

A Study on the Correlation between Self-Efficacy and Directed Motivational Currents (DMCs) of Chinese English Majors

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Abstract: The present study adopted a quantitative methodology to explore the correlated relationship between English majors' self-efficacy and Directed Motivational Currents (DMCs), and further investigate to what extent English majors' DMCs can be predicted by their self-efficacy among sixty-one English majors. In this study, the General Self-efficacy Scale and the DMC Disposition Scale were adopted to collect the quantitative data. The statistical analysis software SPSS 26.0 was used to analyze the collected data. The research findings revealed that English majors' self-efficacy was at a moderate level; Most English majors experienced DMCs and had the core characteristics of DMCs in English learning. Moreover, English majors' self-efficacy had a strongly positive correlation with their DMCs. In addition, English majors' self-efficacy statistically significantly predicted their DMCs. On the basis of the research findings, the present study put forward implications for English teaching practice.

1. Introduction

Self-efficacy, as a psychological and emotional factor, plays an essential role in the process of learners' second language acquisition. Self-efficacy refers to "people's judgment of their capabilities to organize and execute courses of action required to attain designated types of performance" [1].

In addition, motivation is an important individual differentiating factor for learners, which has a significant impact on learners' learning performance and teachers' choice of instructional strategies. In recent years, under the influence of the research paradigm of "dynamic turn" in the field of second language acquisition, Dörnyei, Ibrahim, and Muir [2] have proposed a new theoretical framework for second language motivation: Directed Motivational Currents (DMCs).

In the field of second language motivation research, a DMC is a potent motivational surge that emerges from the alignment of a number of personal, temporal and contextual factors, creating momentum to pursue an individually defined future vision that is personally significant and emotionally satisfying [2]. According to the theoretical framework of DMCs, DMCs have three core characteristics, including goal/vision-orientedness, a salient facilitative structure, and positive emotionality. Since 2016, DMCs have attracted the attention of Chinese researchers in the field of

second language motivation, but empirical research on DMCs in China is still in its infancy, and many research questions still need to be further explored and verified.

2. Literature Review

2.1 Previous Studies on Self-Efficacy and Motivation

Studies on the correlation between self-efficacy and motivation have aroused researchers' attention. Some domestic and foreign researches have focused on the correlated relationship between self-efficacy and motivation in language learning. Ueki and Takeuchi [3] validated the relationship between self-efficacy and L2 motivational self-system (L2MSS) and discovered that self-efficacy had a predictive effect on English learning motivation among 151 English majors. Moreover, Huo and Rui [4] investigated the correlated relationship between self-efficacy, L2 motivational self-system (L2MSS), and English proficiency among 239 non-English majors and found that there was a mediating effect between the ideal L2 self and the ought-to L2 self on self-efficacy and English proficiency. In addition, Teng and Yang [5] explored the relationship between metacognition, motivation, self-efficacy, and English learning achievement in online learning. The results of this study revealed the joint mediating role of metacognition and motivation on the effects of self-efficacy on English learning achievement.

Taking the above literature into consideration, the current studies have already identified the correlated relationship between self-efficacy and motivation in English learning. Besides, learners' self-efficacy predicts their motivation in English learning.

2.2 Previous Studies on DMCs

Foreign scholars represented by Muir and Dörnyei [6] elaborated in detail on the theoretical basis, constituent dimensions, practical utility, and other aspects of DMCs, continuously enriching its connotation and making it increasingly mature. Henry, Davydenko, & Dörnyei [7] carried out the first empirical study on DMCs, which verified that three migrant learners from Sweden had experienced DMCs in the process of learning Swedish. Afterwards, empirical studies on DMCs from different perspectives have emerged in foreign countries. Chinese scholar Chang [8] first explained the theoretical framework of DMCs from a theoretical perspective, introduced its constituent dimensions, and affirmed the importance of DMCs in foreign language teaching and second language motivation research. Since then, empirical research on DMCs in China has gradually developed. According to the research theme, previous research on DMCs includes four themes: exploring and verifying the core characteristics of DMCs, examining the factors influencing DMCs, discovering the changing characteristics of DMCs, and investigating the implications of DMCs for teaching practices.

Zarrinabadi, Ketabi, and Tavakoli [9] examined whether experiencing the DMCs resulted in any change in students' willingness to communicate (WTC), L2 self-confidence, L2 self-concept, and autonomy and figured out the influence of DMCs on students' WTC, L2 self-confidence, L2 self-concept, and autonomy. However, the correlation between self-efficacy and DMCs has not yet been explored. Therefore, this study aims to explore the correlated relationship between self-efficacy and DMCs among Chinese English majors and further investigate to what extent English majors' DMCs can be predicted by their self-efficacy.

3. Research Methodology

3.1 Research Questions

This study is designed to investigate the correlated relationship between English majors' self-efficacy and DMCs. Based on the overall goal of the current study, the following research questions are put forward:

- (1) What is the overall situation of English majors' self-efficacy and DMCs ?
- (2) What is the correlated relationship between English majors' self-efficacy and DMCs ?
- (3) To what extent can English majors' DMCs be predicted by their self-efficacy?

3.2 Participants

Participants in this study are undergraduates majoring in English from a private university in Shandong and a foreign language university in Xi'an. In this study, the number of freshmen, sophomores, and seniors is 21 persons (34.4%), 33 persons (54.1%), and 7 persons (11.5%), respectively, with 54 females (86.9%) and 7 males (11.5%).

3.3 Research Instruments

This study used the General Self-efficacy Scale and the DMC Disposition Scale to collect the quantitative data and adopted the statistical analysis software SPSS 26.0 to analyze the collected data.

General Self-efficacy Scale, originated by Zhang and Schwarzer [10], is used to measure the strength of participants' self-efficacy. This scale is composed of ten items based on a four-point Likert-type response format. The options are not at all true, barely true, moderately true, and exactly true, respectively. This scale has many versions, including the German, Spanish, Chinese, and English versions. In order to help students understand the meaning of each item, the Chinese version scale was used in this study. The Cronbach's alpha of the Chinese version is 0.91. Thus, the internal consistency of the Chinese version is excellent.

DMC Disposition Scale, developed by Muir [11], is used to identify the participants who have ever experienced DMCs. The items of this scale capture three central features of a DMC experience, including the presence of a superordinate goal, a salient facilitative structure, and positive emotionality permeating the experience. This scale used in this study is translated into Chinese and back-translated into English to check the consistency of the items on the Chinese version scale and the original English version. In order to be consistent with this study, the content of the items on the original scale is further revised. The Cronbach's alpha of the Chinese version scale is 0.89, which means that the Chinese version scale has excellent internal consistency.

The statistical analysis software SPSS 26.0 is used to analyze the results of the completed questionnaires. The normal distribution test is adopted to measure whether the collected data conforms to a normal distribution. Descriptive statistical analysis, Pearson correlation analysis, and univariate linear regression analysis were used to answer the research questions proposed in this study.

3.4 Data Collection

This study used Wenjuanxing, an online survey platform, to distribute an online questionnaire. The online questionnaire involves two parts. The first part is about participants' background information, including participants' name, gender, and grade. The second part consists of two scales:

the General Self-efficacy Scale and the DMC Disposition Scale. In order to maintain the consistency of the whole questionnaire, the options on the two scales are both based on a five-point Likert-type response format, from “strongly disagree” to “strongly agree.” This study collected a total of 78 questionnaires. After excluding participants who didn’t experience DMCs in English learning, a total of 61 valid questionnaires were collected in this study.

3.5 Data Analysis

This study used the statistical analysis software SPSS 26.0 to analyze the collected data. The result of the normal distribution test showed that the collected data were normally distributed. Therefore, a parametric test could be conducted in this study. According to the research questions proposed for the study, appropriate statistical analysis methods were adopted. As regards the first research question, descriptive statistic analysis, including number of participants, mean, standard deviation, minimum, and maximum, was calculated to identify the overall situation of the collected data. According to the second research question of this study, Pearson correlation analysis was used to measure the correlated relationship between English majors’ self-efficacy and their DMCs. Moreover, univariate linear regression analysis was conducted to discover to what extent English majors’ DMCs can be predicted by their self-efficacy.

4. Results

4.1 Descriptive Analysis of English Majors’ Self-Efficacy and DMCs

As regards the first research question of the current study, descriptive statistical analysis was used to figure out the overall situation of English majors’ self-efficacy and DMCs. Table 1 shows the results of the descriptive statistical analysis.

Table 1: Descriptive statistical analysis of self-efficacy and DMCs

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Self-efficacy	61	3.64	.74	2	5
DMCs	61	4.02	.56	3	5

As shown in Table 1, the mean of self-efficacy is 3.64, which indicated that the self-efficacy of English majors was at a moderate level. The mean of DMCs is 4.02, which indicated that most English majors experienced DMCs and had the core characteristics of DMCs in English learning. Compared to the mean of self-efficacy and DMCs, the mean of DMCs is higher than that of self-efficacy.

4.2 The Correlated Relationship between English Majors’ Self-Efficacy and DMCs

According to the second research question of the current study, Pearson correlation analysis was adopted to explore the correlated relationship between English majors’ self-efficacy and their DMCs. Table 2 presents the results of the Pearson correlation analysis between English majors’ self-efficacy and their DMCs.

Table 2: Pearson correlation analysis between self-efficacy and DMCs

Variable	Self-efficacy	DMCs
Self-efficacy	1	.679**
DMCs	.679**	1

**p<0.01

As shown in Table 2, the results of Pearson correlation analysis indicated that English majors' self-efficacy correlated positively with their DMC experiences. In other words, the higher the self-efficacy level of English majors, the greater the probability of generating DMCs. Based on the new field-specific benchmarks formulated by Plonsky and Oswald [12], the correlation cut-off values were set as follows: Coefficients close to 0.25 (weak), 0.40 (moderate), and 0.60 (strong). Therefore, English majors' self-efficacy had a strongly positive correlation with their DMCs ($r=.679$). Moreover, English majors' self-efficacy was statistically significantly correlated with DMCs ($p<0.01$).

4.3 The Prediction of Self-Efficacy for English Majors' DMCs

With regard to the third research question of the current study, univariate linear regression analysis was used to examine to what extent English majors' DMCs could be predicted by their self-efficacy. Table 3 shows the results of the univariate linear regression analysis of English majors' self-efficacy and their DMCs.

Table 3: Univariate linear regression analysis of self-efficacy and DMCs

Dependent variable	Independent variable	<i>B</i>	β	<i>t</i>	<i>p</i>	<i>R</i> ²
DMCs	Self-efficacy	0.51	.679	7.104	.000	.461

As shown in Table 3, univariate linear regression analysis revealed that self-efficacy could predict 46% of the variance of the DMC scores ($R^2=.461$). The results also indicated that self-efficacy statistically significantly predicted DMCs ($\beta=.679$, $t=7.104$, $p<.001$).

5. Discussion

The results of descriptive analysis revealed that the motivation of English majors generally had higher motivation in English learning, but their level of self-efficacy is average. Teng, Wang, & Wu [13] found that self-efficacy beliefs predicted English learning achievement. This finding revealed that improving students' self-efficacy appropriately can promote English learning success. Moreover, the standard deviation of self-efficacy is 0.74, while the standard deviation of DMCs is 0.56, so the values of self-efficacy are more dispersed than those of DMCs. The result indicated that the gap in self-efficacy among English majors is larger.

The results of Pearson correlation analysis were consistent with those of previous literature that found a correlated relationship between self-efficacy and motivation in English learning. Therefore, this finding implies that English teachers should provide students with appropriate encouragement and support and help them enhance their self-efficacy level.

The finding of the prediction of self-efficacy for English majors' DMCs revealed that English majors' self-efficacy, to a large extent, predicted their DMCs. In addition, motivation has a significant impact on learners' learning performance. Therefore, enhancing English majors' self-efficacy is necessary for English learning.

The present study found that English majors' self-efficacy had a strongly positive correlation with their DMCs, and that English majors' self-efficacy, to a large extent, predicted their DMCs. In the future, a replication study is needed to verify the correctness of the findings of this study. Moreover, future study can further examine the effects of English majors' self-efficacy and DMCs on learners' English learning performance.

6. Conclusion

This study explored the correlated relationship between English majors' self-efficacy and their DMCs. The findings indicated that English majors' self-efficacy was at a moderate level. Besides, most English majors experienced DMCs and had the core characteristics of DMCs in English learning. Moreover, English majors' self-efficacy had a strongly positive correlation with their DMCs. In addition, English majors' self-efficacy statistically significantly predicted their DMCs. The findings of the current study also revealed that English teachers should pay more attention to English learners' self-efficacy and provide encouragement and support for English learners in English teaching practice.

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