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Directed Motivational Currents in L3 Learning: A Mixed-Methods Study of Chinese English Majors

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ABSTRACT

This study explores the role of Directed Motivational Currents (DMCs) in third language (L3) learning among Chinese English majors, with a focus on the trajectories of DMCs. Despite increasing research on L2 motivation, limited attention has been given to how DMCs operate in L3 learning contexts, especially in non-Western educational settings. To address this gap, the present study adopted a mixed-methods design, combining a questionnaire survey, motivational trajectory charts, and semi-structured interviews with Chinese undergraduate English majors enrolled in German, Japanese and French as their L3 respectively. The quantitative data were analyzed through descriptive statistics and ANOVA tests, while qualitative insights were generated through thematic coding of interviews. The results indicate that learners' DMCs' trajectories are not linear, with gender and their previous language background emerging as essential variables influencing sustained motivation. Female learners of German and French tend to exhibit stronger and more stable motivation than their male counterparts. Male learners of Japanese demonstrated stronger persistence in later stages of Japanese learning, whereas female learners displayed fluctuating but greater motivation intensity at the later stages of learning. Regarding the factors, institutional factors include teacher support, peer collaboration, assessment practices, curriculum design, and access to resources. At the individual level, learners' emotional states, future goals, interest in the target language and culture, prior language learning experiences, personal growth orientation, and family support also played significant roles. Together, these findings highlight the need to foster culturally responsive and emotionally engaging environments to sustain learners' motivation in multilingual learning contexts.

Keywords: Directed Motivational Currents, L3 Learning, Chinese English Majors

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1. Introduction

In recent years, multilingual education has gained growing attention as globalization and international collaboration have intensified the need for individuals proficient in more than two languages. Within this context, the Chinese government has introduced national strategies, emphasizing cultivating interdisciplinary and multilingual competence equipped with "specialized expertise + multilingual competence" (Ministry of Education, 2020). Consequently, the landscape of foreign language education in China is undergoing a paradigm shift, that is, from an English-dominant model toward the collaborative development of multiple foreign languages, including Japanese, German, French, and Korean.

At the theoretical level, research on language learning motivation, long a central theme in second language acquisition, has also undergone significant transformation. In recent years, two notable developments have reshaped the field. First, the theory of Directed Motivational Currents (DMCs) (Dörnyei et al., 2014) has advanced a dynamic view of motivation as an intense and goal-driven process rather than a static trait. Second, methodological innovations, particularly longitudinal designs, case tracking, and process analysis, have allowed researchers to capture the evolving and situated nature of learner motivation. However, despite the increasing application of DMCs theory in second language (L2) learning research, studies addressing the complexities of third language (L3) acquisition still remain insufficient.

Data from the Web of Science (2014-2024) reveal that studies involving L2/L3 learning contexts constitute less than 7% of published DMCs literature, with only about 2% focusing on multilingual learning in Asian settings. Similarly, domestic research indexed in the China National Knowledge Infrastructure (CNKI) between 2017 and 2024 shows that 83% of motivation-related studies address English (L2) learning, while fewer than 3% examine the mechanisms and dynamic features of L3 motivation. These imbalance highlight a significant research gap in sustained motivation within the context of multilingual learning, especially among Chinese learners.

To address this gap, the present study explores the dynamics of DMCs among Chinese English majors engaged in L3 learning (German, Japanese and French). Specifically, the study aims to answer the following research questions: (1) What are the stage-specific characteristics of DMCs in L3 learning among Chinese English majors during their undergraduate studies, particularly in relation to institutional timetable constraints? (2) What are the institutional and individual factors that influence the sustainability of DMCs in L3 learning among Chinese English majors during their undergraduate studies? By adopting a dynamic, process-oriented perspective rooted in DMCs theory, the study investigates both institutional and individual factors in shaping motivational persistence. Theoretically, this study aims to extend scope of motivational research

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beyond L2 contexts, offering new insights into how dynamic motivational trajectories evolve in multilingual environments. Pedagogically, it can provide evidence-based recommendations for creating culturally responsive and emotionally engaging learning environments that can enhance the effectiveness of multilingual education in China and other multilingual contexts.

2. Literature Review

Research on language learning motivation has followed a clear trajectory, moving from traditional L2 motivation theories that emphasized stable traits to dynamic perspectives such as Directed Motivational Currents (DMCs), and more recently to the emerging field of L3 motivation. Building on this trajectory, this section reviews key theoretical frameworks relevant to language learning motivation and identifies existing gaps in the application of motivational theory to third language (L3) acquisition. The discussion is organized into three main strands, namely, general motivational theory in language learning, the theory of Directed Motivational Currents (DMCs), and the emerging research on L3 learning motivation.

2.1. Motivational Theory in L2 Learning

Motivation is broadly defined as the process underlying the selection and sustained pursuit of goal-directed behavior (Dörnyei & Ushioda, 2021). Early research, notably Gardner's socio-psychological model (1985), framed motivation through the dichotomy of instrumental and integrative orientations. While influential for decades, this framework was primarily rooted in Western bilingual contexts and lacked explanatory power for motivation in evolving, multilingual classrooms (Dai & He, 2003).

In response to such limitations, more recent models have shifted toward dynamic, learner-centered approaches. The Self-Determination Theory put forward by Deci and Ryan (2000) stands out for its emphasis on the quality of motivation. It emphasizes the role of psychological needs, that is, autonomy, competence, and relatedness, in fostering intrinsic and sustained motivation (Deci & Ryan, 2000). Similarly, Dörnyei's L2 Motivational Self System (2009) and the Expectancy-Value Theory (Loh, 2019) have further broadened the field by highlighting identity, vision, and expectancy beliefs as key components of language learning motivation. However, these frameworks, while rich in typological and structural insights, offer limited explanation for the temporal and episodic surges in motivation observed in real classroom settings. This theoretical gap has led to the emergence of Directed Motivational Currents (DMCs) as a process-based model that captures motivation as a longitudinal, goal-driven experience.

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2.2. Directed Motivational Currents (DMCs) Theory

The concept of Directed Motivational Currents (DMCs) emerged as a response to the limitations of static models of motivation in second language acquisition (SLA), and it is defined as a period during which multiple factors work together to cause a surge in motivation for second language learners, maintaining it at a high level until the goal or vision is achieved (Dörnyei et al., 2015).

Dörnyei et al(2014), initially outlined the conceptual framework of DMC with five key dimensions: goal/vision-orientedness, participant ownership and "perceived behavioral control" , clear perception of progress, positive emotional loading, and a salient facilitative structure. Later refinements by Ibrahim (2016) emphasized a streamlined triadic model focusing on goal-orientedness, facilitative structure, and positive emotionality as the defining features of DMCs. Goal/vision orientedness refers to the permanent presence of a clearly defined and tangible goal that regulates individuals' behavior routines (Dörnyei et al., 2014; Muir & Dörnyei, 2013). Facilitative structures include behavioral routines, identifiable starting and ending points, and regular progress monitoring mechanisms (Dörnyei et al., 2015). Positive emotionality refers to the enjoyment experienced by learners in the process of doing activities that are recognized as transporting the individual closer to their goal (Dörnyei et al., 2014). It generates positive emotions such as satisfaction and excitement, which transform a tedious and challenging process into an enjoyable one, sustaining the intensity of motivation. Unlike earlier models, DMC theory captures the surge-like nature of motivational experience and its dependence on both personal and contextual triggers.

Empirical studies on Directed Motivational Current (DMC) can be broadly categorized into three aspects, (1) validation studies, (2) mechanism and activation studies, and (3) pedagogical application studies. Validation studies aim to confirm the existence of DMCs in language learning contexts and to verify their theoretical framework. For instance, Henry et al. (2015) successfully confirmed the DMC experience in second language learning among three Swedish female immigrants. Chang (2018) validated the DMC experience among university students in second language learning. Mechanism and activation studies investigate the internal mechanisms of DMCs and explore strategies for initiating and sustaining them. For example, Dastgahian and Ghonsooly (2018) used the motivational mechanisms within DMC to improve students' efficiency in learning religious vocabulary. Pedagogical application studies examine how DMCs can be utilized in classroom practice to improve learning outcomes. For instance, Shirvin and Talebzadeh (2018) found that the three core characteristics of Directed Motivational Current (DMC) contribute to improving writing skills. The researchers organized three literature review groups, setting clear learning objectives such as participating in evaluations for outstanding groups and publishing articles, effectively leveraging the motivational power of DMC. Additionally, recent qualitative studies have begun to explore the emotional dimension of DMC

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in learning contexts. Sak and Pietluch (2024) investigated distressing emotions arising within DMC, identifying factors such as lack of progress, negative feedback, and multitasking challenges that may undermine learners' self-efficacy and motivation. These studies have confirmed that DMC, as an optimized form of long-term motivated behavior, indeed exists in the process of L2 learning, and its motivational elements play a significant role in promoting foreign language learning and teaching (Yu & Liu, 2020).

In the Chinese context, DMC studies are still developing, with a focus on the positive effects of DMC on English listening, speaking, reading, and writing instruction. For instance, Yin (2018) found that DMC had a significant facilitative effect on second language writing and promoted positive emotional responses. Fu (2019) discovered that vision, "implicit" habitual behavior, progress checking, and positive emotions, as motivational dimensions, had a significant impact on the positive development of self-concept in English speaking. Zhu and Hu (2024) tracked the motivational intensity of four postgraduate entrance exam candidates before, during, and after their English writing training, and found that as the writing training progressed and the exam date approached, the students' motivation became increasingly stronger and less fluctuating. The Directed Motivational Current (DMC) had a clear initiation point, which was separate from the moment when the goal was initially set, and did not have a clearly defined endpoint. Additionally, a strong correlation was observed between the students' motivation for English writing and their writing performance during the training process. Further research has indicated that, among different types of exam-related motivation, those related to standardized tests, entrance examinations, and overseas study are more likely to induce Directed Motivational Currents (DMC), whereas motivation driven by final examinations tends to have a negative influence (Huang & Zeng, 2025).

However, most existing studies focus on learners of English as a second language often within Western contexts. Research involving diverse linguistic backgrounds, especially from Asia, is still rare. Moreover, while DMC has been explored in the context of second language learning, relatively little attention has been paid to its relevance in multilingual or third-language acquisition. To address these gaps, this study investigates the longitudinal motivational changes of Chinese English majors learning a second foreign language based on the Directed Motivational Current (DMC) theory, focusing on individual variations in learning motivation.

2.3. Third Language Learning Motivation

Third language acquisition (TLA), or multilingual acquisition, refers to the learning of one or more additional languages beyond a learner' s first language (L1) and already acquired second language (typically the first foreign language). In the 1980s, the publication of The Role of L1 in Foreign Language Learning by Ringbom (1987) marked the beginning of systematic research on

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third language acquisition. While TLA evolved from second language acquisition (SLA) studies, the two differ in some aspects. Cenoz (2008) identified three main differences: the order of acquisition, sociolinguistic factors, and psycholinguistic processes. SLA involves only two possible acquisition sequences, whereas TLA allows for four, creating more complex interrelations among the three languages. Sociolinguistic factors include the learning context, language types, and sociocultural status, which shape learners' engagement with L2 and L3. Psycholinguistically, acquiring an additional language increases cognitive processing complexity. With globalization and the prevalence of English, TLA has gained increasing significance, particularly in non-English-speaking regions.

International TLA research has been dominated by quantitative and empirical approaches, focusing on comparisons between SLA and TLA, cross-linguistic transfer, influencing factors, and metalinguistic awareness. Among these research topics, motivation for third language acquisition has attracted increasing academic attention. Yashima (2002) proposed the concept of international posture to capture learners' attitudes toward the global community and language learning, which has since been validated in multiple contexts (Lee, 2018; Mystkowska-Wiertelak & Pietrzykowska, 2011; Soukaina, 2019; Zhang et al., 2022). Gabryś-Barker (2011) noted that L3 motivation is often less instrumentally grounded than English and more sensitive to contextual changes. Göksu et al. (2025) found that learners' motivation in multilingual contexts is influenced by intrinsic interest, extrinsic goals, integrative motives, and prior learning experience. From a theoretical perspective, Henry (2017) extended Dörnyei's L2 Motivational Self System into the multilingual domain, proposing the Multilingual Motivational Self System (MMSS) and introducing the Ideal Multilingual Self to capture learners' aspirations across multiple languages. Guided by Complex Dynamic Systems Theory (CDST), multilingual motivation is seen as a complex, non-linear system shaped by temporal, contextual, and identity-related factors (Zheng et al., 2020). In addition, studies on cross-linguistic influence on motivation have revealed intricate interactions between motivational systems; for instance, Calafato and Tang (2019) found that the motivational investment in L2 may paradoxically inhibit learners' engagement with L3 acquisition. Collectively, these findings highlight that multilingual motivation is both dynamic and closely interconnected.

Research on multilingual learning in China began in the early 21st century and has focused on areas such as multilingual motivation (Zheng & Liu, 2021), multilingual academic practice (Liu et al., 2023), and interlingual influence (Wu, 2021). Kong et al. (2018) examined motivational types among learners of English, Chinese, Arabic, and Spanish, and identified the ideal self, ought-to self, and cultural attitudes as strong predictors of motivational intensity. Their results also revealed clear differences in international posture and competitive motivation across language groups. Wang et al. (2019) explored the construction of language selves among

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Japanese majors, reporting a stronger ought-to self for Japanese compared to English. Guided by Complex Dynamic Systems Theory (CDST), Zheng et al. (2020) conducted a longitudinal study using the Q methodology with 15 Chinese university students learning English as L2 and Spanish as L3 over one and a half years. Their findings suggested that multilingual motivation constitutes a holistic, dynamic, and interconnected system where multiple motivational factors operate simultaneously. Zheng and Liu (2021) further identified prior learning experience, cultural interest, and self-differentiation as primary sources of motivation for choosing non-English foreign languages. Building on this, Liu (2024) proposed a culturally grounded concept of the ought-to multilingual self specific to the Chinese context, based on semi-structured interviews with 23 foreign language majors. A subsequent longitudinal survey with 252 participants confirmed the strong reliability and validity of this construct. Chen and Zhao (2025) studied non-language majors learning German and found that learning experience and instrumental motivation are the main driving forces, and that motivation is influenced by multiple factors at the classroom, school, and societal levels. These studies collectively highlight distinctive cultural influences on multilingual motivation in China. However, most domestic research remains in the early stages and often rely on theoretical frameworks developed in European contexts, which may not fully reflect the motivational patterns shaped by local cultural factors.

Overall, previous research has greatly enriched our understanding of TLA motivation, yet there is still a lack of empirical studies examining DMCs in L3 learning, particularly in Asian higher education contexts. In addition, existing studies have often emphasized the static composition of motivation, with insufficient attention to its dynamic development over time. The dominance of European-based studies limits the exploration of cultural factors in shaping multilingual motivation. Few studies have systematically examined the interplay of variables such as gender, language type, and academic background. Addressing these gaps, the present explores the operation of DMCs among Chinese English major undergraduates learning their L3s, aiming to provide a deeper and more contextually grounded understanding of motivation in multilingual learning.

3. Research Design

This study adopted a mixed-methods approach, combining quantitative and qualitative data to investigate the dynamic changes and factors that influence the students' DMCs for third language learning. The integration of methods aimed to provide a comprehensive understanding of students' DMCs. Quantitative analysis was conducted through motivational trajectory charts to identify key turning points in the development of motivation (e.g., periods of highs, lows, or stable phrases), while qualitative analysis focused on the contextual events and individual interpretations about these critical moments.

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3.1. Participants and Sampling Procedures

A two-phase, mixed sampling strategy was adopted to ensure both theoretical representativeness and maximum variation in participant characteristics. The first phase is Questionnaire Screening, in which a total of 130 postgraduate students majoring in Foreign Language Literature, Applied Linguistics, English Translation at a university in China were invited to complete an online questionnaire via Wenjuanxing. The second phase is Participant Selection, in which a total of six postgraduate students were recruited. They were all native Chinese speakers (L1) with advanced English proficiency (L2; TEM-8 certified) and had at least two years of L3 study during their undergraduate programs (Mean = 23.0, SD= range = 22–25). The participant profiles are summarized in **Table 1**.

Table 1: Background information of participants

Participants	Gender	Age	L1	L2	L2 Proficiency	L3	Length of L3 study	L3 Class Hours/ Week
P1	Female	24	Chinese	English	TEM-8	German	4 years	2
P2	Female	22	Chinese	English	TEM-8	Japanese	2 year	4
P3	Female	23	Chinese	English	TEM-8	French	3 years	4
P4	Male	22	Chinese	English	TEM-8	German	3 years	4
P5	Male	23	Chinese	English	TEM-8	Japanese	3 years	4
P6	Male	25	Chinese	English	TEM-8	French	6 years	2

3.2. Research Instruments

The course schedule covered the undergraduate study across four semesters and was used as a stimulus material to aid participants' memory recall. It included key events related to second foreign language learning, such as midterm exams, the TEM-4 (Test for English Majors Band 4), and final exams and so on. The critical events served as anchors in the construction of the timeline.

To capture the dynamic changes in learners' Directed Motivational Currents (DMCs), participants were asked to draw their own motivation trajectory diagrams. Instead of dividing time into homogeneous intervals, the timeline was structured around key events drawn from the course schedule, following the event-based segmentation principle. The vertical axis represents the intensity of learning motivation on a standardized 5-point Likert scale. Each point was archored to specific behavioral indicators, e.g., "daily study ≥1 hour" was rated as intensity level 4. The behavioral anchoring improved the objectivity and comparability of motivation scores across participants. The data collection followed a Timeline Mapping approach. Participants first drew an initial subjective curve of their motivation changes over time, which was then refined

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collaboratively with the researcher by overlaying it with key events. This method enhanced the accuracy of retrospective recall and provided a more detailed description of motivation development.

The questionnaire was used in the first round to find the final participants. It was designed based on Dörnyei et al.' s (2016) theoretical framework, operationalizing the three core components of Directed Motivational Currents (DMCs) that is, goal-orientedness, facilitative structure, and positive emotionality through 5-point Likert-scale items (1 = strongly disagree, 5 = strongly agree) (Muir, 2016). The questionnaire also collected participants' demographic information (e.g., gender, age, major), second foreign language (L3) being learned, and years of study. Internal consistency was satisfactory (Cronbach's = 0.84).

The interviews (15-20 minutes) were conducted with the 29 participants to validate the presence and strength of DMCs. The interviews followed a clear framework to access three key areas of strong DMCs: clear L3 goal, steady self-directed learning habits, and strong emotional and motivational involvement. It was used for an in-depth investigation into the reasons behind changes in the participants' Directed Motivational Currents.

To enhance the credibility and validity of the research findings, this study adopted a data triangulation approach. Participants' motivation trajectory diagrams are rechecked with their course learning experiences (e.g., class attendance, midterm/final exam scores), interview narratives, and questionnaires.

3.3. Data Collection Procedures

Data collection followed a three-phrase procedure.

Phase 1 is Questionnaire Screening. The questionnaire was administered online via Wenjuanxing. Following established thresholds in prior DMC studies (e.g., Chang, 2021), a mean motivational intensity score of ≥ 4.0 was used as the eligibility criterion for potential DMC cases. The maximum possible score for each subscale was 5.0. Of the 130 valid responses, 36 participants met the threshold (27.7%). Attrition occurred when 7 participants declined to proceed due to time constraints or personal reasons, leaving 29 for interview pre-screening.

Phase 2 is Interview Pre-Screening. Semi-structured interviews (15-20 minutes) were conducted with the 29 participants to validate the presence and strength of DMCs. For the final selecction of interviewees, a purposeful sampling strategy was then applied, prioritizing the highest questionnaire scores. To enhance representativeness, maximum variation sampling (Patton, 2014) was employed to ensure a balanced distribution of gender and L3 target language. The overall participant selection procedure is shown in **Figure 1**.

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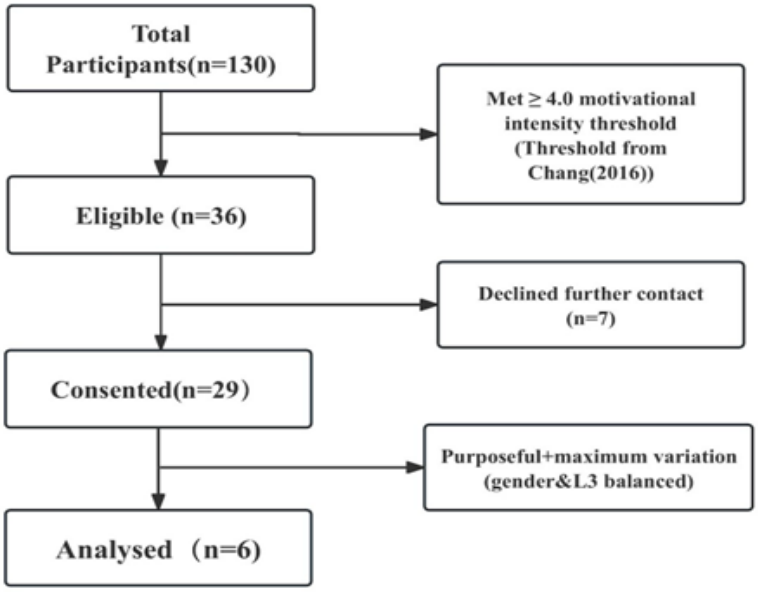
Figure 1: Flow chart of the participant screening process



3.4. Data Analysis

This study adopted a mixed-methods approach by integrating quantitative and qualitative analysis to answer the research questions. The quantitative analysis focused on the motivational trajectory charts and questionnaire data, while the qualitative analysis examined interviews and open-ended responses.

For the quantitative analysis, SPSS 26.0 was used to conduct descriptive and inferential statistics. First, descriptive statistics (frequency, percentage, mean, and standard deviation) were calculated to provide an overview of participants' motivational trajectories. The internal consistency of the questionnaire was assessed using Cronbach's α, ensuring the reliability of the questionnaire. To test the significance of motivational changes, a trend analysis was carried out on the trajectory data followed by repeated measures ANOVA to identify statistically significant variations.

For the qualitative analysis, Nvivo 15 software was used, combining Moment Analysis with Interpretive Phenomenological Analysis (IPA). In the Moment Analysis, motivational trajectory charts drawn by participants were used to identify critical moments in their third language learning process (e.g., motivation peaks, declines, or stable phases). These moments were compared with interview data and course schedules. For instance, in the case of Participant 1, a significant decline in motivation occurred during the second semester of German learning due to difficulties with grammar. Moment Analysis revealed that this low point coincided with her attempts to seek external help, which were unsuccessful at the time. In the IPA, all interview

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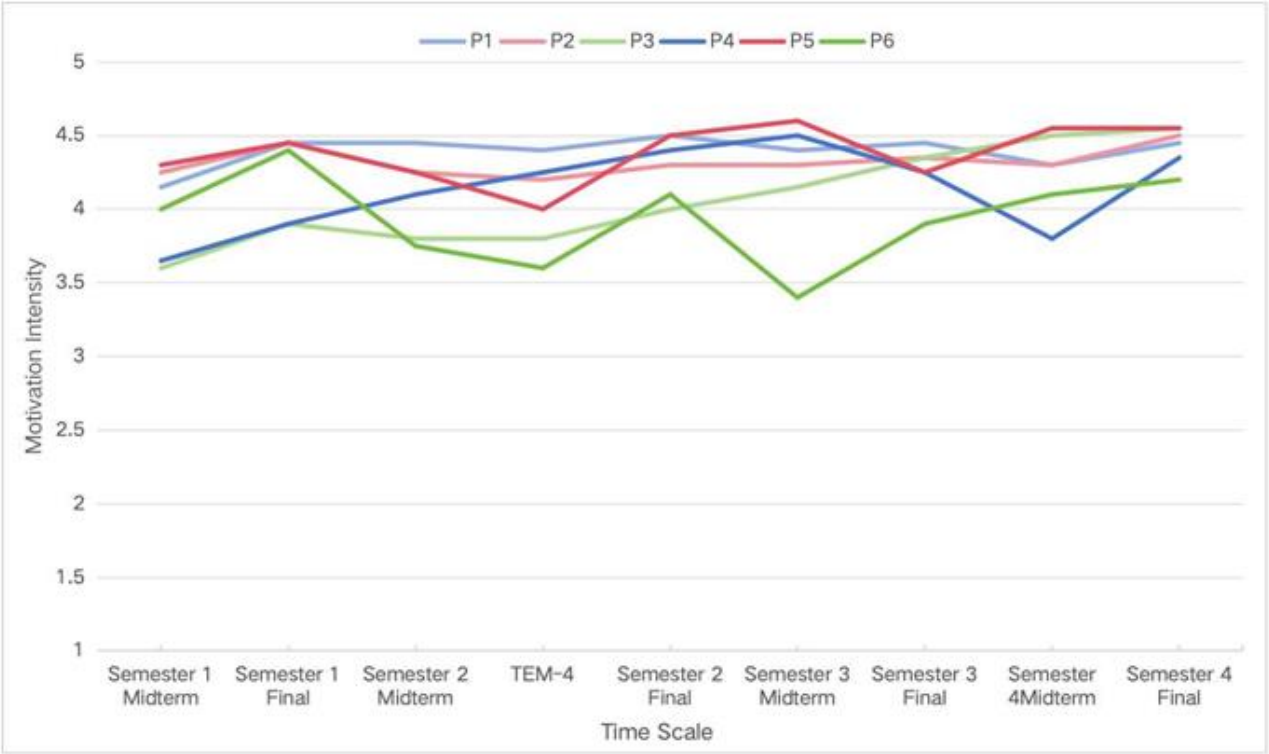
transcripts were imported into Nvivo 15 for systematic coding. Following Braun and Clarke's (2006) six-stage guideline, the analysis proceeded from initial open coding (e.g., "feel anxiety," "teacher support," "peer presure") to axial coding and theme development. Major themes identified included emotional states, learning interest, family support, and learning goals.

4. Results and Discussion

4.1. The Longitudinal Characteristics of Students' Directed Motivational Currents in Third Language Learning

A repeated-measures ANOVA revealed a significant effect of time on motivation scores, $F(8, 40) = 3.32$, $p = .005$, indicating that motivation intensity varied significantly across the nine measurement points. Linear trend analysis showed a significant positive trajectory over time ($\beta = 0.146$, $p = .015$), suggesting that participants' motivation intensity tended to increase as the study progressed. It further revealed that P3 and P4 showing particularly notable growth. The motivation trajectory chart (**Figure 2**) illustrates both the inter-individual differences in motivational intensity and the overall patterns of change.

Figure 2: The trajectory of Directed Motivational Currents in third language learning



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Motivation Trajectories in different language groups

In the German group, the female student (P1) maintained a consistently high and stable level of motivation (4.1–4.5) across the four semesters, with only minor fluctuations. In contrast, the male student (P4) exhibited greater fluctuation, beginning at a lower level (3.6), reaching a peak of 4.5 in Semester 3, and then declining before a partial recovery. Overall, his average motivation and stability were lower than those of the female student.

In the Japanese group, both the female (P2) and male (P5) students demonstrated high and stable motivation (above 4.0) with minimal fluctuations. The female's motivation ranged from 4.2 to 4.5, peaking in the final stage, while the male began at 4.3, peaked at 4.6 in Semester 3, and occasionally surpassed the female's scores.

Female students learning French as an L2 (P3) displayed a steady upward trend, increasing from 3.6 to 4.5, while the male student (P6) experienced larger fluctuations, declining from an early high of 4.4 to 3.4 in Semester 3 before partially recovering to 4.2.

Comparative Overview of DMCs across Languages and Genders

Given the variations observed in each language group, a cross-group comparison was conducted to examine how language type and gender jointly influence the stability of DMCs. **Table 2** shows the motivation intensity range, fluctuation range, stability level and key features of different language groups.

Table 2: Average motivation levels, fluctuation ranges, and stability rankings

Language	Gender	Motivation Intensity Range	Fluctuation Range	Stability Level	Key Features
German	Female	4.3-4.5	±0.2	High	Consistently high, minimal drop
German	Male	3.6-4.5	±0.9	Low	Large mid-phase rise, later recovery
Japanese	Female	4.2-4.5	±0.3	Very High	Stable with slight upward trend

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Japanese	Male	4.0-4.6	±0.6	High	Consistent high performance
French	Female	3.6-4.5	±0.9	Medium	Continuous improvement
French	Male	3.4-4.4	±1.0	Low	Significant mid-phase drop

The results show that gender differences significantly influence DMCs in third language learning. In the German and French groups, female students generally had higher motivation intensity than male students and exhibited greater stability. In contrast, the gender difference in the Japanese group was smaller, with male students surpassing female students in motivation intensity during the later stages of learning. A possible reason for this trend is the difference in learning habits and social expectations. Female students are more self-disciplined and persistent in their studies, which may contribute to their sustained motivational engagement over time (Dörnyei & Ushioda, 2021). Furthermore, female students may be more motivated by personal interest in the language, the desire for self-improvement, or the goal of better communication. For example, the female student studying German stated: “I like the sounds of German, and I find it logical, which keeps me motivated to continue.” Besides, the male students in the German and French groups showed greater fluctuations in their motivation. This might reflect challenges in self-regulation or a lower perceived connection between language learning and personal goals. Previous studies have suggested that male learners are more likely to lose their motivation when they perceive the task as less important or meaningful (Henry, 2009).

In addition to gender differences, DMCs varied across languages. Japanese learners showed higher motivation and more stable changes in motivation. In contrast, learners of German and French experienced more noticeable fluctuations. These differences may reflect variations in language difficulty and cultural familiarity: German and French are often perceived as more complex linguistically, and their cultural content may be less accessible to learners compared with Japanese culture. For example, the male French learner stated that: “At first I thought French was romantic, but later it got really hard. The pronunciation and verb changes are difficult. And it is hard to find good French TV series online. I kind of lost the motivation.” These results suggest that learners’ motivation can be strongly affected by the specific language they study, due to differences in language difficulty, cultural relevance.

In general, female students displayed more consistent and gradually increasing motivation across all languages, particularly in German and French. Male students experienced greater variability, with occasional peaks (as in Japanese) and notable declines (as in French). These findings suggest that both gender and language type shape learners’ DMCs, and that motivation is influenced by personal interest, self-regulation, language difficulty, and cultural engagement.

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Teachers should consider these factors and adopt learner-centered, culturally relevant strategies to sustain motivation in long-term language learning.

4.2. Factors Influencing Chinese English Majors' DMCs in Third Language Learning

This section presents the findings related to the second research question, which explores the factors that influence Chinese English majors' DMCs in the process of learning a third language. Based on the data collected from interviews and coded using NVivo 15, several key themes were identified that reflect students' perceptions of what helped maintain their long-term motivation. These findings are categorized into two main dimensions: institutional factors, which refer to external conditions shaped by the educational environment, and individual factors, which involve learners' personal interest, experiences, and emotional states.

Institutional Factors

The results indicate that institutional factors, such as teachers, classmates and peers, assessment mechanisms, curriculum design and access to resources all contribute to students' DMCs in third language learning. **Table 3** presents the key themes identified from the interviews, together with the percentage of participants who mentioned them and examples.

Table 3: Institutional factors identified from interviews on participants' DMCs in third language learning

	Themes	Participants Mentioned %	Examples
Institutional Factors	Teachers	100%	*When I get high scores on vocabulary quizzes, have perfect homework, or receive oral or written praise from my teacher for improvements in my Japanese pronunciation, I feel highly motivated to continue learning Japanese and experience a strong sense of accomplishment (P2).*
	Classmates and peers	67%	*Knowing the high German scores of the senior who was admitted and her experience sharing inspired me to study German hard (P4).*
	Assessment mechanisms	83%	*When I started learning Japanese in my junior year of college, I had a very clear goal, which was to pass the final exam of the Japanese course with high scores and to be able to handle the Japanese interview in the postgraduate recommendation interview (P2).*

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	Curriculum design	50%	*For me, the Japanese course in the first semester was very well-organized. Every class focused on a specific topic—like greetings, shopping, or travel—which made the learning goals clear and practical. It was not just a language course; it was like preparing for real-life use (P5).*
	Access to resources	33%	*I often went to the language self-study center after class. It provided audio materials, textbooks, and past exam papers for French learners. And my teacher always uploads some useful courses and exercises on SuperStarLearn.These resources were very helpful when I was preparing for tests. Being able to access them anytime gave me a sense of control over my learning and helped me stay motivated (P3).*

All the participants emphasized the essencial role of teachers inn sustaining their DMCs. As Ushida (2015) stated, "Language learners" responses to language input affect subsequent input content and quality in the learning interaction environment," while strong learning motivation further encourages students to work harder and cooperate with teachers, resulting in positive, symbiotic effects. This factor mainly reflects the facilitative structure component of DMCs, as consistent teacher guidance and emotional support provide a stable framework that sustains learners' motivational momentum.

Four participants stated that relationships with classmates significantly influenced their DMCs. Peers were described as a source of positivity, providing encouragement and support throughout the learning process. In addition, two participants mentioned that senior students influenced their decision on which second foreign language to learn. Besides, the data further indicated that knowledge sharing and assistance during lessons were key elements of peer support. Overall, peer influence contributes to both positive emotionality, by creating a supportive and enjoyable learning atmosphere, and to facilitative structure, through collaborative learning and shared responsibilities.

Five participants reported that their learning goals were primarily shaped by examinations, including quizzes, mid-term and final tests, and postgraduate entrance exams. Assessment mechanisms thus emerged as a key factor influencing motivation. Motivation intensity consistently peaked toward the end of each semester, suggesting that participants were largely driven by "exam-oriented motivation," a pattern consistent with the concept of "Chinese imperative" motivation (Chen et al., 2005), knwon as "responsibility motivation". This form of responsibility that is rooted in Confucian education in China and family values differs from instrumental motivation (Gardner, 1985), the ideal L2 self (Dörnyei, 2014), or extrinsic

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motivation (Noels et al., 2000), as it emphasizes academic achievement as both a duty and a source of legitimacy. Within the DMC framework, such exam-oriented goals align with the goal-orientedness component, since exam preparation provides clear, time-bound objectives that intensify learners' efforts and sustain long-term motivational currents.

Three participants mentioned that curriculumthe design, including class frequency, course content, and workload, directly impacted their motivational intensity. Courses perceived as practical and relevant to learners' communicative needs were associated with higher and more stable motivation. Conversely, imbalanced workload or insufficient alignment with learners' goals led to motivational decline. These findings align with previous research that emphasizes the importance of structured and meaningful learning environments in promoting sustained motivation (Ushioda, 2011). Within the DMC framework, curriculum design functions as part of the facilitative structure, offering clear pathways and appropriately challenging tasks that help sustain learners' motivational momentum.

Two participants highlighted the importance of access to learning resources outside the foreign language learning classroom. These resources offered both academic support and a sense of autonomy, enabling learners to monitor and direct their own progress. In particular, resources were perceived as crucial for exam preparation, allowing learners to review and practice at their own pace. The availability of such support extended learning beyond formal instruction and created a more dynamic and meaningful learning experience. These findings echo the role of environmental support in sustaining DMCs, as suggested by Dörnyei et al. (2016). When institutions provide accessible and meaningful learning resources beyond the classroom, learners are more likely to remain engaged, self-regulated, and goal-directed. In this way, access to resources not only complements classroom instruction but also enhances the overall motivation of learners. Access to resources enhances both facilitative structure by providing continuous academic support.

Institutional Factors

Individual factors (e.g. emotional state, learning goals, personal interest, previous language learning experiences, willingness to challenge oneself, and family support) significantly influenced individual students' motivation intensity and stability. **Table 4** presents the individual factors identified from the interviews, together with the percentage of participants who mentioned them and examples.

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Table 4: Individual factors identified from interviews on participants' DMCs in third language learning

	Themes	Participants Mentioned %	Examples
Individual Factors	Emotional state	100%	*I feel very happy when I have mastered difficult knowledge points and completed the homework with a high accuracy rate (P3).*
	Learning goals	33%	*French is the most widely spoken language in the world, and it is also an official language globally. I think its usage might be broader (P3).*
	Personal Interest	67%	*I particularly enjoyed watching a German couple who were bloggers sharing their life. Before I started learning German, I only paid attention to the content they shared. However, after learning German, I began to focus on their language. At the beginning, I could hardly understand anything when I looked at the subtitles, but eventually I was able to comprehend some of the content, which made me very happy. I also started to listen to some pleasant German songs (P4).*
	Learning experience	16.7%	*I studied Japanese in high school and have a little foundation in it. Moreover, I believe Chinese people have an advantage in learning Japanese because of the similarity between Japanese and Chinese characters, and there are relatively abundant learning resources available (P5).*
	Challenge oneself	16.7%	*Because French is relatively more difficult, I want to challenge myself (P6).*
	Family	16.7%	*When I feel anxious while studying, I video call my family. Talking to them helps me feel less anxious, and it feels like they are my support system (P5).*

Among all individual factors, emotional state emerged as the most salient theme. Across interviews, participants consistently emphasized positive emotions, such as happiness,enjoyment, and satisfaction, as central to sustaining their long-term motivation. Several participants noted that as they accumulated more knowledge, the resulting sense of achievement from completing tasks or successfully applying new skills reinforced their persistence. This finding highlights the crucial role of positive emotions in maintaining Directed Motivational Currents, echoing previous research that identified emotional engagement as a key driver of sustained motivation (Dörnyei et al., 2015; Henry et al., 2015). With the DMCs framework, these experiences directly

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correspond to the component of positive emotionality, as feelings of enjoyment and accomplishment help maintain the momentum of motivational currents over time.

Two participants indicated that they intended to apply the second foreign language in the future. The goal-oriented mindset helped maintain their motivation over time, especially when the learning process became challenging. The perceived usefulness of the language reinforced their long-term commitment, as they viewed it not merely as a school subject but as a practical tool for future development. Such a perception aligns with the concept of instrumentality-enhanced vision (Dörnyei, 2009), where learners imagine the practical outcomes of their language learning and use that vision to sustain effort. These findings highlight how future-oriented learning goals, whether broad or specific, can contribute to a strong and enduring motivational currents.When learners see a clear link between classroom learning and future use, their motivation tends to become more stable and self-sustaining. Within the DMC framework, learning goals correspond to the component of goal-orientedness, as clear and meaningful objectives provide both direction and purpose to learners' sustained engagement.

Personal interest in the target language and its culture was also identified as a key factor influencing students' motivational stability. Four participants reported that their choice of second foreign language was based on their interest in the language and culture. This reveals that engaging with authentic cultural products not only enhanced their learning experience but also reinforced intrinsic motivation.

Learning experience was also found to influence students' DMCs. One participant reported choosing Japanese as his second foreign language due to his prior exposure in high school, which provided him with a foundation and eased the initial learning process.. More broadly, students with previous language learning experience demonstrated higher initial motivation and greater resilience when facing challenges. This suggests that transferable skills and confidence gained from prior language learning can positively influence second foreign language learning. Within the DMC framework, prior language learning experience equips students with strategies and confidence that support sustained motivation.

The willingness to challenge oneself also emerged as a motivational factor. One participant asserted that he chose French because of its perceived difficulty, viewing it as an opportunity for personal growth and intellectual development. Learners who approached third language study as a challenge tended to maintain higher motivation even when encountering obstacles. This theme aligns with both goal-orientedness—through the pursuit of personal growth—and positive emotionality generated from overcoming challenges.

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Family support was also identified as an important factor sustaining students' DMCs. One participant mentioned when experiencing anxiety during language learning, communicating with family members provided emotional relief and encouragement. Such support functioned as a stable external scaffold, reinforcing learners' confidence and persistence.This finding emphasizes the importance of a supportive family environment in fostering students' language learning aspirations. This factor reflects facilitative structure, as family encouragement provides a stable support system that helps maintain learners' motivational direction and momentum.

Conclusion

This study investigates the Directed Motivational Currents (DMCs) in second foreign language learning among six English major graduate students through questionnaires, semi-structured interviews, and self-drawn motivation trajectories. Compared with previous research on DMCs in L2 learning contexts, this study is among the first to systematically analyze DMCs in an L3 learning environment, with particular attention to gender and language-related differences. By demonstrating how these factors influence motivational dynamics, the study contributes both to the theoretical refinement of DMCs and to their broader applicability beyond traditional second language acquisition.

The key findings highlight notable gender and language differences in motivation among learners of German, Japanese, and French. Moreover, the interaction between institutional factors (e.g., teacher support, peer influence, assessment, and curriculum design) and individual factors (e.g., emotional experiences, personal interest, prior learning experience, and family support) was found to be central in sustaining DMCs. These individual factors do not operate in isolation but interact and reinforce one another to form a dynamic and mutually supportive motivational system. The interplay creates a cumulative effect that strengthen students' motivational currents over time. By demonstrating how these factors influence motivational dynamics, the study contributes both to the theoretical refinement of DMCs and to their broader applicability beyond traditional second language acquisition.

These findings have practical implications for language teaching and curriculum design. Educators are encouraged to adopt gender-sensitive strategies and learner-centered strategies. For instance, collaborative tasks may help sustain female learners' motivation, while challenge-based activities could be particularly effective for engaging male learners in later stages. Furthermore, integrating materials that match students' individual language interests and cultural preferences, such as German literature, Japanese popular culture or French art, may also enhance personal relevance and emotional connection, which are essential for sustaining DMCs. Additionally, teachers should acknowledge the interplay among individual factors by, for example, recognizing students' previous learning experiences to build confidence, and promoting

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a positive orientation toward challenges. Such practices can support learners in maintaining strong and enduring motivational currents.

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Author Contributions

Huixin Qiao: formal analysis, writing original draft, software, writing-reviewing and editing

Fei Liu: conceptualization, methodology, writing-reviewing and editing

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