LEARNING MOTIVATION INTERVENTIONS IN CHINESE HIGHER EDUCATION: INTERNATIONAL INSIGHTS AND LOCAL CHALLENGES

Yuanyuan Zhang[1*], Khalid Nurul Fazzuan[2*]

[1] Department of Educational Studies, Universiti Sains Malaysia, Malaysia
    Email: zhangyuanyuan@student.usm.my
[2] Department of Educational Studies, Universiti Sains Malaysia, Malaysia
    Email: fazzuan@usm.my
*   Corresponding Author

Article Info:

Abstract:

Learning motivation is increasingly recognized as a critical factor influencing university students' academic achievement and psychological well-being. As higher education environments become more complex, motivation-based interventions have emerged as key strategies to enhance student engagement and promote long-term development. This review synthesizes empirical studies on learning motivation interventions in both international and Chinese higher education contexts. International literature identifies three primary categories of intervention: (1) empirical intervention studies informed by motivational theories such as Self-Determination Theory (SDT); (2) instructional and technology-integrated practices, including Project-Based Learning (PBL) and gamification; and (3) psychology-based intervention strategies such as cognitive-behavioral techniques (CBT), motivational interviewing (MI), and structured counseling. In contrast, interventions in Chinese universities remain limited in scope, predominantly concentrated in language-related instruction with a focus on short-term academic outcomes. Psychological interventions are often small-scale and lack theoretical integration or the use of validated techniques. Concrete and operable intervention programs, whether group-based or individually oriented, are still scarce. Individualized strategies tailored to students' motivational profiles are rare, and most studies rely on self-report methods without longitudinal or mixed-method designs. Although emerging technologies, such as AI-driven feedback systems, show promise, they are not yet fully integrated with psychological or pedagogical frameworks. To address these challenges, this review proposes three strategic directions: (1) expanding and professionalizing psychological intervention frameworks through localized, theory-informed program design; (2) implementing precision-based, differentiated strategies guided by students' motivational profiling; and (3) coordinating the parallel development of pedagogical, technological, and

psychological supports within clearly defined academic settings. These recommendations offer practical guidance for advancing sustainable and evidence-based learning motivation interventions in Chinese higher education.

Introduction

Learning motivation is a central psychological factor influencing academic achievement, drawing sustained attention across education, psychology, neuroscience, and sociology (Vela, Mancheno, Castelo, & Chávez, 2024; Jian, 2022; Cheng, 2023). A substantial body of research confirms that learning motivation is a critical predictor of academic success, playing a vital role in students' persistence (Mtshweni & Silinda, 2025; Bedi, 2023). In higher education specifically, learning motivation has gained salience because it significantly affects both academic performance and psychological well-being (Tuan, 2023).

In recent years, low learning motivation has emerged as a key factor contributing to reduced engagement and suboptimal academic outcomes among university students, in some cases, it may even lead to academic disengagement or dropout (Tayebi, Gómez, & Delgado, 2021). For instance, in Chile, the dropout rate for students in higher technical-professional tertiary education is close to 30% in the first year, and the retention rate for first-year students in universities is around 75%, indicating a dropout rate of approximately 25% (Dombrovskaia, Riveros, & Valdes, 2024; Bello, Kohler, Hinrechsen, & Jara, 2020). A study focusing on a public regional university in Chile further found that the highest average probability of dropping out, slightly more than 39%, occurs in the first two semesters of university studies (González-Campos, Carvajal-Muquillaza, & Aspeé-Chacón, 2020). Drawing on Self-Determination Theory (SDT), Rump, Esdar, and Wild (2017) investigated how various forms of academic motivation, including intrinsic motivation, identified regulation, introjected regulation, and external regulation, influence first-year students' intentions to withdraw. Their findings emphasized the importance of autonomous motivation, showing that intrinsic motivation and identified regulation significantly predicted lower dropout intentions.

While much research has examined the theoretical underpinnings and correlates of academic motivation, empirical studies specifically testing intervention strategies grounded in motivational theory remain relatively limited (Lazowski & Hulleman, 2016). Most existing studies tend to identify correlational factors rather than evaluate structured, theory-based interventions. For instance, Ishida and Sekiyama (2024), in a review of 84 empirical studies published between 2017 and 2023, classified the determinants of learning motivation into six broad domains: demographic factors, cognitive variables, social and environmental influences, psychological values, academic habits, and intervention strategies.

In China, research has predominantly focused on identifying influencing factors and developing theoretical models. For example, Zhou and Zhang (2025) employed SDT to analyze how internal factors, such as perceived autonomy, competence, and intrinsic motivation, interact with external elements like system quality and social interaction to affect students' continued use of artificial intelligence (AI) tools for self-directed learning.

Despite the increasing sophistication of motivational theories, there remains a lack of systematic reviews addressing intervention approaches designed to enhance university students' learning motivation, both internationally and in the Chinese context. One notable exception is the meta-analysis by Lazowski and Hulleman (2016), which synthesized motivation-based intervention programs and reported a moderate average effect size (d = 0.49), thereby validating the general efficacy of such interventions. In contrast, Wang and Yi (2021) provided a comprehensive overview of motivational research in China, examining theoretical constructs, measurement tools, and influencing factors over the past two decades. However, empirical evaluations of motivation intervention, particularly those targeting university students, remain limited and fragmented in Chinese higher education literature.

Therefore, the purpose of this study is to synthesize recent empirical research on learning motivation interventions in both international and Chinese higher education contexts. Specifically, it aims to examine the major categories of intervention strategies, analyze their conceptual frameworks and practical applications, and identify key limitations in current Chinese practices, while proposing evidence-based, localized improvement strategies informed by international research trends.

Methodology

This study adopts a literature review approach to examine learning motivation interventions in higher education. Academic sources were retrieved from Scopus, Web of Science, CNKI, and Google Scholar using key terms such as "learning motivation", "motivational intervention", and "higher education", along with their Chinese equivalents. Searches were conducted within titles, abstracts, and keywords for publications from 2015 to 2025. The review synthesizes key intervention strategies, theoretical foundations, and practical implications from both international and Chinese literature.

Literature Review

In recent years, research on learning motivation interventions has made steady progress in the field of international education, resulting in a relatively well-established theoretical framework and growing empirical support. This review examines the current landscape of learning motivation intervention practices in both international and Chinese contexts, with a particular focus on their conceptual frameworks and practical applications.

Overview of Motivation Intervention Practices in International Higher Education

To provide a clearer understanding of global trends, this review identifies three major dimensions in the international literature on learning motivation interventions: (1) empirical intervention studies informed by motivational theories; (2) instructional and technology-integrated practices; and (3) psychology-based intervention strategies.

Empirical Studies on Learning Motivation Informed by Motivational Theories

Lazowski and Hulleman (2016) conducted a meta-analysis of 74 educational intervention studies grounded in motivational theories, involving a total of 38,377 participants. The results demonstrated an overall positive effect of motivation-based interventions, with an average effect size of d = 0.49 (95% CI = [0.43, 0.56]). Stronger effects were observed in quasi-experimental designs. Their analysis synthesized 15 core motivational theories, including Achievement Emotions Theory, Achievement Goal Theory, Attribution Theory, Expectancy-Value Theory, Goal-Setting Theory, Implicit Theories of Intelligence, Interest Theory, Need for Achievement Theory, Possible Selves Theory, Self-Affirmation Theory, Self-Confrontation Theory, Self-Determination Theory, Self-Efficacy Theory, Social Belongingness Theory, and Transformative Experience Theory, all of which offer theoretical foundations for the design of learning motivation interventions.

Building on these theoretical frameworks, Lazowski and Hulleman (2016) summarized a wide range of motivational interventions, including expressive writing, reappraisal of anxiety, mastery-oriented teaching, attribution retraining, utility-value interventions, goal setting, and growth mindset programs. Recent evidence both corroborates and nuances these strategies (Beymer & Rosenzweig, 2025; Martins van Jaarsveld et al., 2025; Yu & Zhang, 2022). For example, utility-value interventions (UVI) have demonstrated benefits in higher education science, technology, engineering, and mathematics (STEM) courses, with a 13-week UVI improving weekly value and interest ($d \approx 0.08\text{--}0.20$) and selectively boosting grades for marginalized groups (Beymer et al., 2025).

Nikitskaya and Tolstykh (2018) reviewed twelve major theoretical frameworks on learning motivation developed over the past two decades in Europe and North America, including Control-Value Theory, Expectancy-Value Theory, Self-Determination Theory (SDT), and Self-Efficacy Theory. These theories emphasize the roles of cognition, emotion, goal setting, and social relationships in the construction of motivation. Interventions such as reshaping beliefs about intelligence and setting clear goals were found to be effective in enhancing both learning motivation and academic achievement. However, the review also highlighted that these theories are primarily grounded in Western cultural contexts, which raises concerns about their cross-cultural applicability. Moreover, the effectiveness of such interventions may be influenced by individual differences and socioeconomic factors.

Self-Determination Theory (SDT) has been widely applied in motivation-based interventions. A meta-analysis conducted by Wang, Wang, Wind, and Gill (2024), encompassing 36 relevant studies, identified autonomy support as a key factor in fostering intrinsic motivation. The study proposed five major intervention models: teacher-led, student-led, parent-led, mentor-mentee, and collaborative interventions. It emphasized the importance of incorporating support for competence and relatedness in the intervention design. Furthermore, it recommended that intervention strategies be tailored to gender, academic discipline, and cultural context to enhance their generalizability and effectiveness.

Instructional and Technology-Integrated Practices for Learning Motivation

In recent years, learning motivation-based interventions have increasingly been integrated into instructional settings and educational technologies. In a quasi-experimental study, Kuo, Yang, Chen, Hou, and Ho (2021) found that incorporating design thinking into project-based learning (PBL) significantly enhanced students' task value, self-efficacy, and creativity. Similarly,

Huang (2022) reported that PBL effectively stimulated students' inquiry tendencies and improved teacher–student interactions.

Building on these instructional design strategies, researchers have also explored more interactive and engaging approaches such as gamification. Gamified interventions have shown considerable potential. Xu, Lio, Dhaliwal, Andrei, Balakrishnan, Nagani, and Samadder (2021), in a systematic review of studies published between 1990 and 2020, found that elements such as badges, points, and leaderboards can effectively stimulate situational interest and intrinsic motivation. However, most of these studies were short-term in nature, lacking longitudinal tracking and causal verification.

To deepen the understanding of gamification's motivational effects, some scholars have turned to theoretical frameworks such as Self-Determination Theory (SDT) to guide empirical research. Zhang, Li, Haoqun, and Yan (2025), drawing on SDT, conducted a study involving 483 university students to examine how the satisfaction of basic psychological needs in online gamified learning (OGL) environments influences learning engagement. Structural equation modeling (SEM) revealed that autonomy significantly predicted both relatedness and competence; all three psychological needs were positively associated with intrinsic motivation, which in turn enhanced engagement. Furthermore, intrinsic motivation and basic psychological needs partially mediated the relationship between autonomy-supportive motivation and engagement, while extrinsic motivation negatively moderated this relationship. The study highlighted the importance of reciprocal teacher–student interactions in fostering learning motivation and engagement within OGL contexts. These findings underscore the value of designing gamified learning environments that are not only technologically engaging but also responsive to students' basic psychological needs.

Psychology-Based Intervention Strategies for Learning Motivation

Beyond instructional interventions, psychologically oriented approaches have also proven effective in enhancing academic motivation. Group counseling, in particular, has been widely recognized as a beneficial psychological intervention for promoting university students' learning motivation (Mustikaningwang & Lessy, 2022). Studies conducted in Southeast Asia further highlight the effectiveness of group counseling for students from disadvantaged backgrounds. For instance, Lestari, Hasan, Silalahi, Thalib, Ampulembang, and Kushendar (2023) conducted an intervention involving six students from disrupted family environments and reported significant improvements in their motivation levels. Similarly, Mala and Isnaeni (2023), using a one-group pretest–posttest design, found that group counseling significantly enhanced students' learning motivation ($p < 0.05$), providing empirical support for its efficacy. Cognitive Behavioral Therapy (CBT), as a widely applied tool in educational psychology, has demonstrated strong effects in both emotion regulation and learning motivation enhancement. Xie (2025) conducted a synthesis of 32 CBT-based music therapy studies involving K–12 and university students, finding that CBT significantly reduced anxiety levels (effect size, $d = 0.73$), while also improving learning efficiency and learning motivation. In particular, music-integrated Rational Emotive Behavioral Therapy (REBT/CBT) has been shown to be effective in modulating students' emotional states, providing both theoretical grounding and practical support for its implementation within school-based mental health programs.

In recent years, the integration of Motivational Interviewing (MI) with SDT has gained traction in interventions targeting university students. Oram, Dou, and Rogers (2022) implemented an SDT- and MI-based group intervention among 223 undergraduates and found a significant improvement in the satisfaction of basic psychological needs. Although the intervention showed limited effects on autonomous motivation and procrastination, the role of MI in fostering an autonomy-supportive environment was clearly demonstrated. Lee and Shin (2016) further confirmed the positive impact of MI combined with Cognitive Behavioral Therapy (MI-CBT) on the motivation and behavioral outcomes of academically at-risk students.

In further explorations of psychological intervention techniques, Esposito, Ribeiro, Gonçalves, and Freda (2017), and Esposito, Karterud, and Freda (2021) employed a narrative meditation intervention, which significantly enhanced students' self-efficacy, achievement beliefs, and learning motivation. Similarly, Yoon (2020) developed a multidimensional intervention based on the "Relationship—Want—Doing—Evaluation—Planning" (RWDEP) framework, which integrates cognitive regulation, strategy training, and self-management skills. This approach also yielded positive outcomes in enhancing students' learning motivation.

In addition to traditional psychological interventions, some studies have emphasized the importance of social interaction in enhancing student motivation. For example, Li and Lin (2024), drawing on Social Learning Theory and the Community of Inquiry (CoI) framework, examined peer interaction in blended learning settings. Their SEM and ANN analyses identified key predictors, such as grouping strategies, personality traits, and learning tasks. Although motivation was not the primary target of the intervention, their findings highlight the indirect yet important role of motivational variables in optimizing peer-based engagement. This suggests that fostering psychologically safe and collaborative learning environments may serve as a complementary pathway to enhance motivation.

Overview of Motivation Intervention Practices in Chinese Higher Education
A review of recent literature indicates that empirical studies on learning motivation interventions in Chinese universities have primarily focused on instructional design and technology integration within language-related courses, particularly English. A smaller body of research has examined psychological approaches, especially those involving group counseling. Accordingly, this section reviews key findings and intervention approaches in China from two perspectives: (1) learning motivation interventions in the context of language instruction and (2) group counseling–based interventions.

Learning Motivation Interventions in the Context of Language Instruction
In recent years, learning motivation intervention practices in Chinese universities have predominantly centered on language education, with a notable concentration on enhancing students' motivation to learn English. In contrast, research on motivation interventions targeting broader academic disciplines is still in its early stages. Aside from a limited number of group counseling studies, large-scale or cross-disciplinary intervention practices remain scarce.

One emerging area of interest is the use of AI-driven instant feedback systems, which offer high levels of personalization and responsiveness. Sun and Nasri (2025) conducted a two-week intervention involving "Doubao," an AI-based conversational agent, targeting non-English major university students in China to examine its effect on English-speaking learning

motivation. The results indicated significant improvements in both intrinsic and extrinsic motivation ($p < 0.001$). Students' perceived value of instant feedback was positively correlated with their motivational levels, and regression analysis confirmed that instant feedback significantly predicted changes in motivation. The study concluded that AI-supported "scaffolding" enhanced students' sense of competence and autonomy, thereby effectively stimulating language learning motivation. The authors recommended incorporating AI-based feedback and collaborative learning into instructional design, combined with contextual tasks and reflective mechanisms, to systematically promote students' self-directed learning and motivation development.

Beyond technological tools, pedagogical innovation has also played a crucial role in enhancing students' learning motivation. The Production-Oriented Approach (POA) has been widely applied in college English instruction over the past few years. Zhao, Sulaiman, and Wahi (2024) employed a mixed-methods design to examine the impact of POA on English learning motivation. Quantitative findings indicated a significant improvement in both intrinsic and extrinsic motivation, while qualitative data further confirmed that the participatory learning environment fostered by POA effectively stimulated student engagement. However, the study also noted that the task intensity of POA could increase academic stress. Overall, POA has demonstrated both empirical support and theoretical justification for enhancing language learning motivation in higher education contexts.

In the field of English for Specific Purposes (ESP), motivational design models have also been integrated to promote university students' learning motivation and academic achievement. An, Jin, and Go (2023) implemented the ARCS motivational model (Attention, Relevance, Confidence, Satisfaction) in a quasi-experimental study involving history majors. The intervention group significantly outperformed the control group in both motivation and academic performance, validating the applicability and scalability of the ARCS model in language-related courses.

In the Chinese context, learning motivation interventions have been largely confined to English language education, with limited efforts targeting students from other academic disciplines. Liu, Zhang and Liu (2024) stand out as a rare case of intervention research involving non-language majors, targeting students in international tourism and management. Liu et al. (2024) investigated the motivational benefits of integrating Virtual Reality (VR) technology in blended classrooms. Following a six-week intervention with 82 Chinese university students, the study discovered that VR-based instruction significantly enhanced learning motivation and satisfaction, while also improving academic performance. The findings further revealed that "perceived novelty" partially mediated the relationship between motivation and learning outcomes, suggesting that digital learning environments can not only increase psychological engagement but also optimize instructional design.

Group Counseling–Based Learning Motivation Interventions
Recent literature on psychological and counseling-based learning motivation interventions in China suggests that most empirical studies informed by psychological counseling frameworks have focused on primary and secondary school students. In contrast, interventions targeting university students remain limited in number, scope, and methodological diversity. Although group counseling has demonstrated positive effects on enhancing motivation in younger

student populations (e.g., Li, 2020; Liu, 2021), research at the higher education level is still in its early stages, with relatively few studies and largely homogeneous intervention strategies. Despite the relative paucity of research on learning motivation interventions in Chinese universities, several small-scale empirical studies have been conducted. Fu (2017) employed a multiple-baseline design to implement a metacognitive intervention targeting six university students identified as having low learning motivation. Using a combination of questionnaire data and behavioral indicators, the study mentioned that the intervention significantly improved participants' motivation levels, with stable outcomes and no observed relapse. These findings suggest that metacognitive strategies can effectively enhance and sustain academic motivation by reconstructing belief systems and correcting conditioned emotional responses.

Similarly, Zhan, Mu, and Wang (2020) conducted a growth-oriented group intervention among academically struggling university students to improve their learning motivation. Results indicated a significant increase in intrinsic motivation among the intervention group, while extrinsic motivation remained unchanged. No significant changes were observed in the control group. These findings highlight the potential of growth-focused group interventions to enhance intrinsic motivation among university students, although their impact on extrinsic motivation may be limited.

Overall, although a limited number of empirical studies have preliminarily demonstrated the positive effects of group counseling, metacognitive interventions, and growth-oriented programs on enhancing university students' learning motivation, the research landscape remains underdeveloped. According to Wang and Yi (2021), the general level of learning motivation among Chinese university students is moderate and characterized by diversity, variability, and a tendency toward instrumentalism. However, existing intervention approaches are relatively homogeneous, lacking systematic, structured strategies and sustainable mechanisms, which hinders the broader implementation and long-term effectiveness of such practices.

Furthermore, psychological and counseling-based learning motivation interventions in China have paid insufficient attention to the university student population, with group counseling being the predominant method. There remains a lack of in-depth exploration into individualized psychological intervention pathways. Future research should expand methodological approaches, explore diversified and personalized intervention models, and establish systems for tracking and evaluating intervention outcomes to strengthen and advance the support mechanisms for learning motivation in higher education.

To better illustrate the key findings and intervention trends, Table 1 summarizes representative international and Chinese studies on learning motivation interventions.

Table 1: Representative International and Chinese Studies on Learning Motivation Interventions

No.	Year	Authors	Intervention Strategy	Type	Sample/Context	Region
1	2016	Lazowski & Hulleman	Meta-analysis of 74 motivation-based interventions (e.g., expressive writing, goal-setting, utility-value, growth mindset)	Theory-based (review/meta-analysis)	74 studies, K–12 & university students	Internatioal
2	2024	Wang et al.	Autonomy-support interventions	Theory-based (meta-analysis)	36 studies across higher education	Internatioal
3	2021	Kuo et al.	PBL	Instructional-tech (empirical)	University students (quasi-experimental)	Internatioal
4	2025	Zhang et al.	Online gamified learning guided by SDT	Instructional-tech (empirical)	483 university students	Internatioal
5	2025	Xie	CBT-based music therapy (CBT/REBT)	Psychology-based (meta-synthesis)	32 studies, K–12 & university students	Internatioal
6	2022	Oram et al.	MI + SDT group intervention	Psychology-based (empirical)	223 undergraduates	Internatioal
8	2024	Zhao et al.	POA	Instructional-tech (empirical)	College English classes (mixed-methods)	China
9	2017	Fu	Metacognitive group counseling for low-motivation students	Psychology-based (empirical)	6 university students	China

Overall, international studies demonstrate greater theoretical integration and methodological diversity, while Chinese research remains limited in scope, with a stronger focus on instructional approaches and fewer psychological interventions.

Discussion

Based on a synthesis of the reviewed literature, this section provides a comparative analysis of motivation intervention practices in international and Chinese higher education contexts. It identifies existing limitations in current Chinese practices and, drawing on international experience, proposes localized directions for improvement along with practical recommendations for implementation.

Comparison of Learning Motivation Interventions in International and Chinese Higher Education Contexts

In recent years, international research on learning motivation interventions has exhibited growing diversity and theoretical sophistication, particularly in the areas of motivational theory and instructional design. Intervention strategies now include both well-established techniques, such as goal setting and attribution retraining, as well as enduring methods like value clarification. In addition, pedagogical approaches such as PBL, gamified instruction, and peer collaboration have been increasingly employed as direct interventions to enhance students' learning motivation.

Psychologically oriented interventions, such as group counseling, CBT, MI, and narrative-based approaches, increasingly focus on fulfilling basic psychological needs and facilitating the internalization of personally meaningful goals to enhance intrinsic motivation. For instance, interventions integrating MI and CBT have been shown to enhance students' academic motivation and coping (Lee & Shin, 2016), while MI-based approaches have demonstrated effectiveness in fostering BPN satisfaction and autonomy-supportive environments (Oram et al., 2022). These approaches have been empirically tested across diverse cultural contexts and offer promising frameworks for sustaining learning motivation in higher education.

In contrast, the development of learning motivation interventions in Chinese universities remains relatively underdeveloped. Empirical studies are limited in both number and scope, with most interventions concentrated in language-related courses (e.g., College English) and primarily grounded in instructional design. While such interventions have shown some promise, they tend to rely on a narrow range of pedagogical models and lack psychological depth.

For example, the POA has been widely adopted and demonstrates effectiveness in enhancing learning motivation. However, its high cognitive demand and task intensity have also been reported to cause cognitive overload and academic stress among some students (Zhao et al., 2024). This reflects a broader challenge: current intervention designs often emphasize performance outcomes while overlooking individual cognitive and emotional capacities.

Moreover, psychologically informed intervention frameworks are still scarce, and few efforts have been made to integrate psychological principles into sustained, scalable programs. Delayed feedback and low interactivity in conventional classroom settings may also undermine students' perceived competence and engagement. Existing interventions are largely short-term and lack systematic evaluation of long-term effects or cross-group adaptability

Limitations and Challenges of learning Motivation Interventions in Chinese Higher Education

Despite growing interest in enhancing learning motivation, current intervention research in Chinese universities remains constrained in scope, depth, and applicability. Most existing efforts are concentrated in language-related contexts, particularly College English courses, while interventions in non-language disciplines remain scarce. Although models such as the POA and the ARCS motivational model have demonstrated effectiveness in specific settings (Zhao et al., 2024; An, Jin, & Go, 2023), their application is largely discipline-bound, and cross-contextual scalability has yet to be established. Moreover, pedagogical innovations often emphasize instructional effectiveness rather than long-term motivational development, and potential risks such as increased cognitive load and academic stress remain insufficiently examined (Zhao et al., 2024).

Psychological and counseling-based interventions are similarly limited in reach and consistency. Most studies adopt small-scale, short-term designs, often implemented as isolated trials without sustained follow-up or replication. Group counseling remains the dominant format (Zhan et al., 2020; Fu, 2017), with limited exploration of individualized or multimodal approaches. There is also a noticeable lack of theoretical integration; interventions rarely align with established motivational theories such as SDT (Reeve et al., 2004), and few incorporate validated therapeutic techniques like MI or CBT in a structured manner (Lee & Shin, 2016).

Another significant limitation of current learning motivation interventions in Chinese higher education is the overall lack of concrete and operational intervention strategies, both group-based and individually tailored (Wang & Yi, 2021). Most existing suggestions tend to focus on external systems, such as school, family, or society, while few recommendations or interventions originate from the students' own perspective. In particular, there remains a notable absence of differentiated approaches responsive to diverse student profiles. Studies have shown that Chinese university students generally exhibit a moderate level of motivation, marked by diversity, variability, and utilitarian tendencies (Wang & Yi, 2021). Their motivational orientations also differ by academic level, individual attributes, and environmental conditions. Although students at more advanced academic stages tend to display clearer and more complex motivational structures, issues such as insufficient or ambiguous motivation remain widespread (An & Jin, 2019). This heterogeneity highlights the inadequacy of standardized, one-size-fits-all models. However, the few existing learning motivation interventions in Chinese higher education remain largely uniform and seldom incorporate adaptive components aligned with students' psychological traits, disciplinary backgrounds, or baseline motivation levels.

Although recent initiatives have explored technology-assisted tools such as AI-driven feedback systems with promising potential (Sun & Nasri, 2025), these developments often evolve independently of established psychological and pedagogical frameworks. Meanwhile, learning motivation interventions based on instructional practice and psychological support are gradually emerging in China, yet remain largely lacking in empirical grounding. Existing teaching-oriented interventions are primarily concentrated in English language education, with limited exploration across other academic disciplines. This narrow disciplinary focus restricts the transferability and generalizability of intervention strategies to broader educational contexts. Furthermore, learning motivation-focused interventions in Chinese higher education

remain scarce, primarily concentrated at the primary and secondary education levels, resulting in a persistent gap between theoretical development and practical implementation.

In addition, most empirical studies in this area rely heavily on self-report instruments, with limited use of longitudinal or mixed-method evaluations. This methodological gap weakens the evidence base and hinders the iterative refinement of intervention strategies. Table 2 provides a comparative overview of the key distinctions between international and Chinese practices, highlighting differences across focus and coverage, theoretical and methodological integration, and intervention methods and operationalization.

Table 2: Comparative Characteristics of Learning Motivation Interventions in International and Chinese Higher Education

Dimension	International Research	Chinese Research
Focus & Coverage	Diverse disciplines and contexts (STEM, Language, General HE); Broader Empirical Scope	Mainly language-Related (e.g., College English); Limited Scope And Short-Term Designs
Theoretical & Methodological Integration	Closer alignment with motivational and counseling theories (e.g., SDT, CBT, MI); generally more systematic in design and evaluation	Limited theoretical integration; heavy reliance on self-report; scarce longitudinal or mixed-method evaluations
Intervention Methods & Operationalization	Diverse and theory-informed, with strong grounding in motivational theories and evidence-based psychological approaches (e.g., PBL, gamification, peer collaboration, CBT, MI).	Predominantly instructional (e.g., POA, ARCS), with a Lack of dedicated, scalable, and differentiated motivation-focused interventions, and few standalone psychological interventions (e.g., CBT, MI)

Overall, international research demonstrates stronger theoretical grounding, methodological diversity, and a broader disciplinary scope, while Chinese studies remain predominantly instructional and narrow in focus.

Pathways for Optimizing Motivation Interventions in Chinese Higher Education
To address the current limitations and challenges identified in learning motivation interventions within Chinese higher education, this section outlines three key directions for improvement. These recommendations draw on international research trends while directly addressing the challenges unique to the Chinese educational context, such as an overconcentration of interventions in language-related disciplines, a lack of empirical, scalable research, underdeveloped and fragmented psychological intervention frameworks, and insufficient integration of motivational theories into practice.

Expand and Professionalize Psychological Intervention Frameworks
Chinese universities should systematically embed evidence-based psychological approaches such as CBT, MI and Reality Therapy within structured, scalable intervention programs. While group counseling remains the dominant format (Zhan et al., 2020; Fu, 2017), current practices are often limited in scope, duration, and theoretical grounding. To ensure broader impact and

sustainability, institutions should diversify delivery formats (e.g., individualized or blended models), extend program timelines, and align implementation with motivational principles. Although international studies have demonstrated the effectiveness of MI- and CBT-based group interventions (Lee & Shin, 2016), their contextual adaptation to Chinese higher education settings requires further development. Localizing and professionalizing such frameworks will enhance both cultural relevance and the efficacy of interventions.

Future studies may also explore emerging paradigms, such as Identity-Based Motivation (IBM), which examines how the congruence between students' perceived identity and academic activities facilitates the internalization of motivation (Kim, 2024); however, further empirical validation is needed.

Additionally, China should increase its empirical research on learning motivation interventions. Researchers should adopt longitudinal and mixed-method research designs to strengthen the evidence base, support iterative refinement, and ensure the long-term efficacy and institutional integration of interventions, while promoting their application across diverse disciplines beyond language education.

Develop Precision-Based and Differentiated Learning Intervention Strategies

Given the considerable diversity, variability, and utilitarian tendencies observed in Chinese university students' learning motivation (Wang & Yi, 2021), standardized, one-size-fits-all intervention models are insufficient. Institutions should instead adopt precision-based intervention designs informed by regular assessments of students' motivational profiles using validated diagnostic tools. These profiles can guide more targeted support: for example, students with low perceived belonging may benefit from social connection initiatives, while those experiencing high academic stress might require cognitive restructuring or self-regulation training.

Such differentiated strategies are consistent with international trends in SDT-based educational interventions. A recent meta-analysis by Wang et al. (2024), which synthesized 36 studies, reported moderate to large effect sizes for autonomy support ($g = 1.14$, $p < 0.0001$) and competence support ($g = 0.58$, $p < 0.05$) across both experimental and quasi-experimental designs, as well as pre-post designs. These interventions also produced a moderate improvement in intrinsic motivation ($g = 0.58$, $p < 0.01$), although the effect on relatedness satisfaction was not statistically significant ($g = 0.44$, $p > 0.05$). In addition, the review identified 119 need-supportive strategies and proposed evidence-based design principles, offering a comprehensive framework for developing structured and scalable motivation interventions in higher education.

Coordinate the Development of Pedagogical, Technological, and Psychological Supports

A more pragmatic and context-sensitive strategy for enhancing learning motivation in Chinese higher education is to foster the parallel advancement of pedagogical, technological, and psychological supports within clearly defined academic settings. Instructional design should incorporate autonomy-supportive elements (e.g., meaningful choice, constructive feedback), while technological tools such as AI-driven feedback, gamified platforms, and learning analytics may enhance personalization and engagement (Sun & Nasri, 2025). Simultaneously, lightweight psychological interventions such as reflection journals, emotional regulation tasks,

and micro-group activities can be embedded into course structures to enhance motivation and well-being. This targeted coordination supports scalable innovation without requiring large-scale structural reform.

Conclusion and Recommendation

This study reviewed and compared learning motivation interventions in international and Chinese higher education, identifying key gaps in Chinese practices and proposing localized improvement strategies. The objectives of synthesizing recent research and offering practical recommendations have been met. The review contributes to theory and practice by mapping current intervention trends, highlighting the need for stronger psychological approaches, and suggesting ways to enhance both instructional and motivational support in Chinese higher education. Future research in China should strengthen its theoretical grounding, adopt evidence-based methods, and promote localized program design. Meanwhile, institutions are encouraged to implement structured interventions that integrate psychological and pedagogical support to effectively enhance students' learning motivation.

Acknowledgements

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