>
</tr>
<tr>
<td>PRAE</td>
<td>.064</td>
<td>.011</td>
<td>.347</td>
<td>.159</td>
<td>.464</td>
<td>.305</td>
<td>.299</td>
<td>.496</td>
<td>.376</td>
<td>.606</td>
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<tr>
<td>RECE</td>
<td>-.049</td>
<td>-.086</td>
<td>.220</td>
<td>.194</td>
<td>.391</td>
<td>.151</td>
<td>.259</td>
<td>.551</td>
<td>.357</td>
<td>.451</td>
<td>.542</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Notes: T 1  = TOEFL 1;  T 2  = TOEFL 2;

**Table 4. Correlation Matrix for criterion variables and predictor variables of the IUM-Gen**

<table>
<thead>
<tr>
<th></th>
<th>T 1</th>
<th>T 2</th>
<th>PRAU</th>
<th>TASU</th>
<th>AFLU</th>
<th>POWU</th>
<th>TOKU</th>
<th>ESTU</th>
<th>SOPU</th>
<th>SECU</th>
</tr>
</thead>
<tbody>
<tr>
<td>T 1</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T 2</td>
<td>.518</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRAU</td>
<td>.061</td>
<td>.012</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TASU</td>
<td>.108</td>
<td>.090</td>
<td>.464</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AFLU</td>
<td>-.073</td>
<td>-.120</td>
<td>.387</td>
<td>.309</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POWU</td>
<td>.049</td>
<td>-.023</td>
<td>.614</td>
<td>.481</td>
<td>.374</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>TOKU</td>
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<td>-.065</td>
<td>.594</td>
<td>.229</td>
<td>.351</td>
<td>.563</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ESTU</td>
<td>.205</td>
<td>.147</td>
<td>.202</td>
<td>.306</td>
<td>.397</td>
<td>.217</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOPU</td>
<td>.065</td>
<td>.000</td>
<td>.557</td>
<td>.651</td>
<td>.294</td>
<td>.532</td>
<td>.323</td>
<td>.272</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>SECU</td>
<td>.108</td>
<td>.137</td>
<td>.021</td>
<td>.384</td>
<td>-.012</td>
<td>.139</td>
<td>-.138</td>
<td>.474</td>
<td>.165</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Notes: T 1  = TOEFL 1;  T 2  = TOEFL 2;

In this study, the main purpose of the multiple regression was to test the relative utility of the two complete scales, rather than to build a separate model of predictor variables for each of the dependent variables for this population of students. Thus the simultaneous method of input of variables was selected along with the SPSS diagnostic tests for collinearity. This test produces a tolerance statistic ranging from zero to one. A small value (close to 0) indicates high multi-collinearity, while a high value (close to 1)
indicates low multi-collinearity. The first analysis was performed with the combined IUM-Eng Scales of Motivational Goals and Sense of Self as the ten predictor variables. These were regressed on each of the criterion variables. The second analysis was performed with the combined IUM-Gen Scales of Motivational Goals at University and Sense of Self at University as the eight predictor variables regressed on the same criterion variables.

**Results**

*IUM-Eng*

The IUM-Eng Scales were quite effective in predicting academic English proficiency, as measured by the TOEFL 1 and 2 criterion variables, as can be seen from Table 5. The IUM-Eng scales could explain 16.2% of the variance in TOEFL 1 (p = .000). Five individual scales made significant contributions to this. In order of standardised beta weight these were: Sense of Competence in English, Competition in English, Social Concern in English (negative), Recognition in English (negative), and Power in English (negative).

Table 5. IUM-Eng Beta Weights and multiple correlation coefficients for the two criterion variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Mul R²</th>
<th>Adj. R²</th>
<th>Sig.</th>
<th>BETA WEIGHTS FOR PREDICTOR VARIABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL 1</td>
<td>.403</td>
<td>.162</td>
<td>.000</td>
<td>.069</td>
</tr>
<tr>
<td>TOEFL 2</td>
<td>.438</td>
<td>.192</td>
<td>.000</td>
<td>.029</td>
</tr>
</tbody>
</table>

Notes: PRAE = Praise in English;  TASE = Task/Effort in English;  SOCE = Social Concern in English;  POWE = Power in English;  RECE = Recognition in English;  AFLE = Affiliation in English;  COME = Competition in English;  SOPE = Sense of Purpose in English;  SECE = Sense of Competence in English;  SESE = Self-Esteem in English;

Coefficients in bold and shaded are significant at the .05 level.

For TOEFL 2, the predictive strength increased slightly. The predictor scales could explain 19.2% of the variance (p = .000). The strongest significant predictor was again Sense of Competence in English, followed by Self-esteem in English (negative), Competition in English, and Social Concern in English (negative). Beta weights and correlation coefficients for the IUM-Eng and TOEFL tests are also shown in Table 5.

For these multiple regression analyses, the lowest level of tolerance produced was .343, which is considered to be high enough to avoid problems of multi-collinearity.

*IUM-Gen*

For general motivation at university there were eight predictor scales. Table 6 shows the beta weights and correlation coefficients. The IUM-Gen could significantly explain a lower percentage than for the IUM-Eng. For TOEFL 1, it could explain 7.5% of the variance (p = .000), with the significant predictors, in order of standardised Beta weights, being: Self-esteem at University, Token at University (negative), and Affiliation at University (negative).

For TOEFL 2, the predictive strength decreased slightly. 6.9% of its variance was explained by the IUM-Gen (p = .002). The main significant predictor was again Self-esteem at University, followed by Affiliation at University (negative).

Again, tests of tolerance were conducted for these analyses. The lowest value produced was .437, which is high enough to be considered safe from the problem of multi-collinearity. In the above descriptions of variance explained, the R² statistic is used. The reader should note that there is some shrinkage, as can be seen by the Adjusted R² statistic in Tables 5 and 6.
Table 6. IUM-Gen Beta Weights and multiple correlation coefficients for the two criterion variables

<table>
<thead>
<tr>
<th>Criterion Variable</th>
<th>Mul R</th>
<th>R²</th>
<th>Adj. R²</th>
<th>Sig.</th>
<th>PRAU</th>
<th>AFLU</th>
<th>TASU</th>
<th>POWU</th>
<th>TOKU</th>
<th>ESTU</th>
<th>SOPU</th>
<th>SECU</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOEFL 1</td>
<td>.274</td>
<td>.075</td>
<td>.057</td>
<td>.000</td>
<td>.125</td>
<td>-.128</td>
<td>.100</td>
<td>-.026</td>
<td>-.137</td>
<td>.245</td>
<td>.033</td>
<td>-.056</td>
</tr>
<tr>
<td>TOEFL 2</td>
<td>.262</td>
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<td>.047</td>
<td>.002</td>
<td>.099</td>
<td>-.159</td>
<td>.141</td>
<td>-.086</td>
<td>-.068</td>
<td>.185</td>
<td>.089</td>
<td>.017</td>
</tr>
</tbody>
</table>

Notes: PRAU = Praise at University; AFLU = Affiliation at University; TASU = Task / Effort at University; POWU = Power at University; TOKU = Token Rewards at University; ESTU = Self-Esteem at University; SOPU = Sense of Purpose at University; SECU = Sense of Competence at University; TOEFL 1 = Test of English as a Foreign Language (April, 1999); TOEFL 2 = Test of English as a Foreign Language (December, 1999); Coefficients in bold and shaded are significant at the .05 level.

**Discussion**

Overall, the first thing we can say about the above results is that the two forms of the IUM have some utility in predicting or explaining student academic performance in English, as measured by TOEFL. Regarding the first research question:

1. Is there a significant relationship between the predictor variables derived from the two forms of the IUM and the criterion variables?

**IUM-Eng**

The IUM-Eng scales could significantly explain some of the variance for both of the criterion variables, TOEFL 1, and TOEFL 2. The IUM-Eng’s usefulness at explaining variance in TOEFL scores is an important result. TOEFL is an internationally recognised academic proficiency test which aims to measure students’ ability to undertake study at university level in English.

Though the IUM-Eng scales were able to predict the variance in TOEFL scores, the percentage of variance explained was less than 20%. However, 19% is of considerable importance given the variety of other factors that may account for variance not explained. These include the list of factors mentioned in the introduction, such as language aptitude, personality factors, language learning strategies, and the age at which students were first exposed to English, as well as other factors not readily accessible to measurement such as students’ general test-taking skills and strategies, the different materials and teaching methods used by their teachers, their teachers’ varying expectations of success, and the amount of time that students actually study, which may be dependent on such factors as their home environment and the amount of part-time work that they do.

It should also be added here that although TOEFL is perhaps the most widely used international objective standardised test of English as a foreign language, measuring language proficiency is not a simple endeavour. There are in fact numerous tests with their characteristic question types which profess to be more useful than each other. 19% of variance explained for a test which students did not specifically prepare for, is an important amount.

**IUM-Gen**

The IUM-Gen scales could also significantly explain some of the variance for both of the criterion variables, TOEFL 1, and TOEFL 2. However, the percentage of variance explained by the IUM-Gen scales for the two TOEFL scores is less than half of that explained by the IUM-Eng.

Regarding this difference, TOEFL is essentially a test of students’ ability to undertake academic study at the university level in English. A relatively small percentage of the participating students study overseas, either during their time at Keisen or after graduating. For the majority of students then the TOEFL test serves as an international measure of their English level rather than as a general academic measure. This is considered to be the main reason why the IUM-Gen, the general motivational scale, did not predict as well as the IUM-Eng, the English-specific scale.
2. **What are the particular predictor variables of most significance, and how do these relate to theoretical perspectives on potential motivators of Japanese university students?**

*IUM-Eng*

The three IUM-Eng sub-scales of Sense of Competence in English, Competition in English, and Social Concern in English (negative) were the only variables to significantly explain both TOEFL 1 and 2 scores. Sense of Competence in English with the highest standardised beta weight for both TOEFL 1 and 2, is the strongest predictor. Together with the other two scales, these three scales tell a consistent story about students related to TOEFL. According to these results, students are well aware of their competence in relation to other students in terms of these test scores. This sense of competence may also be giving them the confidence to concentrate at the high level and extended length of time that TOEFL requires. Students who score more highly on TOEFL are also more motivated by competition goals and are low in terms of social concern goals. This combination of scales is consistent and is not surprising as first year students would still have fresh memories of their university entrance exam-oriented high school English classes. These social concern goals seem to be in conflict with the amount of individual focus and study that success on TOEFL requires.

These results are interesting in that they may be in conflict with many of the beliefs and assumptions that teachers hold about good language teaching practice. Modern language teaching has been strongly influenced by the Communicative Approach which encourages pair and group work with students working together cooperatively, not competitively. There is also a tendency by teachers influenced by this approach to teaching to focus on practising language to develop fluency and to ignore error correction or feedback to students regarding accuracy. The effect, negative or positive, that this might have on different students sense of competence, is an area that has not received much attention.

Three other scales were significant predictors for one of the two criterion variables: Power in English (negative) and Recognition in English (negative) for TOEFL 1, and Self-esteem in English (negative) for TOEFL 2. This finding is interesting in that it is reasonable to expect that either these scales would not be significant predictors or that they would have a positive significant relationship with success on these measures. A possible interpretation of this result is that these scales have negative effects on student effort, which is reflected in lower performance. But why should these scales have a negative effect on effort?

It is possible that students high on the Self-esteem in English scale are engaging in a form of self-handicapping behaviour whereby they protect their Self-esteem in English by not studying for the second TOEFL test. If students’ high Self-esteem in English is based on their successes at high school or outside of the classroom, for example on overseas trips with their families, they may feel threatened by the competition of their university peers and therefore protect their Self-esteem in English by not trying. They can then attribute a poor result on TOEFL 2 to lack of effort and not to their English ability or potential.

It is also possible that students’ self-ratings may be limited in scope to Self-esteem at using spoken English in social and inter-personal communication with native-speakers of English. Thus students high on these scales may dismiss TOEFL scores as not really being related to the use of English for communicative purposes with native-speakers and therefore focus their effort on other endeavours. Cummins (1979) referred to these two aspects of language as basic interpersonal communication skills (BICS) and cognitive / academic language proficiency (CALP) and considered them to be quite distinct proficiencies.

The reason just given above may also apply to the other two scales, Power in English and Recognition in English. Student scores on these scales may be limited to being recognised and having a position of power for using spoken English in social and inter-personal communication. Students high on these scales may not consider scores on TOEFL or other tests as really being related to the use of English for communicative purposes and thus focus their effort on other learning activities.

Whatever the reasons, it is clear that for the group of students participating in this study these three factors, Self-esteem in English, Power in English and Recognition in English can have a negative impact on their achievement on academic English tests. This may or may not be generalisable to larger populations, such as all female Japanese university students, or all Japanese university students. However, Greer (2000) writing about Japanese students, in general, in the English language classroom, refers to a phenomenon he calls “the eyes of hito” (p. 183). Kuwayama (1992) refers to this as “generalized reference others” (p. 143), which is an important part of the development of the public self in tight, collectivist cultures such as Japan’s. Triandis (1995) defines this public self as “an assessment of the self by the generalized other.” (p. 329). This should lead to behaviour that is ‘proper’ and defined by society. Thus, recognition of their English ability by, or in front of, their peers, exhibiting behaviour which shows, or merely having a strong sense of,
pride or power from English ability, may be negative elements of Japanese students’ motivation in general. In the English language classroom, this can mean that students do not want to be asked to publicly show high performance in English, which may open them to being judged as considering themselves ‘superior’ or more sophisticated than the other students.

These results should be of interest to English language teachers, especially non-Japanese ones, who may not be aware of these culturally-specific factors. Again, they may be in conflict with accepted beliefs. Using ideas from Humanistic Psychology, teachers often use activities aimed at building students’ self-esteem in English class. It is also common for teachers to try to motivate students by drawing students’ attention to the empowerment that English proficiency can bring them. Finally, praise of work done or achievement by individual students is a common teaching technique. Further study is warranted on the specific effects of these factors on students’ learning.

\[IUM-Gen\]

From the IUM-Gen results, two scales, Affiliation at University and Self-esteem at University, were most significant by predicting both criterion variables. The first scale, Affiliation at University, had a significant inverse relationship with both TOEFL 1 and TOEFL 2. This result gives some support to the generally accepted idea that Japanese university students’ social priorities at university conflict with their studies. However, though these social goals may conflict with their academic goals, as Boekaerts (2003) argues, they are important even if only because they give meaning to students’ lives.

The second scale, Self-esteem at University, had a significant positive relationship with both TOEFL 1 and TOEFL 2. The positive direction of this relationship is especially interesting as it contrasts with the inverse relationship between the IUM-Eng’s Self-esteem in English and two criterion variables. If the above speculation on the reason for the inverse relationship, i.e. a form of self-handicapping, is correct, students’ more general Self-esteem at University is less threatened by performance on English tests than the more specific Self-esteem in English. In fact, this Self-esteem at University may be the most significant predictor variable as the standardised beta weights are the highest for both TOEFL scores. Referring to Dörnyei’s (2001b) “parallel multiplicity” in the introduction, this result suggests that students’ general academic self-esteem is as, or perhaps more, important than their self-esteem in English specifically, in terms of the impact on their academic performance. As Ushioda (1998) suggests, these students, and perhaps students in academic institutions around the world, may not be differentiating between their English study and their general university study as much as researchers in the area of EFL motivation assume, especially when the measure of their level of English achievement is an academic language test.

One final subscale of the IUM-Gen is a significant predictor of one criterion variable. Token Rewards at University has an inverse relationship with TOEFL 1, supporting arguments about the negative effects of extrinsic motivators in the form of rewards (Deci & Flaste, 1996; Deci & Ryan, 1985; Deci, & Ryan, 2000).

\[Conclusion\]

In this study, the Personal Investment model of motivation and the inventory of university motivation based on it were shown to be very useful at extracting important predictors of academic success at studying EFL at a Japanese university. The study specifically suggests some aspects of Japanese culture, and the university context which may have an impact on students’ motivation and sense of self and on achievement on an international academic English test, TOEFL. Many English language teachers at university are non-Japanese, and so it is important for these teachers, especially more recently-arrived teachers to have an understanding of these aspects, and the effects they may have on students.

While the study still leaves many of Dörnyei’s (2001b) challenges unanswered, these results make some important contributions to the growing research agenda in motivation in EFL.

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