Multiple Models of Motivation for Japanese EFL Learners
—An investigation into concepts in different paradigms—

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ABSTRACT

In order to resolve some of the issues about the relation between Deci and Ryan’s (1985) self-determination theory and L2 motivation, the present study deals with a program of research to examine Japanese EFL learners’ L2 motivation in light of the self-determination theory, which suggests that motivation can be divided into three categories: amotivation, extrinsic motivation, and intrinsic motivation. The present research is conducted in an attempt to incorporate Noels and her associates’ (1999, 2000) empirical studies of the self-determination theory in L2 contexts into the motivational orientations traditionally identified by such researchers in social psychology as Clément and Kruidenier (1983) and Gardner (1985). One of the most significant findings in this study is that the intrinsic/extrinsic paradigm of the self-determination theory might be useful for describing L2 orientations in Japanese EFL learners. But future research must more deliberately determine how this framework interacts in various Japanese EFL learners.

1. INTRODUCTION

Far from the early formulation of L2 motivation defined by Gardner and Lambert (1972), there have been proposed some other conceptual perspectives in education toward language learning. The argument has also been advanced that L2 researchers need to explore models of motivation developed by educational and cognitive psychologists not directly involved in L2 research (e.g., Skehan, 1989; Crooks and Schmidt, 1991; Oxford and Schearin, 1994). It wasn’t long before L2 researchers started to utilize several cognitive motivation theories for a better understanding of L2 motivation. For example, Dörnyei (2003) outlined three such inferential approaches: self-determination theory, attribution theory, and goal theories.

The present study attempts to demonstrate links among some theoretical frameworks and
their corresponding sets of variables that approach the topic of motivation from different directions. The first set of variables, offered by Vallerand and his associates (1989, 1992, 1993), is focused primarily on some variables taken from the broad cognitive learning on motivation such intrinsic/extrinsic motivation and amotivation as applied to academic leaning contexts. The second framework of variables, described by Clément and Kruidenier (1983; Kruidenier and Clément, 1986), comes from the social sciences and humanities research. This framework is designated to clarify the definition of motivational orientations in second language acquisition, and to reconcile previous contradictory findings by the influence of the milieu, ethnicity, and target language on the emergence of orientations. The third psychological framework of motivation is Gardner’s (1985) social educational model, which proposes that motivation is based in larger part on intergroup attitudes and an attraction to the target language and culture. Each of these perspectives is followed by a theoretical analysis of the links among them, and a more complete discussion, with reference to how intrinsic motivation and extrinsic motivation are relevant to theorizing on the role of orientations in L2 motivation, is made in this study.

2. SELF-DETERMINATION THEORY

In light of the importance of some considerations described above for education, researchers in cognitive psychology have come to identify two classes of motivated behavior. The first deals with behavior performed for itself, in order to experience pleasure and satisfaction inherent in the activity, and has been called intrinsic motivation (IM). The second, which involves performing behavior so as to achieve some separable goals such as receiving rewards or avoiding punishment, has been termed extrinsic motivation (EM). Based on the tenets of the self-determination theory (Deci and Ryan, 1985), these different forms of motivation are posited to lie on a dimension which ranges from amotivation, to EM, and finally to IM. According to this theory, various types of regulations exist and these can be placed on a continuum between self-determined (intrinsic) and controlled (extrinsic) forms of motivation. Depending on how internalized learners are (i.e., how much the regulation has been transferred from outside to inside the individual), these kinds of motivational subtypes along the self-determination continuum are summarized as Figure 1 (Noels, 2001: 49 adapted from Ryan and Deci, 2000).

The three types of IM are the variables to know (to do something for the pleasure and satisfaction experienced while learning), to accomplish things (to do something for the pleasure and satisfaction experienced while trying to accomplish things), and to experience stimulation (to do something in order to experience stimulating sensations). The three types of EM are external regulation (to do something because one is pressured by someone to do it), introjected regulation (to do something because one pressures himself/herself to do it), and identified regulation (to do something because one has decided to do it although it is not fun). Finally, amotivation refers to the absence of IM and EM. According to Ryan and Deci (2000), a fourth type of EM, integrated
regulation, represents a higher degree of self-determination than identified regulation. But it is not included in the present study because earlier works of motivation in education had difficulty distinguishing the construct from identified regulation (e.g., Vallerand et al., 1989).

Figure 1. Orientation subtypes along the self-determination continuum

3. PURPOSES

Following these considerations, this study has two purposes. First, a new measurement for assessing Japanese learners’ L2 motivation from a self-determination perspective is presented, and relations between the various subtypes of motivation in self-determination are examined. Second, the relationship between self-determination constructs and motivational orientations researched in social psychological approaches is explored. Especially, it is required to test the relation between IM/EM and the most widely researched orientation, the integrative orientation (for reviews see Au, 1988; Gardner, 1988; Noels et al., 1999). The link between the integrative orientation and the self-determination constructs is not straightforward. Although the integrative orientation is similar to IM in that these emphasize positive attitudes toward language learning (e.g., Noels, 1997), much remains to be examined in further research. The present research must more directly assess the relationship between the integrative orientation and aspects of self-determination constructs.

4. RESEARCH

4.1. Participants and Procedure
A total of 467 university students participated in this research. Some of the participants, who had spent more than three months in English-speaking countries, were in advance eliminated, because they might have the possibility of having different attitudes toward the English-speaking community. This left 455 students as the final sample. None of them were majoring in the English language (216 were studying the humanities or the social sciences, and 239 were learning the natural sciences including engineering and technology). The questionnaires were administered to
the participants around the end of June through the beginning of July 2002 by the researchers as a part of the tasks during regular class time. The instructions appeared on the cover page of the face sheet. These informed the students of the confidentiality of their answers and of their right to withdraw from the study should they find any question to be objectionable. The participants were thereafter left to complete the questionnaire at their own pace.

4.2. Materials

The materials used in the present research consisted of questionnaires with two sections. A description of the scales and items used, along with the Cronbach alpha, followed. In line with recent approaches to cross-cultural scale translation (see Brislin, 1986 in detail), the parallel back-translation procedure was conducted to assure a precise Japanese equivalent for the phrase written in English. To the extent that the original scale is appropriately retranslated, this method provides an initial assessment of the adequacy of the translated version of the scale.

4.2.1. IM/EM Subscales and Amotivation

The first section contained subscales designed to assess amotivation, the three types of EM: external regulation, introjected regulation, and identified regulation, and the three types of IM: knowledge, accomplishment, and stimulation (see Noels et al., 2000: 84-85 for sample items). These items for categorized subscales were adopted from the Academic Motivation Scale (Vallerand et al., 1989; for English version, see Vallerand et al., 1992, 1993), and additional items were generated by the researchers so as to have four items for each subscale in line with the original version of AMS. The items were randomly ordered throughout the first section. The students were asked to rate the extent to which the proposed reason applied to themselves by using the same type of 7-point scale (1=Do not correspond at all to 7=Correspond exactly). A high score suggested a high degree of correspondence between the proposed reason and the participants’ reasons for studying English.

4.2.2. Motivational Orientations

In the present research, the social psychological perspective was borrowed from two research traditions of motivational orientations, and was applied to Japanese EFL context. The former part of the second section consisted of randomly ordered items from the instrument used by Clément and Kruidenier (1983; see also Kruidenier and Clément, 1986). Following these previous works of orientations that would be relevant in the particular context, four orientations including some overlapping items have so far been found to be important across all groups of L2 learners (e.g., Belmechri and Hummel, 1998). These orientations were: travel, knowledge, instrumental, and friendship. In the present study three orientations including twelve items for all the four orientations were adopted, and instrumental orientation was excluded in the following procedure in order to avoid a certain amount of overlap between the instrumental orientation defined by
Gardner (1985) and Clément et al (1983, 1994). After this exclusion, it became apparent that four items represented the Knowledge orientation (alpha=.86; e.g., “It will make me a more knowledgeable person”), four items represented the Travel & Leisure orientation (alpha=.84; e.g., “It will help me if I should ever travel”), and the four items represented the Friendship orientation (alpha=.94; e.g., “I would like to make friends with some speakers of English”). The latter part of the second section was made up of two types of orientations identified by Gardner (1985; see also Gardner and Tremblay, 1994): an integrative orientation associated with a positive disposition toward the L2 group and a desire to interact with and even become a more valued member of that group, and an instrumental orientation related to pragmatic gains of L2 learning such as getting a better job or higher salary. Cronbach’s Alpha coefficients calculated by four items, the Integrative orientation, were .88 (e.g., “It will allow me to be more at ease with those who speak English”), and four items, the Instrumental orientation, were .77 (e.g., “I’ll need it for my future career”).

Using an adapted form of Clément and Kruidenier’s (1983) Likert-type questionnaire that ranged from 1=Strongly disagree to 7=Strongly agree, the participants rated the extent to which the proposed reasons corresponded with their own reasons for L2 learning. The items included a wide selection of reasons for studying an L2, and each reason was preceded by the phrase, “Studying English can be important for me because________.” A high score indicated strong agreement with the proposed reason. Only the Knowledge orientation was required to change the name to the Understanding orientation so as to avoid confusion by the same name of an IM/EM subscale.

4.3. Analyses and Results

The first purpose of the present study was to examine the psychometric properties of a scale to assess amotivation, EM, and IM in the Japanese EFL learners. The analytic strategy was adapted from that of Vallerand et al. (1989, 1992, 1993). To derive a distinctive and reliable scale for each subtype, confirmatory factor analyses and reliability analyses were conducted. To assess the validity of the IM/EM subscales, the subscales were correlated with one another. And to explore the correspondence between the motivational subtypes and the five orientations (i.e., the second purpose of this study), correlations were also computed between the subtypes and the three orientations discussed by Clément and Kruidenier (1983), as well as between the subtypes and the two orientations defined by Gardner (1985). These analyses are described below in detail.

4.3.1. Confirmatory Factor Analyses

Demographic data left 423 university students not majoring in English as suitable for this kind of analytic procedure. The sample of these subjects was composed of 301 males and 122 females with a mean age of 19.7 years. The data drawn from the participants were subjected to a confirmatory factor analysis with AMOS 4.0. The seven-factor model corresponding to the seven subscales adequately represented the covariance matrix of the data. First, seven factors were postulated in the initial model. These factors corresponded to the seven subscales and were made
Table 1. Standardized Loadings from the Confirmatory Factor Analysis

<table>
<thead>
<tr>
<th></th>
<th>External Regulation</th>
<th>Introjected Regulation</th>
<th>Identified Regulation</th>
<th>IM-Knowledge</th>
<th>IM-Accomplishment</th>
<th>IM-Stimulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation 1</td>
<td>.849 (.720)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amotivation 2</td>
<td>.887 (.788)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amotivation 3</td>
<td>.819 (.670)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amotivation 4</td>
<td>.706 (.499)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Regulation 1</td>
<td>.405 (.164)</td>
<td>.710 (.504)</td>
<td>.568 (.322)</td>
<td>.698 (.488)</td>
<td>.840 (.705)</td>
<td>.713 (.508)</td>
</tr>
<tr>
<td>External Regulation 2</td>
<td>.928 (.861)</td>
<td>.722 (.521)</td>
<td>.475 (.226)</td>
<td>.807 (.650)</td>
<td>.816 (.665)</td>
<td>.801 (.642)</td>
</tr>
<tr>
<td>External Regulation 3</td>
<td>.891 (.794)</td>
<td>.481 (.231)</td>
<td>.858 (.736)</td>
<td>.695 (.483)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External Regulation 4</td>
<td>.819 (.670)</td>
<td></td>
<td></td>
<td>.875 (.766)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introjected Regulation 1</td>
<td>.879 (.772)</td>
<td></td>
<td></td>
<td>.852 (.726)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introjected Regulation 2</td>
<td>.831 (.684)</td>
<td></td>
<td></td>
<td>.731 (.535)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introjected Regulation 3</td>
<td>.801 (.642)</td>
<td></td>
<td></td>
<td>.795 (.720)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introjected Regulation 4</td>
<td>.840 (.705)</td>
<td></td>
<td></td>
<td>.875 (.766)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Numbers in parentheses reflect the explained variance.

up of the four corresponding items. Although the confirmatory factor analysis of the initial measurement model yielded fit values of .85 for the NFI, .82 for the AGFI, and .84 for the GFI, the model did not reach statistical nonsignificance ($\chi^2=1121.59; \text{df}=345; p<.001$). Correlations between pairs of measured-variable residuals were added to the model on the basis of the inspection of the modification indices. This resulted in six correlated residuals added to the model. With these additions, the fit indices for the final measurement model showed that the model fits the data reasonably well, NFI=.90, AGFI=.89, GFI=.91. The model did not also reach statistical nonsignificance ($\chi^2=1052.13; \text{df}=339; p<.001$), but the chi-square-to-degrees of freedom ratio (3.02) suggested that this could provide a barely acceptable fit. This kind of improvement in fit was a highly significant difference in $\chi^2=96.45, \text{df}=6, p<.001$. Results from the confirmatory factor analysis replicated the findings obtained with the original French-Canadian version and the English-version (AMS), and confirmed the seven-factor structure of the Japanese version of the scale completed by the students not majoring in the English language. Loadings from the final measurement model, which were all significant, are presented in Table 1.
4.3.2. Intercorrelations of IM/EM Subscales

A Pearson product-moment correlation matrix was calculated on the scores of each of the subscales to verify the existence of a self-determination continuum (Deci and Ryan, 1985). As shown in Table 2, the Cronbach alpha index of internal consistency was accepted for all subscales varying between .71 and .89. The examination of descriptive statistics for the IM/EM subscales suggested that a normal distribution was underlying the responses, though the Amotivation scale was a little skewed and pointed. Moreover, the sizes of correlations among the IM variables (.66 -.70) and among the EM variables (.37-.54) showed that each of the subscales tapped similar and identical constructs. These results of statistical correlations (p<.05) indicated a more or less distinction between IM and EM. The findings in this research showed that there was much more evidence of the pattern of correlations reflecting a continuum of increasing self-determination, from less self-determined forms of motivation to more self-determined forms of motivation. But contrary to expectation, both the External Regulation scale and the Introjected Regulation scale were positively correlated with the IM variables. With these limitations, therefore, these results demonstrated how hard it would be to make a clear distinction between IM and EM.

Table 2. Descriptive Statistics of IM/EM Subscales, Intercorrelations, and Cronbach Alpha Indices of Internal Consistency

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Mean</th>
<th>SD</th>
<th>Ske. Kur.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Amotivation</td>
<td>10.33</td>
<td>5.04</td>
<td>.93</td>
<td>.85</td>
<td>-.141**</td>
<td>-.118*</td>
<td>-.535**</td>
<td>-.426**</td>
<td>-.311**</td>
<td>-.346**</td>
</tr>
<tr>
<td>2. External Regulation</td>
<td>12.58</td>
<td>5.10</td>
<td>.03</td>
<td>.49</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>3. Introjected Regulation</td>
<td>12.46</td>
<td>4.97</td>
<td>.11</td>
<td>-.46</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>4. Identified Regulation</td>
<td>18.20</td>
<td>5.73</td>
<td>.18</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>5. Knowledge</td>
<td>15.00</td>
<td>5.52</td>
<td>-.13</td>
<td>-.52</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>6. Accomplishment</td>
<td>13.08</td>
<td>5.30</td>
<td>.10</td>
<td>-.65</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>7. Stimulation</td>
<td>12.79</td>
<td>5.84</td>
<td>.19</td>
<td>-.69</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Note. N=455

4.3.3. Correlations between IM/EM Subscales and Subtypes of Orientations

A second correlational analysis examined the relations among the basis of language learning orientations defined by Gardner (1985), the motivational orientations discussed by Kruidenier and Clément (1986), and the IM/EM subscales. The results of intercorrelations among these variables indicated that the five orientations were negatively correlated with the Amotivation scale as shown in Table 3. The Instrumental orientation demonstrated the highest correlation with the External Regulation scale. This shows that there is a definitional similarity between instrumentally oriented motivation and externally regulated motivation in that these both constructs emphasize the pursuit of an activity as a reaction to some external rewards to the individual and the activity (e.g., Noels, 1997; Noels et al., 2000). Moreover, the Instrumental orientation was much more positively correlated with less self-determined forms of motivation than with more self-determined forms of motivation. The size of correlations between the Instrumental orientation and the EM subscales
(0.28-.42) indicated that a kind of motivational continuum was clearly evident for the EM subscales. On the other hand, the Integrative orientation yielded high correlations among the other variables except for a low significant correlation with the External Regulation scale. Among the five orientations, the Introjected Regulation scale had the lowest correlation with the Integrative orientation. In addition to this result, it turned out that the Integrative orientation was more positively correlated with more self-determined forms of motivation than with less self-determined forms of motivation. The sizes of correlations between the Integrative orientation and more or less self-determined subscales presented a different level of motivation. The correlations reported for the present study show that these motivational constructs (i.e., the IM/EM scales and the Integrative/Instrumental orientations) can be highly or moderately correlated except for the correlation between the Instrumental orientation and the Knowledge scale.

Table 3. Correlations between IM/EM Subscales and Subtypes of Orientations

<table>
<thead>
<tr>
<th>Orientation Subtypes</th>
<th>Integrative</th>
<th>Instrumental</th>
<th>Understanding</th>
<th>Travel&amp;Leisure</th>
<th>Friendship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>-.461***</td>
<td>-.150**</td>
<td>-.338***</td>
<td>-.295***</td>
<td>-.357***</td>
</tr>
<tr>
<td>External Regulation</td>
<td>.134**</td>
<td>.421***</td>
<td>.251***</td>
<td>.129**</td>
<td>.166***</td>
</tr>
<tr>
<td>Introjected Regulation</td>
<td>.247***</td>
<td>.362***</td>
<td>.327***</td>
<td>.277***</td>
<td>.314***</td>
</tr>
<tr>
<td>Identified Regulation</td>
<td>.518***</td>
<td>.289***</td>
<td>.491***</td>
<td>.384***</td>
<td>.474***</td>
</tr>
<tr>
<td>Knowledge</td>
<td>.523***</td>
<td>.103*</td>
<td>.406***</td>
<td>.425***</td>
<td>.537***</td>
</tr>
<tr>
<td>Accomplishment</td>
<td>.366***</td>
<td>.185***</td>
<td>.378***</td>
<td>.299***</td>
<td>.391***</td>
</tr>
<tr>
<td>Stimulation</td>
<td>.448***</td>
<td>.202***</td>
<td>.377***</td>
<td>.390***</td>
<td>.513***</td>
</tr>
</tbody>
</table>

* Note. N=455
*: p<.05, **: p<.01, ***: p<.001

5. DISCUSSION

The results of the analyses conducted in the present research suggested that Japanese EFL learners' motivation could be validly assessed using the intrinsic and extrinsic subtypes outlined by Deci and Ryan (1985) and Vallerand and his colleagues (1989, 1992, 1993). The correlational analyses showed a clear, to some extent, distinction between the IM/EM subscales. Reflecting a self-determination continuum, the correlations between these subscales indicated that one might distinguish between amotivation, less self-determined forms of motivation (external regulation and introjected regulation), and more self-determined forms of motivation (identified regulation and IM). The relation between motivational constructs and the integrative orientation in Gardner's (1985) model was also validly assessed. But the size of correlations between the Integrative orientation and the IM variables demonstrated that these variables tapped a similar, but not identical, construct. This view also coincides with the description by MacIntyre, MacMaster, and Baker (2001: 483). As noted by Noels et al. (2000: 78), the Integrative orientation could be conceptualized as a form of EM, because of the mention of various issues apart from personal enjoyment in the activity. However, there is no theoretical reason to require that these variables
will be correlated or uncorrelated despite the fact that they are either conceptually distinct or identical. Consistent with this duality, Wen (1997) reports that different motivational reasons for learning an L2 pertaining to intergroup contact may be classified as instrumental or as IM.

The relations between the IM/EM subscales and the other orientations are less obvious. The question remains as to how the orientations described by the self-determination theory relate to the orientations discussed by Clément and Kruidenier (1983; Kruidenier and Clément, 1986). Travel, knowledge, and friendship orientations could be considered extrinsically motivated goals, in the sense that they refer to reasons extrinsic to language learning itself. However, the correlations between these three orientations and the EM subscales were not so high. Especially, the Travel & Leisure orientation and the Friendship orientation indicated low correlations with the External Regulation scale. It is conceivable that these orientations are relatively self-determined orientations in that they may be related to values that the individual has incorporated into the self-concept. They may be related to the IM variables to the extent that they give rise to positive feelings through the promotion of autonomy and self-perceptions of competence. Even in the present research, these orientations were more highly correlated with more self-determined subscales than with less self-determined subscales. These results directly support Ryan's (1995) discussion of IM/EM subtypes suggesting that it is reasonable to think of these constructs as orientations. Thus, so as to integrate the self-determination theory into the current formulation of motivational orientations for L2 learning, it is important to explore the relations between these orientations and the motivational constructs described by Deci and Ryan (1985).

6. CONCLUSION

In conclusion, the constructs of intrinsic/extrinsic motivation assessed in this study were useful for understanding Japanese EFL learners' orientations for L2 studies. Dörnyei (2001: 61) notes that the paradigm of self-determination in L2 studies is particularly useful for analyzing the classroom climate and the teacher's role in terms of how controlling or autonomy supporting they are. But this framework has been mainly discussed on conceptual viewpoints with little empirical testing. Noels et al. (1999) examined the impact of L2 teachers' communicative style on students' intrinsic and extrinsic motivation. Although these theoretical and applied issues are too much for this study to handle with, future research along these lines would therefore appear promising.

REFERENCES


50