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LEARNING SATISFACTION IN MANDARIN AS A FOREIGN LANGUAGE: AN EMPIRICAL STUDY AT UNIVERSITI SAINS ISLAM MALAYSIA (USIM)

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Abstract:

Mandarin learning is often perceived as a challenging and demanding process, requiring learners to be highly motivated and to invest significant effort to achieve success. However, previous studies have highlighted that some Mandarin learners experience dissatisfaction, which can ultimately lead to course withdrawal. This study investigates the factors influencing Mandarin learners' satisfaction at Universiti Sains Islam Malaysia (USIM), utilising the Expectancy-Value Theory (EVT) and the Technology Acceptance Model (TAM) as its theoretical framework. A fully quantitative approach was adopted, with surveys distributed digitally to undergraduate students enrolled in Mandarin language courses at USIM. A total of 160 questionnaires were

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distributed, and 126 valid responses were analysed. All respondents were non-native speakers (Malay or Muslim) with no prior Mandarin language background. Data analysis was conducted using SPSS, employing descriptive statistics, Pearson's correlation analysis, and multiple regression analysis to examine the relationships between the identified factors and overall learner satisfaction. The results revealed that five factors: perceived usefulness, ease of use, learning motivation, social interaction, and learning strategies positively influence Mandarin learning satisfaction. However, only perceived usefulness, learning motivation, and social interaction had a significant impact on learners' overall satisfaction. This study suggests that enhancing these three key factors can significantly improve the learning experience. The findings provide practical implications for USIM and other higher education institutions offering Mandarin as a foreign language by highlighting strategies to foster a more effective and engaging learning environment.

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Keyword:

Expectancy-Value Theory (EVT), Learning Satisfaction, Mandarin, Technology Acceptance Model (TAM), USIM



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Introduction

Mandarin is a significant and influential language globally, serving as a vital medium of communication within Malaysia's large Chinese community and acting as a bridge to one of the world's largest economies, China. Its importance spans various domains, including education, business, and international diplomacy (Chua & Go: 2015; Li: 2017; Wang & Adamson: 2015). Recognizing its value, Malaysian public universities have increasingly incorporated Mandarin language courses into their academic offerings, aiming to equip students with essential language skills that provide a competitive edge in both global and local job markets (Tan & Teoh, 2014; Tham, 2014; Wong & Leong, 2016). In industries such as international trade, tourism, finance, and technology, Mandarin proficiency is highly sought after, enabling graduates to seize opportunities in sectors where bilingual or trilingual communication is crucial for success (Chew, 2013; Crystal, 2003; Li & Duff, 2008; Tham, 2017; Wang & Adamson, 2015).

Despite the growing emphasis on Mandarin as a critical language skill, the process of learning it can be challenging and tedious (Gong et al., 2020; Shen, 2005; Wang & Adamson, 2015; Wen & Tsung, 2015). Learners often face significant difficulties in mastering the language due to its tonal complexity, unique character-based writing system, and distinct grammatical structure. These challenges are particularly pronounced for students who lack prior exposure or linguistic affinity with Mandarin (Chen & Li, 2010; Everson & Shen, 2010; Shen, 2005;

Wang & Leland, 2011). Additionally, access to quality learning resources, such as interactive materials, opportunities for interaction with native speakers, and advanced technology-based tools, remains inconsistent across institutions (Cullinan et al., 2021; Tano, 2024; Tollefson et al., 2004). Teaching methodologies also present a concern, as traditional approaches like lecture-driven instruction may fail to engage learners or address the needs of Malaysia's highly diverse student population, which includes individuals with varied linguistic, cultural, and educational backgrounds (Gong et al., 2020; Leung & Wu, 2012; Tsung & Cruickshank, 2011; Zhao & Lai, 2008). These difficulties, compounded by a lack of personalized and engaging learning strategies, can hinder learner satisfaction, ultimately impacting their proficiency and motivation to learn. Over time, these frustrations may lead learners to disengage or even abandon their studies altogether (Leung & Wu, 2012; Kim & Frick, 2011; Noels et al., 2001; Pae et al., 2024; Shen, 2013).

Although the challenges of learning Mandarin are increasingly recognized, there remains a notable lack of research specifically examining the factors influencing Mandarin learners' satisfaction within the Malaysian context, particularly in public universities. Existing studies in language education frequently focus on external factors, such as instructional quality, curriculum design, and institutional policies, while often neglecting the internal dimensions that shape learners' experiences (Gass & Selinker, 2008; Noels, 2001; Ushioda, 2009; Wang & Leland, 2011). Internal factors, such as learners' perceptions of the language's relevance, their intrinsic and extrinsic motivations, and the strategies they employ to enhance their proficiency, are critical to understanding overall satisfaction (Deci & Ryan, 1985; Dörnyei, 2001). These elements directly influence learners' engagement, persistence, and success in mastering the language. Moreover, much of the current research has yet to adequately explore Malaysia's unique multicultural and multilingual environment, where learners come from diverse ethnic, cultural, and linguistic backgrounds. The interplay of these dynamics creates distinct learning experiences that are often insufficiently addressed in existing frameworks. This gap in understanding leaves educators, policymakers, and institutions without the comprehensive insights needed to design effective and learner-centric language programs. Without addressing these internal factors, efforts to improve Mandarin language education may fall short of fostering meaningful satisfaction and engagement among learners, ultimately hindering their long-term success and proficiency in the language (Noels et al., 2001; Shen, 2013; Gong et al., 2020).

Therefore, understanding these factors is essential for all relevant stakeholders, as the empirical outcomes of this study can provide better understanding, particularly for educators, policymakers, and learners. From an educational perspective, understanding learners' satisfaction can help educators adopt teaching strategies that resonate more effectively with diverse student groups, fostering greater engagement and participation. For policymakers and university administrators, these findings can inform curriculum design, resource allocation, and policy decisions to create more inclusive and supportive Mandarin language programs. For students, addressing barriers to satisfaction can improve their learning experiences and outcomes, empowering them to achieve higher proficiency and greater confidence in their language skills).

Literature Review

Learning Satisfaction

Learning satisfaction can be defined to the degree to which learners' educational experiences achieve their own expectations even fulfill their academic, personal, and professional goals (Dörnyei, 2001; Tinto, 1993; Wu et al., 2010). It encompasses learners' emotional and cognitive responses toward various aspects of the learning process, including course content, teaching methods, learning environment, and perceived outcomes (Biggs, 1999; Kirkpatrick, 1994; Schunk et al., 2014; Tinto, 1993). Satisfaction reflects both the effectiveness of instructional delivery and learners' subjective experiences, making it a crucial factor in educational success (Davis, 1989). In the context of language learning, satisfaction indicates how well learners feel supported and how motivated they are to continue their language acquisition journey. Learning satisfaction is essential for ensuring learners' active engagement, retention, and academic success (Kember & Ginns, 2012; Schunk, 1991; Wu et al., 2010). Studies have consistently shown that high satisfaction levels correlate with greater motivation, deeper learning, and improved performance (Hsia et al., 2021; Sun & Gao, 2019).

Several studies have explored learning satisfaction in Mandarin language acquisition. Zhao and Huang (2020) examined how perceived usefulness and ease of use influenced Mandarin learners' satisfaction in technology-assisted environments. Their findings highlighted that mobile learning apps significantly enhanced learning satisfaction by making language learning more accessible and interactive. Similarly, Sun and Gao (2019) emphasized the role of intrinsic motivation, noting that learners driven by cultural appreciation and personal interest reported higher satisfaction levels. Research by Liu et al. (2020) examined classroom-based Mandarin learning, finding that teaching quality and peer collaboration were the most significant contributors to learners' satisfaction. The study revealed that when instructors used interactive and culturally relevant materials, learners demonstrated higher satisfaction and better academic outcomes. These findings support the integration of social and contextual factors into the learning process. In Malaysia, where Mandarin holds cultural and economic significance, studies have examined how learners experience Mandarin learning in public universities. Research by Chen and Teoh (2020) found that Malaysian learners face unique challenges due to the complexity of Mandarin's tonal and character-based system. Despite these challenges, learners with strong motivation and supportive learning environments reported higher satisfaction levels. Another study by Tan et al. (2021) investigated the impact of learning strategies and social interaction in Malaysian classrooms. The study revealed that collaborative activities and culturally sensitive teaching methods enhanced learners' engagement and satisfaction. This aligns with Malaysia's multilingual and multicultural environment, where diverse learning needs require tailored instructional approaches.

Based on previous studies, mixed findings have emerged, indicating that learning satisfaction in Mandarin acquisition can be influenced by various internal factors. Addressing elements such as perceived usefulness, social interaction, and effective learning strategies can significantly enhance learners' satisfaction in Mandarin learning programs. By understanding these dynamics, educators can design more inclusive and effective language learning experiences, ensuring long-term learner success and cultural integration in Malaysia's diverse educational landscape.

Perceived Usefulness

Perceived usefulness refers to learners' belief that using a specific tool, method, or learning approach will enhance their learning outcomes and help them achieve their academic, personal, or career goals (Davis, 1989). In the context of language learning, perceived usefulness reflects how learners value the language in terms of future opportunities, cultural integration, and skill development. The higher the perceived usefulness, the more likely learners are to engage actively in the learning process, push up to increased satisfaction (Davis, 1989; Lai et al., 2015; Oxford & Ehrman, 1995). Perceived usefulness plays a crucial role in influencing learners' motivation, engagement, and persistence. When learners believe that learning Mandarin will provide career advancement, cross-cultural communication skills, or academic recognition, they are more likely to put effort into their studies. This positive expectation often leads to higher satisfaction and a greater likelihood of language proficiency (Chen & Li, 2010; Dörnyei & Ushioda, 2009; Hsia et al., 2021; Noels et al., 2001; Wang & Leland, 2011). For educational institutions, understanding how learners perceive the usefulness of Mandarin can help tailor language programs that align with learners' personal and professional goals.

Research has consistently demonstrated that perceived usefulness significantly influences Mandarin learners' satisfaction. Zhao and Huang (2020) found that students who believed learning Mandarin would enhance their job prospects were more motivated to engage in the learning process. Similarly, Liu et al. (2020) emphasized that incorporating real-world applications into Mandarin courses increased learners' perceived usefulness and overall satisfaction. In the Malaysian context, Chen and Teoh (2020) discovered that students in public universities regarded Mandarin as essential for securing employment in business and tourism sectors, which directly boosted their learning engagement and satisfaction. Therefore, perceived usefulness stands out as a critical internal factor driving learners' motivation, engagement, and overall satisfaction in Mandarin learning. Based on these previous studies and supporting evidence, it is anticipated that:

H1. There is a positive relationship between perceived usefulness and Mandarin learners' satisfaction in Malaysian public universities.

Ease of Use

Ease of use can be explained to learners' perception of how simple, clear, and effortless it is to use a specific tool, platform, or learning method in the educational process (Davis, 1989; Teo, 2010; Venkatesh & Davis, 2000; Zhao & Lai, 2008). In the context of Mandarin learning, ease of use indicates how easily learners can navigate language learning platforms, engage with course materials, and participate in classroom or online learning activities. A high level of ease of use reduces learning difficulties, making the learning process more engaging and less frustrating (Huang & Luo, 2020; Sun & Gao, 2019; Zhao & Lai, 2008). Ease of use is a critical factor influencing learners' satisfaction, motivation, and performance (Davis, 1989; Venkatesh & Davis, 2000; Teo, 2011; Zhao & Lai, 2008). According to the Technology Acceptance Model (TAM), when learners perceive a learning process as easy to use, they are more aggressive to engage with it frequently, leading to greater satisfaction and learning success (Hsia et al., 2021). In Mandarin learning, where complexities such as tonal pronunciation and character memorization are common, an easy-to-use learning environment can reduce cognitive overload and promote better learning outcomes. For educators, simplifying the delivery of instructional content can foster a more productive and satisfying learning experience.

Studies on technology-assisted Mandarin learning consistently highlight the importance of Ease of Use. Zhao and Huang (2020) found that mobile applications with user-friendly interfaces significantly increased learners' engagement and satisfaction. Similarly, Wang and Lee (2019) reported that learners using online Mandarin courses with intuitive navigation showed higher motivation and retention rates. In Malaysia, Chen and Teoh (2020) revealed that university students learning Mandarin were more satisfied when digital learning tools were easy to access and operate, reducing their anxiety about the language's inherent complexities. Thus, Ease of use directly influences Mandarin learning satisfaction by reducing learning barriers and enhancing learner engagement and confidence. Based on these findings and supporting evidence, the following hypothesis is proposed:

H2. There is a positive relationship between ease of use and Mandarin learners' satisfaction in Malaysian public universities.

Learning Motivation

Learning motivation can be explained by the internal and external factors that guide learners to initiate, sustain, and improve their learning efforts (Deci & Ryan, 1985). It encompasses intrinsic motivation, where learners involved in learning for personal satisfaction or interest, and extrinsic motivation, driven by external rewards seem like extra bonus, or social recognition. In the context of Mandarin learning, motivation reflects the effort learners are willing to invest to overcome the language's complexities, such as tonal pronunciation, character memorization, and grammatical structure (Deci & Ryan, 1985; Dörnyei, 2001; Gardner & Lambert, 1972; Huang, 2018; Wen & Tsung, 2015). Motivation plays a central role in successful language acquisition. Highly motivated learners are more likely to engage in active learning, consistent overcome challenges, and achieve better learning outcomes (Deci & Ryan, 1985; Dörnyei, 2001; Gardner & Lambert, 1972). In language education, motivation sustains long-term engagement, helping learners build proficiency through consistent practice. Motivated learners demonstrate greater willingness to participate in interactive learning activities, complete assignments, and seek additional resources for self-study. Instructors can boost motivation by providing culturally relevant materials, encouraging collaborative learning, and offering constructive feedback (Dörnyei, 2001; Noels et al., 2001; Vygotsky, 1978).

Several studies have explored learning motivation in the context of Mandarin learning. Zhao and Wang (2020) found that students learning Mandarin with clear career-related goals exhibited higher intrinsic motivation, resulting in better language retention and skill development. Similarly, Sun and Gao (2019) emphasized that learners driven by personal interest in Chinese culture showed greater persistence and satisfaction. In the Malaysian context, Tan and Lee (2021) found that students motivated by future job prospects in tourism and trade-related industries reported higher satisfaction levels, indicating a strong link between learning motivation and Mandarin learning outcomes. Learning motivation directly influences Mandarin learning satisfaction by encouraging active participation, reducing dropout rates, and fostering a positive learning experience. When learners are motivated by personal or professional goals, they are more engaged, persistent, and satisfied with their learning progress (Ryan, R. M., & Deci, 2000; Ushioda, 2008; Wen & Tsung, 2015). This relationship underscores the need for learner-centered teaching strategies that align with students' motivational drivers. Based on this information, it is anticipated that:

H3. There is a positive relationship between learning motivation and Mandarin learners' satisfaction in Malaysian public universities.

Social Interaction

Social interaction refers to the process of exchanging ideas, information, and feedback among individuals within a learning environment. In an educational context, it involves communication between learners, instructors, and peers through collaborative discussions, group activities, and interactive learning tasks (Vygotsky, 1978). In language learning, social interaction is essential for practicing communication skills, enhancing understanding, and fostering a supportive learning atmosphere (Ellis, 2008; Lytle & Kuhl, 2018; Long, 1996; Philp et al., 2014; Sato & Ballinger, 2016; Swain, 2000; Vygotsky, 1978; Zhao & Lai, 2008).

Social interaction plays a vital role in language acquisition by enabling learners to practice linguistic skills in meaningful contexts (Galla, 2016; Galla et al., 2022; Lytle & Kuhl, 2018; Philp et al., 2014; Sato & Ballinger, 2016). According to Vygotsky's Sociocultural Theory, language learning is fundamentally a social process facilitated through interaction and scaffolding provided by more experienced peers or instructors. Through discussions, role-playing, and group activities, learners develop their speaking, listening, and comprehension skills, which are crucial for mastering a complex language like Mandarin (Ellis, 2008; Skehan, 1998; Swain, 2000). Social interaction also boosts learners' confidence and motivation by reducing language anxiety and creating a sense of community, leading to higher satisfaction and learning persistence (Dörnyei & Murphey, 2003; Long, 1996; Swain & Lapkin, 1998). Studies on social interaction in Mandarin learning emphasize its positive impact on learners' language proficiency and satisfaction. Zhao and Li (2020) found that students participating in collaborative activities, such as group discussions and peer reviews, showed significant improvement in their speaking and listening skills. Similarly, Wang and Liu (2019) reported that learners engaged in interactive learning environments exhibited higher engagement, better language retention, and increased satisfaction. In the Malaysian context, Tan and Teoh (2021) examined the role of social interaction in Mandarin learning classrooms. They found that culturally sensitive teaching strategies emphasizing group-based learning enhanced learners' engagement and satisfaction. Social interaction facilitated peer-to-peer support and encouraged language practice in a multicultural environment, making the learning process more dynamic and enjoyable. Based on these international and local findings, it is hypothesized that:

H4. There is a positive relationship between social interaction and Mandarin learners' satisfaction in Malaysian public universities.

Learning Strategies

Learning strategies play a crucial role in second-language acquisition by enhancing learners' ability to absorb, retain, and apply new linguistic skills (Chamot & O'Malley, 1994; Ellis, 1994; Griffiths, 2008; Oxford, 1990; Rubin, 1975). Effective strategies enable learners to tackle language-related challenges, such as complex grammar rules, pronunciation, and vocabulary memorization. Strategic learners are more autonomous, better equipped to manage their learning process, and more resilient when facing difficulties (Alsager, 2023; Dörnyei, 2005; Izadpanah, 2022; Little, 2020; Redmer, 2022; Viberg & Kukulska-Hulme, 2021). In Mandarin learning, where mastering tonal pronunciation and thousands of Chinese characters is essential, applying appropriate learning strategies can significantly improve proficiency and long-term

success (Everson & Ke, 1997; Guder et al., 2007; Tsai, 2013; Tseng et al., 2006; Yang, 2015). Teachers can enhance learning satisfaction by promoting strategy use through tailored instruction, personalized feedback, and learner-centered activities (Chamot, 2005; Dörnyei & Murphey, 2003; Oxford, 1990).

Research has consistently shown that learning strategies significantly influence Mandarin learners' performance and satisfaction. Wang and Zhao (2019) found that students employing metacognitive strategies such as goal setting, self-monitoring, and reflective learning outperformed those who relied solely on rote memorization. Similarly, Liu et al. (2020) highlighted that learner who practiced mnemonic techniques, spaced repetition, and context-based learning demonstrated greater proficiency and motivation. In the Malaysian context, Tan and Lee (2021) investigated how university students learning Mandarin applied various learning strategies. Their findings indicated that students using collaborative learning and self-regulation strategies reported higher learning satisfaction and reduced language anxiety. This suggests that combining personalized and interactive strategies can enhance learners' motivation, engagement, and overall satisfaction (Dichev & Dicheva, 2017; Liu, 2014; Paris & Paris, 2001; Pontual & Peres, 2018; Wang, 2021). Learning strategies directly influence learning satisfaction by fostering self-regulation, reducing learning difficulties, and promoting continuous engagement. When learners adopt effective strategies, they experience fewer frustrations, better language retention, and greater confidence in their progress, ultimately leading to increased learning satisfaction (Ejubovic & Puska, 2019; Liu et al., 2024; Panadero, 2017; Wolters & Taylor, 2012; Wu et al., 2021). Based on these explanations and findings, it is suggested that:

H5. There is a positive relationship between social interaction and Mandarin learners' satisfaction in Malaysian public universities.

Conceptual Framework

A Conceptual Framework can be defined as a simple theoretical structure that explain the relationships among variables in a research study. It easily to provides a clear visual or descriptive representation picture to explain how different factors interact to influence the study's outcome (Imenda, 2014; Leshem & Trafford, 2007; Miles & Huberman, 1994; Ravitch & Carl, 2021). In this study, combining the Expectancy-Value Theory (EVT) and the Technology Acceptance Model (TAM) is essential due to the complexity of learning Mandarin, which involves both cognitive processes and technology-enabled learning environments. Each theory addresses different yet complementary aspects of the learning process, providing a holistic view of factors affecting learning satisfaction. Integrating EVT and TAM into a single conceptual framework creates a comprehensive model that accounts for both the psychological and technological dimensions of Mandarin learning satisfaction (Eccles & Wigfield, 2002; Venkatesh & Davis, 2000).

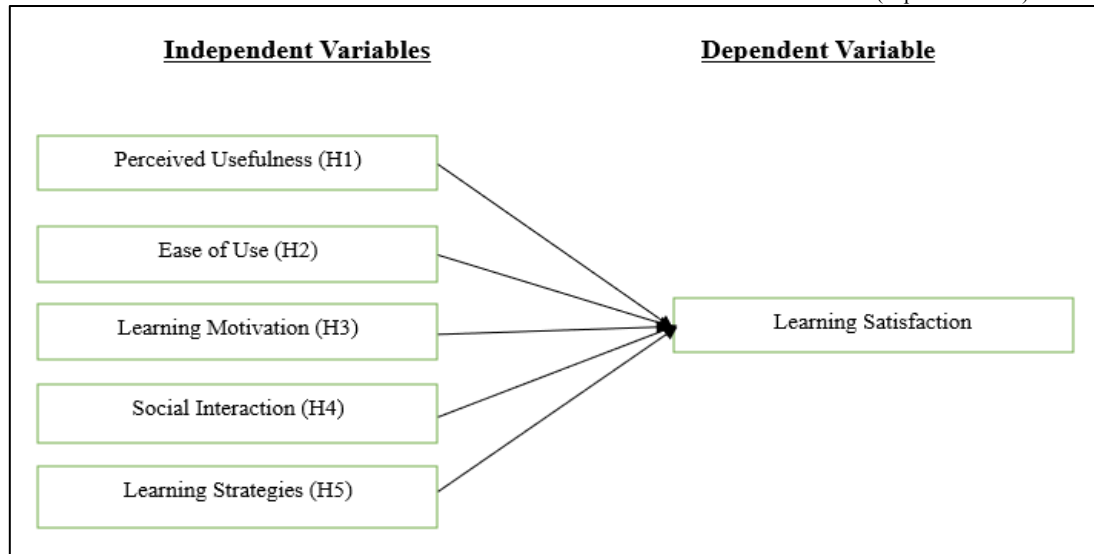


Figure 1: Conceptual Framework

Based on the theoretical framework (Figure 1), this dual-theory approach ensures that all critical variables influencing learners' satisfaction are considered, providing deeper insights into the factors that affect learners' engagement with Mandarin learning programs.

Methodology

In this study, the researcher employed a quantitative approach using a survey method to collect data. The population consisted of Mandarin learners in USIM, all of whom were enrolled in Mandarin Level 3. These learners were selected because they typically have prior experience and foundational knowledge of the language from earlier levels, and their experiences are more reflective of long-term engagement with Mandarin courses (Liu, 2021; Qin et al., 2023; Teh et al., 2021). The instruments for this study were adapted from established theoretical frameworks to ensure reliability and relevance. Perceived Usefulness and Ease of Use were derived from Davis's Technology Acceptance Model (TAM) (1989). Learning Motivation was measured using items adapted from Deci and Ryan's Self-Determination Theory (SDT) (1985). Social Interaction was based on Vygotsky's Sociocultural Theory (1978), while Learning Strategies were assessed using items from Oxford's Strategy Inventory for Language Learning (SILL) (1990) and lastly learning satisfaction adapted and adopted from Wu et al. (2010) which build based on blended e-learning system (BELS). To ensure the questionnaire's relevance to this study, modifications were made, and the content was checked, verified and commented by five experts from different universities to ensure content validity. Additionally, the questionnaire underwent face validity testing by a group of retired Mandarin teachers. Prior to conducting the actual study, a pilot test was carried out to assess the validity, trustability and reliability of the questionnaire items (Artino et al., 2014; Awang, 2012; Boateng et al., 2018; Hair et al. 2010; Tabachnick & Fidell, 2007; Yusoff, 2019).

The questionnaire was divided into seven sections. Part A covered the demographic profile (5 items), Part B addressed perceived usefulness (6 items), Part C focused on ease of use (6 items), Part D explored learning motivation (6 items), Part E examined social interaction (6 items), Part F assessed learning strategies (6 items), and Part G evaluated Mandarin learning satisfaction. Each variable was measured using a 6-item questionnaire, ensuring consistency

and depth in capturing the relevant constructs. A five-point Likert scale was employed, ranging from 1 (strongly disagree) to 5 (strongly agree), to measure all variables. This scale was chosen because it strikes a balance between simplicity and the ability to capture variability in responses. Additionally, it is easy for respondents to understand and use, thereby reducing cognitive load and improving the quality of the data collected (Aybek & Toraman, 2020; Joshi et al., 2015; Kusmaryono et al., 2022). The data was analyzed using SPSS version 26, employing both Pearson correlation and regression models. These analyses were conducted to examine the relationships between the variables and to assess the predictive power of the independent variables on the level of Mandarin learning satisfaction.

The data collection process started with an official email sent to the respective heads of departments (HODs) to seek approval for the study. Upon receiving approval, the researcher contacted the program facilitators to discuss the study's objectives and procedures. A Zoom meeting was conducted before initiating the research to brief the coordinators on the purpose of the study and to assure them that all data collected would be treated with strict confidentiality. Subsequently, the researcher shared the Google Form questionnaire with the HODs, who were responsible for distributing it to the Mandarin lecturers. The lecturers then forwarded the digital questionnaire to the respondents (Mandarin Level 3 learners). The researcher maintained close contact with the lecturers, who served as the point of contact, to provide assistance if any issues arose during the data collection process. A two-week period was communicated to respondents for questionnaire completion, as this duration was regarded as sufficient for response collection (Coffey & Elliott, 2024; Holtom et al., 2022; Howard et al., 2024). Respondents completed the full set of questionnaires themselves, and participation was strictly voluntary. Cluster sampling was applied to identify respondents, ensuring the sample reflected the target population.

After completing data collection, the researcher will first examine the dataset for missing values to ensure the correctness and reliability. Any missing data will be managed by researcher using appropriate methods, such as imputation or case deletion, depending on the extent and nature of the missing information (Dong & Peng, 2013; Enders, 2010; Little & Rubin, 2019). Subsequently, the researcher will evaluate common method variance (CMV) by applying techniques like Harman's single factor test to verify that the variance is not predominantly influenced by the measurement method (Lindell & Whitney, 2001; Podsakoff, et al., 2003; Simmering et al., 2015). Additionally, response bias will be assessed by identifying patterns indicative of biases, such as social desirability or acquiescence. Once data was gone through the cleaning and validation processes are completed, the researcher will manage with data analysis, ensuring that the findings are always valid, and reliable (Krosnick, 1999; Schaeffer et al., 2003; Tourangeau & Yan, 2007).

Data Analysis and Results

Respondents' Demographic

In the present study, 160 questionnaires were distributed, and 126 valid responses were received, yielding an excellent response rate of 78% (Fincham, 2008). The results indicated that female Mandarin learners accounted for a substantially larger proportion of questionnaire completions (70.7%) than male learners (29.3%). The highest participation came from the 16–19 age group (62.2%), followed by the 20–24 age group (26.1%), while the 25–29 age group

had the lowest participation (5.7%). The overwhelming majority of respondents were Malay (98.4%), with the remaining 1.6% classified as others. These results are presented in Table 1.

Table 1: Demographic Profile of Respondents

Demographic variables	Category	Frequency	Percentage (%)
Gender	Male	37	29.3
	Female	89	70.7
Age	16 – 19 years old	86	68.2
	20 – 24 years old	33	26.1
	25 – 29 years old	7	5.7
Race	Malay	124	98.4
	Others	2	1.6
Education background	Language and Linguistic	17	13.4
	Economy	14	11.1
	Engineering	16	12.6
	Social Science	14	11.1
	Management	12	9.5
	Syariah and Law	10	7.9
	Biology or other Sciences	16	12.6
	Agriculture	11	8.7
	Others:	16	12.6

Reliability

The reliability results presented in Table 2 displayed the Cronbach's alpha coefficients for perceived usefulness, ease of use, learning motivation, social interaction, learning strategies, and learning satisfaction. All these variables achieved high coefficients exceeding 0.70, which are advocated by George and Mallery (2003), Nunnally and Bernstein (1994), and Sekaran and Bougie (2013), signify high reliability internal consistency.

Table 2: Cronbach's Alpha (α) values of all items

	Variables	Number of items	Cronbach's Alpha (α)
Independent	Perceived usefulness	6	0.762
	Ease of use	6	0.796
	Learning motivation	6	0.839
	Social interaction	6	0.773
	Learning strategies	6	0.811
Dependent	Learning Satisfaction	6	0.766

According to the table 2, the instruments utilized in this study are considered to have strong reliability, as the values of Cronbach's Alpha higher than the minimum threshold of 0.7. This illustrated that the instruments used in this study are consistent and reliable for measuring the variables, thereby supporting the validity of the results derived from the data.

Correlation Analysis

The correlation coefficient, denoted as r^* , is a statistical measure that assesses the strength and direction of the linear relationship between two variables (Hair et al., 2012). In this study, correlation analysis was carried out to examine the relationships between the independent variables—perceived usefulness, ease of use, learning motivation, social interaction, and learning strategies—and the dependent variable, learning satisfaction. The findings of this analysis are presented in Table 3. Correlation analysis is frequently used to determine whether a potential linear relationship exists between two continuous variables. The correlation coefficient may be positive or negative, indicating the direction of the association (Janse et al., 2021; Pallant, 2016; Schober et al., 2018). A positive value indicates a direct relationship, in which an increase in one variable is accompanied by an increase in the other. Conversely, a negative value indicates an inverse relationship, in which an increase in one variable is accompanied by a decrease in the other. Coefficient values range from -1 to +1. A value of zero indicates no linear correlation, while values closer to -1 or +1 indicate a stronger relationship between the variables. Specifically, +1 represents a perfect positive correlation, whereas -1 represents a perfect negative correlation. These features make correlation analysis a powerful tool for understanding the relationships among variables (Pallant, 2016).

Table 3: Pearson Correlation Coefficient Values Of All Variables

Pearson Correlation	Comfort Level					
	Perceived usefulness	Ease of use	Learning motivation	Social interaction	Learning strategies	Learning Satisfaction
Perceived usefulness	1					
Ease of use	.726	1				
Learning motivation	.669	.549	1			
Social interaction	.582	.635	.647	1		
Learning strategies	.578	.409	.498	.689	1	
Learning Satisfaction	.686	.397	.709	.569	.484	1

**Correlation is significant at the 0.01 level (1-tailed).

The results of the correlation coefficient analysis are presented in the tables above. As anticipated, the correlations validate the measures for perceived usefulness, ease of use, learning motivation, social interaction, learning strategies, and learning satisfaction. As shown in Table 3, no negative correlations were identified among the variables. Instead, the results reveal positive correlations between the independent variables and the dependent variable, learning satisfaction. Among the independent variables, learning motivation exhibited the strongest positive correlation with learning satisfaction, while perceived usefulness, ease of use, social interaction, and learning strategies demonstrated moderate correlations. According to Table 3, learning motivation showed the highest correlation with learning satisfaction ($r = 0.709$), followed by perceived usefulness ($r = 0.686$), social interaction ($r = 0.569$), learning strategies ($r = 0.484$), and ease of use, which had the lowest correlation ($r = 0.397$). These

findings highlight the relative importance of each factor in influencing learning satisfaction, with learning motivation emerging as the most significant predictor. The absence of negative correlations further supports the validity of the constructs and the overall integrity of the measures.

Table 4: Hypothesis Testing

Hypothesis	Statement	Findings
H1	Perceived usefulness has a positive effect on learning satisfaction	Accepted ($r=0.686$, $P < 0.01$)
H2	Ease of use has a positive effect on learning satisfaction	Accepted ($r=0.397$, $P < 0.01$)
H3	Learning motivation has a positive effect on learning satisfaction	Accepted ($r=0.709$, $P < 0.01$)
H4	Social interaction has a positive effect on learning satisfaction	Accepted ($r=0.569$, $P < 0.01$)
H5	Learning strategies has a positive effect on learning satisfaction	Accepted ($r=0.484$, $P < 0.01$)

The findings indicate that H1, H2, H3, H4, and H5 are accepted, as each independent variable positively affects the dependent variable, learning satisfaction. Table 4 reports the hypothesis testing results from the correlation analysis.

Multiple Regression Analysis

Multiple regression analysis is an essential statistical technique always used to investigate the relationship between a dependent variable and multiple independent variables (Logan & King, 2001). Table 5 presents the regression results for the influence of perceived usefulness, ease of use, learning motivation, social interaction, and learning strategies on learning satisfaction. Together, these factors explain 62.8% of the variance in learning satisfaction ($R^2 = 0.628$), indicating that the model has strong explanatory power (Karch, 2020; Gao & Gao, 2022; Reysen et al., 2021). The adjusted R^2 value is 0.622, which closely aligns with the R^2 value and suggests that the model fits the data well. However, this also indicates that 37.2% of the variance in Mandarin learners' learning satisfaction is influenced by factors not included in the model. Additionally, the relatively low standard error of 0.23668 suggests that the model provides reliable predictions of learning satisfaction.

Table 5: Multiple Regression Analysis

Model	R	R-square	Adjusted R-square	Std. error of the estimate
1	.668	.628	.622	.23668

Note: Predictors: (Constant) perceived usefulness, ease of use, learning motivation, social interaction, and learning strategies.

According to Pallant (2016), the beta coefficient is a standardized measure that reflects the relative impact of each independent variable on the dependent variable. Specifically, it indicates the expected change in the dependent variable, expressed in standard deviation units—when an independent variable increases by one standard deviation, while the other

independent variables are held constant. This makes the beta coefficient particularly useful for comparing the relative strength and importance of different predictors within the same regression model. In this model, learning motivation has the highest beta coefficient (0.618), followed by social interaction (0.435), perceived usefulness (0.329), ease of use (-0.122), and learning strategies, which has the lowest coefficient (-0.142). The t-test results, as shown in Table 6, indicate significance at the 0.000 level. It can be concluded that learning motivation (Beta = 0.618, $p < 0.05$), social interaction (Beta = 0.435, $p < 0.05$), and perceived usefulness (Beta = 0.329, $p < 0.05$) are significant predictors of learning satisfaction. However, ease of use (Beta = -0.122, $p > 0.05$) and learning strategies (Beta = 0.142, $p > 0.05$) are not significant contributors.

Table 6: Multiple Regression Analysis Of Independent Variables And Burnout Level

Model	Unstandardized coefficient	Std Error	standardized coefficient	t	Sig.
	B		Beta β		
1 (Constants)	1.619	.896		6.907	.000
Perceived usefulness	.295	.184	.329	1.601	.003
Ease of use	-.091	.076	-.122	-1.017	.066
Learning motivation	.486	.053	.618	4.266	.000
Social interaction	.356	.223	.435	2.253	.000
Learning strategies	-.161	.105	-.142	-1.287	.168

Note: Dependent Variable: Learning Satisfaction.

Table 7: Analysis Of Variance Table

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	12.315	5	4.238	36.986	.000
Residual	14.263	112	.126		
Total	26.578	116			

Based on Table 6, learning motivation ($\beta = 0.618$, $p = 0.000$), social interaction ($\beta = 0.435$, $p = 0.000$), and student behavior ($\beta = 0.329$, $p = 0.000$) are statistically significant in influencing Mandarin learning satisfaction. In contrast, learning strategies ($\beta = -0.142$, $p = 0.168$) and ease of use ($\beta = -0.122$, $p = 0.066$) show no significant relationship with Mandarin learning satisfaction. Among the independent variables, learning motivation stands out with the highest β value (0.618) and the lowest p-value (0.000), indicating its strong predictive power. Specifically, a one-unit increase in learning motivation results in a 0.618-unit increase in Mandarin learning satisfaction, assuming other variables remain constant. Therefore, it can be concluded that learning motivation is the most significant factor influencing Mandarin learning satisfaction among the independent variables studied.

Discussions

The main objective of this study is to determine the influence of perceived usefulness, ease of use, learning motivation, social interaction, and learning strategies on Mandarin learning satisfaction among Mandarin learners in Malaysian local universities. According to the

empirical findings, the results indicate that all five variables show a positive and moderate correlation with Mandarin learning satisfaction. The highest correlation was observed for learning motivation (Pearson correlation coefficient = 0.709), while the lowest was for ease of use (Pearson correlation coefficient = 0.397). This result aligns with previous studies that emphasize the significant role of learning motivation in contributing to Mandarin learning satisfaction, particularly in environments where learners face challenges such as mastering tones, characters, and grammatical structures. Motivation serves as a driving force, enabling learners to persist through difficulties and maintain engagement, which is critical for language acquisition. Additionally, the moderate correlation between perceived usefulness, social interaction, and learning strategies underscores their importance in enhancing satisfaction by creating meaningful, supportive, and contextually relevant learning experiences. In contrast, the relatively lower correlation for ease of use suggests that while it is important, it may not play as significant a role in Mandarin learning satisfaction compared to other variables. This finding highlights the need for educators and institutions to prioritize strategies that foster motivation, interactive learning environments, and the practical application of Mandarin in real-world contexts.

Multiple regression was also used to identify the most prominent factors affecting Mandarin learning satisfaction. The results showed that cultural and language challenges ($\beta = 0.618$, $p = 0.000$), job demands ($\beta = 0.435$, $p = 0.000$), and student behavior ($\beta = 0.329$, $p = 0.003$) were significant factors influencing Mandarin learners' learning satisfaction, whereas institutional resources ($\beta = -0.142$) showed no significant relationship. Additionally, the model's R^2 was 0.568, indicating that 56.8% of the variance in learning satisfaction was explained by the predictor variables. These findings are consistent with previous studies demonstrating the significant roles of cultural and linguistic challenges, job demands, and student behavior in shaping learning satisfaction (Xanthopoulou et al., 2017; Schaufeli & Taris, 2014). In other words, the combination of these stressors creates a challenging learning environment that may lower Mandarin learners' learning satisfaction. This underscores the importance of addressing these factors to improve the well-being and performance of Mandarin learners in educational institutions.

Recommendations To Improve Mandarin Learning Satisfaction

According to the findings of this study, enhancing learning motivation is crucial for improving Mandarin learning satisfaction. To achieve this, Mandarin courses should incorporate clear academic and career-related goals to highlight the practical value of the language. Programs should also include culturally relevant materials, such as Chinese traditions, business etiquette, and real-world applications, to sustain learners' interest and engagement. This approach can foster both intrinsic and extrinsic motivation, enabling learners to remain focused and persistent throughout their learning journey. Another key area for improvement is social interaction, which plays an essential role in learners' satisfaction. Collaborative learning methods, such as different group discussions, peer-based activities, and role-playing exercises, can create a more interactive and supportive environment. Additionally, institutions should facilitate opportunities for learners to interact with native speakers through guest lectures, language exchange programs, or online platforms. Such interactions help improve conversational fluency while deepening learners' cultural understanding, thereby making the learning experience more enriching.

The importance of perceived usefulness in enhancing satisfaction suggests that learners need to see the practical benefits of Mandarin proficiency. Educators should emphasize how Mandarin can open doors to global trade, tourism, and professional opportunities. Incorporating real-world scenarios, such as mock business meetings, travel dialogues, or academic discussions, into the curriculum can make the language more relevant to learners' personal and professional aspirations. Improving learning strategies is another area that can significantly enhance satisfaction. Language programs should teach learners effective techniques such as mnemonic devices, spaced repetition, and self-regulated learning strategies. Personalized feedback from instructors can also help learners refine their approaches and overcome specific challenges. Providing workshops or training sessions on strategy-based learning can further empower learners to take control of their Mandarin acquisition journey.

Finally, addressing ease of use can help reduce barriers to satisfaction. Universities should invest in user-friendly digital tools and applications that simplify the learning process. Ensuring that course materials are well-organized, accessible, and easy to navigate can reduce frustration and cognitive load for learners. By integrating these recommendations, Malaysian universities can create a more engaging, effective, and satisfying Mandarin learning experience, better aligning with learners' needs and expectations.

Suggestions for Future Research

Although this study was carefully designed and implemented, there are several areas where future research could expand and refine the findings. One significant suggestion is to increase the sample size and include learners from a broader demographic. Increasing the sample size would enhance the validity and trustability of the findings, ensuring they represent a wider population of respondents. By including participants from various age groups, regions, and educational backgrounds, future studies can gain deeper insights into the diverse factors influencing learning satisfaction.

Secondly, diversifying the types of educational institutions studied could provide a more comprehensive understanding of Mandarin learning satisfaction. This study focused primarily on public universities, but future research could include learners from private universities, colleges, and language learning centers. These institutions often differ in teaching methods, resources, and learner demographics, which could offer additional perspectives on satisfaction and its influencing factors.

Third, future research could explore longitudinal studies to examine how learning satisfaction evolves over time. A cross-sectional design, like the one used in this study, captures a snapshot of learners' experiences. However, tracking learners' satisfaction across multiple semesters or levels of study could reveal trends and the long-term impact of variables such as motivation and social interaction on their overall satisfaction and proficiency.

Fourth, researchers could investigate the role of cultural and contextual factors in shaping Mandarin learning satisfaction. Malaysia's unique multicultural environment plays a significant role in learners' experiences. Understanding how cultural values, prior language exposure, and societal expectations influence satisfaction could help design more tailored learning strategies for different learner groups.

Lastly, future studies might shift the focus on the impact of technology and digital learning tools on Mandarin learning satisfaction. With the increasing use of online platforms and apps in language education, investigating how digital tools contribute to or detract from satisfaction could provide actionable insights for curriculum developers and policymakers. Evaluating the effectiveness of interactive applications and virtual classrooms in fostering engagement and motivation would be particularly valuable.

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