

The Formation Mechanism of Oral Risk Aversion in English Learners' Classroom: An Integrated Model from the Perspective of Cognitive Decision-Making Based on Prospect Theory

Baoxia Zuo

Tianjin University of Finance and Economics Pearl River College, School of Humanities, Tianjin, China

Corresponding author, e-mail: zuobaoxia123@126.com

Abstract

Based on Prospect Theory, this study investigates the cognitive decision-making mechanism behind Chinese non-English major undergraduates' classroom oral risk-aversion behavior, focusing on the pathways among English learning reference point sources, perceived teacher task framing, and risk-aversion tendency. Through a questionnaire survey of 541 university students and structural equation modeling analysis, the findings reveal that: (1) All four types of reference points relied on by learners—peer comparison, self-expectation, cultural norms, and teacher setting—significantly and positively predict their classroom oral risk-aversion tendency; (2) Perceived teacher task framing plays a partial mediating role between reference point dependence and risk-aversion tendency, with the mediation effect accounting for 54.702%; (3) Teacher task framing (gain/loss framing) interacts significantly with reference point dependence, further moderating risk-aversion behavior. The study demonstrates that learners' reference point dependence is a crucial psychological mechanism driving classroom oral “silence,” while the proactive reframing of teacher tasks can serve as an effective intervention pathway. This research provides a new cognitive decision-based explanation for understanding the quality of English classroom interaction and offers empirical evidence for task design and evaluative guidance in teaching practice.

Keywords

foreign language learners; classroom oral performance; risk aversion; reference point dependence; Prospect Theory

1 Introduction

In the context of globalization and internationalization in higher education, the cultivation of students' comprehensive English application ability has become the core goal of college English teaching in China. However, the widespread phenomenon of "silence" and "low-risk expression" in the classroom has seriously restricted the in-depth development of students' oral ability, and has become the main bottleneck in improving the quality and efficiency of teaching.

In order to break through this dilemma, it is necessary to go beyond the correction of surface behavior and explore the cognitive decision-making mechanism behind it. The prospect theory of behavioral economics provides a powerful framework for understanding learners' decision-making under uncertainty. According to this theory, individual decision-making depends on subjective "reference points" and shows strong "loss aversion". However, most of the existing studies focus on affective factors such as anxiety, or stay at the level of theoretical introduction, failing to systematically explore the specific sources of reference points that students rely on in English classroom, their relationship with oral risk-avoiding behavior, and how the teaching situation regulates this relationship. This research gap limits the deep understanding and effective intervention of classroom silence.

In view of this, the present study, based on Prospect Theory, aims to explore the relationship between Chinese non-English majors' reference points (such as peer comparison, self-expectation, etc.) And their risk-averse tendencies in classroom speaking, and to test the moderating effect of teachers' task framing. By constructing and validating an integrated model of "reference point-task framework-risk aversion behavior", this study attempts to reveal the micro-psychological mechanisms that influence classroom oral participation. In practice, it can provide a basis for optimizing teaching design and intervention; in theory, it can promote the deepening application of prospect theory in the field of second language acquisition and interdisciplinary dialogue.

2 Literature Review

This study focuses on the explanation of risk aversion behavior in English classroom speaking from the perspective of Prospect Theory, focusing on the source and influence mechanism of learners' decision-making reference points. The existing literature can be reviewed around two core dimensions: one is the application of reference point theory in education and language learning; the other is the cognitive and situational attribution of risk-averse behavior in foreign language classroom. Through the review of these two aspects of literature, we can make clear the theoretical starting point and innovation space of this study.

2.1 Theoretical Connotation of Reference Point and Its Application in Education and Language Learning

"Reference point" refers to the subjective comparison standard on which individual decision-making depends, the core of which is that decision-makers evaluate gains and losses based on this standard, and usually show "loss aversion" (Kahneman & Tversky, 1979). The theory has been extended from the economic field to education and second language acquisition.



In education, reference points provide a cognitive perspective for understanding learner motivation and decision-making. For example, achievement goals can be seen as a reference standard for evaluating one's own abilities: mastery goals correspond to self-improvement, while performance goals correspond to social comparison (Elliot & Thrash, 2002). In the field of language learning, Dörnyei's "L2 Motivational Self System" (2009), the "ideal L2 self" and the "ought L2 self" constitute the long-term reference points, while the "L2 learning experience" shapes the immediate reference standard. Studies have confirmed that learners' judgments of success and failure depend on multiple reference points such as past performance, peer performance or teacher expectations (Papi et al., 2019).

Recent studies have focused on the dynamics of reference points, such as learners adjusting the reference according to feedback (Hiver & Al-Hoorie, 2020). Local studies have also found that different reference points (such as "passing exams" and "surpassing peers") lead to significant differences in learning behavior (Liu Honggang, 2022). However, there is still a lack of systematic empirical identification of multiple reference points relied on by learners in high-risk real-time situations such as oral English interaction, and a lack of elucidation of how these reference points jointly affect their real-time risk decision-making.

2.2 Cognitive and Situational Attribution of Risk Avoidance in English Classroom

Traditionally, English learners' risk-averse behaviors, such as silence and simplifying strategies, are attributed to affective factors such as language anxiety, that is, they adopt "avoidance-protection" strategies for fear of negative evaluation (Horwitz et al., 1986; MacIntyre & Gregersen, 2012) .

A cognitive perspective: Risk Aversion as a decision. Current research has turned to the cognitive-situational interaction view. From a cognitive perspective, risk aversion can be seen as a learner's decision based on prospective assessment. Learners quickly weigh potential "gains" against "losses" before opening their mouths (Dewaele, 2019), which is consistent with the logic of prospect theory. For example, when learners perceive the task as a "loss" possibility, their engagement is significantly lower than when they perceive it as a "gain" possibility (Zhang & Rahimi, 2023), reflecting the framing effect.

Situational Perspectives: The Shaping Mechanism of Reference Points. Situational factors shape learners' reference points and risk perceptions. The cultural norms of Chinese classrooms (emphasizing "collective face") make public mistakes a significant "loss" (Jackson, 2024). At the same time, teacher's instructions and feedback set external reference points, while peer performance constitutes social comparison reference points, which together affect behavioral choices (Li, 2024).

However, the existing research has the problem of insufficient integration: cognitive assessment (reference point dependence) and environmental factors (task framework) are discussed separately, and there is a lack of integrated interaction mechanism model. There is a lack of systematic empirical investigation on the multiple reference points (such as cultural internalization, teacher setting, etc.) That learners actually rely on in Chinese classrooms. Few quantitative studies have examined the predictive power of multiple reference points and the moderating effect of instructional interventions (such as task framing) at the same time.

Therefore, Prospect Theory provides a powerful cognitive decision-making framework for understanding risk aversion, but its systematic application in Chinese English classroom is still in its infancy, especially in

the aspects of integrated model, localized empirical study and quantitative test for non-English majors. This study aims to fill this gap by systematically introducing the core components of Prospect Theory (reference point dependence, loss aversion, framing effect) into English teaching research, specifically exploring the multiple sources of English learning reference points of non-English majors in Chinese universities and their impact on classroom speaking. It provides a novel and powerful theoretical perspective for understanding and intervening learners' classroom decision-making behavior.

3 Research Questions

Based on the perspective of prospect theory, this study aims to construct a mediated moderation model to systematically investigate the sources of reference point dependence in English learning, the paths through which reference point dependence influences risk-averse behavior through the perception of gain/loss framework, and the moderating role of teacher task framework. And pay attention to the dynamic change of reference point dependence in the evaluation situation. The specific research questions are as follows:

First, what are the main social and psychological factors that rely on English learning reference points?

Second, which of the four reference points (peer comparison, self-expectation, cultural norms, and teacher setting) has the most significant effect on risk-avoiding behavior tendencies in English learning?

Third, does perceived gain/loss framework mediate the relationship between reference point dependence and risk-averse behavior?

4 Theoretical Framework and Research Hypotheses

4.1 Prospect Theory as a Core Analytical Framework

In order to further reveal the cognitive decision-making mechanism of risk aversion behavior in English classroom speaking, this study takes the prospect theory proposed by Daniel Kahneman and Amos Tversky as the core analytical framework. This theory profoundly explains the characteristics of human irrational decision-making under uncertainty, and its core principles, reference point dependence and loss aversion, provide a powerful micro-psychological explanation for understanding why learners show different risk preferences in the same task due to different subjective assessment frameworks. Oral English classroom is essentially a decision-making environment full of uncertainty of expression effect and risk of social evaluation, which is highly consistent with the premise of Prospect Theory.

Core Theory Component and Conceptual Operationalization: Prospect Theory holds that decision utility is not based on the absolute value of the final state, but on the perception of gain or loss relative to a subjective reference point. Its core components include: reference point dependency: decision outcomes are framed as “gain” or “loss” domains by reference criteria (e.g., status quo, expectations, social comparisons). Loss aversion: The psychological pain of the same amount of loss is far greater than pleasure of the same amount of gain. Framing effect: Different descriptions of the same problem change the reference point,



thereby reversing risk appetite (risk-averse in a gain frame, risk-seeking in a loss frame).

Based on this, this study operationalizes the “reference point” into four specific measurable dimensions, and constructs an integrated empirical analysis framework: social comparison reference point: peer performance as the reference benchmark; self-expectation reference point: individual learning goals as the internal expectation reference; cultural norm reference point: cultural cognition of “appropriate expression” as the potential constraint; Teachers set reference points: teachers’ evaluation criteria and task requirements are used as external references.

Theoretical application value and research orientation: This framework aims to systematically capture the multi-level factors (society, individual, culture, teaching) that affect oral risk decision-making, so that the core of the theory can be connected to specific situations. The formation and competition of multiple reference points are particularly prominent in the cultural context of Chinese English classroom, which emphasizes collective harmony and face. The application of prospect theory to the analysis of learners’ dynamic cognitive assessment process can go beyond the single attribution of static affective traits such as anxiety, provide a more rigorous and explanatory perspective for the interpretation of their risk-averse behavior, and directly derive testable research hypotheses to make up for the shortcomings of existing research in theoretical integration and localization of empirical research.

4.2 Research Hypotheses

Based on prospect theory, this study constructs a moderated research model (as shown in Figure 1) to explore the complex relationship among English learning reference point dependence, perceived teacher task framework, and risk-averse behavior tendency in classroom speaking. Accordingly, the following research hypotheses are proposed.

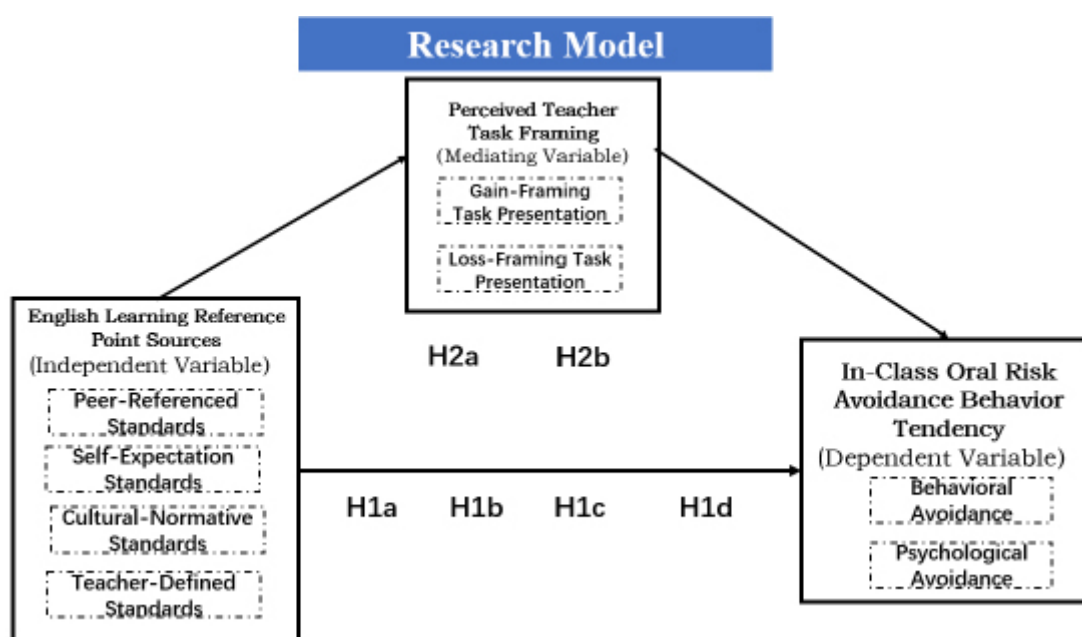


Figure 1: Figure of the Research Model

H1: The Main Effect of Reference Point Dependence on Risk Aversion

- H1a: Peer comparison reference point has a significant positive effect on risk-averse behavior tendency in English classroom speaking.
- H1b: The reference point of self-expectation has a significant positive effect on the risk-averse behavior tendency of oral English in English classroom.
- H1c: The reference point of cultural norms has a significant positive effect on the risk-averse behavior tendency of English classroom speaking.
- H1d: The reference point set by the teacher has a significant positive effect on the risk-averse behavior tendency of oral English in the classroom.

H2: The Mediating Effect of Perceived Teacher Task Framing

- H2a: Perceived teacher task acquisition framework mediates the relationship between reference point dependence and risk aversion.
- H2b: Perceived teacher task loss framework mediates the relationship between reference point dependence and risk aversion.

5 Method

5.1 Participants

A cross-sectional questionnaire design was used to examine a model of the relationship between EFL learners' sources of reference points, teacher task frames, and risk-averse behaviors in classroom speaking. Non-English majors from 11 universities in eastern, central and western China were selected by stratified random sampling. A total of 550 questionnaires were sent out and 541 valid questionnaires were recovered, with an effective recovery rate of 98.36%. The sample covers "double first-class initiative" universities, ordinary undergraduate and higher vocational colleges, and has certain regional and college representativeness.

The study was conducted in accordance with academic ethics, and participants were informed of the purpose of the study and their informed consent was obtained before implementation. The questionnaire was administered anonymously, and the data were used only for academic research and kept strictly confidential. The demographic characteristics (gender, grade, major, etc.) of the valid sample are shown in Table 1, which provides sample structure information for subsequent analysis.



Table 1 Distribution of Demographic Characteristics of the Study Sample (N = 541)

Variable	Item	Frequency	Percentage (%)
Gender	male	194	35.9
	female	347	64.1
Educational Level	Vocational College student	88	16.3
	Undergraduate	453	83.7
	Humanities and Social Science	115	21.3
Major	Science	67	12.4
	Finance and Economics	107	19.8
	Engineering	251	46.4
	Arts	1	.2
	Sports	0	0
Grade	Freshman	307	56.7
	Sophomore	134	24.8
	Junior	77	14.2
	Senior	23	4.3
Total		541	100

5.2 Research Tools

5.2.1 English Learning Reference Point Source Scale

The source of reference points for English learning was developed, which consists of 16 items and covers four dimensions: peer comparison (peer performance as social reference), self-expectation (personal goals as internal reference), cultural norms (cultural cognition as potential constraint) and teacher setting (teacher requirements as external reference). Each dimension contained 4 questions, and was scored by Likert 5 points. The alpha coefficient of the overall Cronbach's of the scale was .933, and the alpha coefficient of each dimension ranged from .804 to .919. The reliability of the scale was good. The KMO value was .947 and Bartlett's sphericity test was significant ($p < .001$), indicating that the scale had good construct validity and was suitable for factor analysis.

Table 2 Reliability of the English Learning Reference Point Source Scale

Dimension	Item No.	Number of Item	Cronbach's α
Peer comparison	1, 2, 3, 4,	4	.804
Self-expectation	5, 6, 7, 8	4	.909
Cultural norms	9, 10, 11, 12	4	.804
Teacher setting	13, 14, 15, 16	4	.919
Total		16	.933

Table 3 KMO and Bartlett Test Results of English Learning Reference Point Source Scale

Inspection items	Statistics	Value
KMO sample measure	KMO Value	.947
	Approximate chi-squared value	6446.352
Bartlett sphericity test	<i>df</i>	120
	Sig.	.000

5.2.2 Risk Avoidance Behavior Tendency Scale for Classroom Oral English

In this study, we developed a risk avoidance behavior scale for classroom speaking, which consists of seven items, covering two dimensions of behavioral avoidance (4 items) and psychological avoidance (3 items), and is scored by Likert 5 points. The alpha coefficient of the overall Cronbach's of the scale was .917, and the alpha coefficient of each dimension ranged from .861 to .895. The reliability of the scale was good. The KMO value was .924 and Bartlett's sphericity test was significant ($p < .001$), indicating that the construct validity of the scale met the requirements and was suitable for factor analysis.

Table 4 Reliability of the Risk Aversion Behavior Tendency Scale for Classroom Oral English

Dimension	Item No.	Number of Item	Cronbach's α
Behavior Avoidance	1, 2, 4, 5,	4	.895
Psychological Avoidance	3, 6, 7	3	.861
Total		7	.917

Table 5 KMO and Bartlett Test Results of Risk Aversion Behavior Tendency Scale of Classroom Speaking

Inspection items	Statistics	Value
KMO sample measure	KMO Value	.924
	Approximate chi-squared value	2592.128
Bartlett sphericity test	<i>df</i>	21
	Sig.	.000

5.2.3 Perceived Teacher Task Frame Scale

In this study, the Perceived Teacher Task Framework Scale was developed, which consisted of 8 items, covering two dimensions of the Gain Framework and the Loss Framework (4 items each), and was scored by Likert 5 points. The alpha coefficient of the overall Cronbach's of the scale was .925, and the alpha coefficients of each dimension ranged from .842 to .927, indicating a good reliability. The KMO value was .921 and Bartlett's test of sphericity was significant ($p < .001$), indicating that the construct validity of the scale was good and the data were suitable for factor analysis.



Table 6 Reliability of the Perceived Teacher Task Framework Scale

Dimension	Item No.	Number of Item	Cronbach's α
Obtain Frame	1, 2, 3, 4	4	.927
Loss Frame	5, 6, 7, 8	4	.842
Total		8	.925

Table 7 KMO and Bartlett Test Results of the Perceived Teacher Task Frame Scale

Inspection items	Statistics	Value
KMO sample measure	KMO Value	.921
	Approximate chi-squared value	3552.855
Bartlett sphericity test	df	28
	Sig.	.000

Before the formal measurement, the three research tools have gone through two rounds of pre-research. In the first round, three applied linguistics experts and five students were invited to conduct content validity assessment and cognitive interviews to optimize the item presentation. In the second round, a small-scale pre-test was conducted ($n = 80$). Item analysis and exploratory factor analysis were used to delete the items with factor loading less than 0.5 or cross-loading, and to confirm that the reliability of each scale was good (Cronbach's $\alpha > .75$), and finally the formal questionnaire was formed.

5.2.4 Confirmatory Factor Analysis of Research Tools

To test the construct validity of the scale, confirmatory factor analysis was conducted on each of the three core variables. According to the suggestion of Hu & Bentler (1999), χ^2/df , CFI, TLI, RMSEA and SRMR are used to evaluate the model fitting. The results showed (Table 8) that the fit index of each scale reached the psychometric acceptable standard, indicating that the scale had good construct validity in this sample.

Table 8 Confirmatory Factor Analysis (CFA) Fit Indices for the 3 Scales ($N = 541$)

Name of Scales	χ^2/df	CFI	TLI	R M S E A [90% CI]	SRMR	Reference value of judgment standard
English Learning Reference Point Source Scale	2.657	.911	.982	.140 ~ .154	.071	---
Risk Avoidance Behavior Tendency Scale for Classroom Oral English	2.176	.977	.966	.068 ~ .108	.026	---
Perceived Teacher Task Frame Scale	2.065	.910	.973	.157 ~ .189	.073	---
Completed Scale	2.680	.950	.938	.083 ~ .098	.068	---
Standard	< 3	> .9	> .9	---	< .1	(Hu & Bentler, 1999)

Table 9 Results of AVE and CR Indicators of the Model

Name of Scales	AVE	CR
English Learning Reference Point Source Scale	.518	.942
Risk Avoidance Behavior Tendency Scale for Classroom Oral English	.627	.920
Perceived Teacher Task Frame Scale	.635	.931

The fit metrics for the factor model met the criteria ($\chi^2/DF = 2.680$, RMSEA = .083, CFI = .950, TLI = .938, SRMR = .068). The standardized factor load of each item ranged from 0.62 to 0.86 ($p < 0.001$), the average variance extraction value (AVE) ranged from .518 to .635, the combined reliability (CR) ranged from .920 to .942, and the convergent validity was good. Discriminative validity test showed that the square root of AVE of each latent variable was greater than its correlation coefficient with other variables. In addition, Harman's one-way test showed that the first common factor explained 28.6% of the variance, which was lower than 40% critical value, indicating that the common method bias was not serious.

5.2.5 Control Variables

In order to control the potential interference factors, the educational level, major and grade were included in the analysis as control variables: the educational level was divided into "junior college (higher vocational)" and "undergraduate", and the major was merged into "humanities and social sciences" and "non-humanities and social sciences", all of which were treated as dummy variables; Grades covered four levels, freshman to senior, and were controlled in the analysis by a set of dummy variables.

5.3 Data Analysis

SPSS 27.0 and Amos 28.0 software will be used for data analysis in this study, and the process is as follows:

5.3.1 Data Preprocessing and Common Method Bias Testing

Before the formal analysis, the data were preprocessed by unifying the scoring direction of reverse questions, centralizing the continuous variables, and transforming gender into dummy variables (male = 0, female = 1). In order to test the common method bias, Harman's single factor test method was used, and the results showed that the explanation rate of the first unrotated principal component was 38.401%, which was lower than critical value of 40%, indicating that the common method bias problem was not significant.

5.3.2 Descriptive Statistics and Correlation Analysis

Before hypothesis testing, descriptive statistics and correlation analysis were used to analyze the core



variables. The results of descriptive statistics (see Table 10) show the central tendency and dispersion degree of the variables; the results of correlation analysis (see Table 11) preliminarily verify the theoretical association between the variables and provide a basis for subsequent model testing.

Table 10 Descriptive Statistics (N = 541)

Variables and Dimensions	Minimum	Maximum	Mean	Standard Deviation	Skewness	Kurtosis
English Learning Reference Point Source	1.00	5.00	3.4868	.69715	.180	.475
Dimension 1: Peer comparison	1.00	5.00	3.3156	.85437	-.048	.121
Dimension 2: Self-expectation	1.00	5.00	3.6118	.82283	-.140	.169
Dimension 3: Cultural norms	1.00	5.00	3.4330	.75386	.141	.457
Dimension 4: Teacher setting	1.00	5.00	3.5869	.81242	.032	.006
Risk Avoidance Behavior Tendency of Classroom Oral English	1.00	5.00	3.3665	.82924	-.046	.402
Dimension 1: Behavior Avoidance	1.00	5.00	3.4274	.88685	-.138	.216
Dimension 2: Psychological Avoidance	1.00	5.00	3.2853	.83009	.009	.537
Perceived Teacher Task Frame	1.00	5.00	3.6765	.73843	.088	.051
Dimension 1: Obtain Frame	1.00	5.00	3.7435	.79928	-.018	-.310
Dimension 2: Loss Frame	1.00	5.00	3.6095	.77394	.256	-.131

The descriptive statistical results of each variable are shown in the table. According to the normality criteria of Kline (2015) and West et al. (1995) (usually requiring skewness $< |3|$, kurtosis $< |10|$, or skewness $< |2|$, kurtosis $< |7|$), the skewness coefficients of all variables in this study are between -.140 and .256, the absolute values are less than 3, and the distribution is basically symmetrical. Most of the kurtosis coefficients meet West's strict criteria, and the overall distribution is peaked, indicating that the data are concentrated around the mean and the normality is acceptable.

Table 11 Pearson Correlation Analysis

	English Learning Reference Point Source	Risk Avoidance Behavior Tendency of Classroom Oral English	Perceived Teacher Task Frame
English Learning Reference Point Source	1	.376**	.672**
Risk Avoidance Behavior Tendency of Classroom Oral English	.376**	1	.421**
Perceived Teacher Task Frame	.672**	.421**	1

** . At the 0.01 level (two-tailed), the correlation is significant.

The results of Pearson correlation analysis (see table) showed that there was a significant positive correlation ($p < .01$) between the source of English learning reference points, the risk-averse behavior tendency of classroom speaking and the perceived teacher task frame, and the correlation direction was consistent with the theoretical expectation, and the coefficients were all lower than .80, indicating that there was no multicollinearity among the variables. It is suitable for subsequent regression and mediation model testing with regulation.

5.3.3 Regression Analysis

Table 12 Regression analysis of English learning reference point sources (four dimensions: peer comparison, self-expectation, cultural norms and teacher setting) on risk-averse behavior tendency in classroom speaking

	B	SE	β	<i>t</i>	<i>p</i>	95% CI	Collinearity diagnosis	
							VIF	Tolerance
Constant	1.838	.166	-	11.106	.000**	1.513 ~ 2.164	-	-
Peer comparison	.155	.052	.159	2.995	.003**	.053 ~ .256	1.861	.537
Self-expectation	-.193	.060	-.192	-3.212	.001**	-.311 ~ -.075	2.339	.428
Cultural norms	.203	.071	.185	2.844	.005**	.063 ~ .343	2.769	.361
Teacher setting	.283	.066	.277	4.283	.000**	.153 ~ .413	2.758	.363
R^2	.185							
Adjusted R^2	.179							
<i>F</i>	$F(4,536) = 30.382, p = .000$							
D-W Value	1.996							

Note: Dependent variable = risk-averse behavior tendency of classroom speaking

* $p < .05$ ** $p < .01$

Four kinds of reference points, including peer comparison, self-expectation, cultural norms and teacher setting, are used as independent variables, and risk-avoiding behavior tendency of classroom oral English is used as dependent variable for regression analysis. The model R^2 is .185, indicating that the four reference points together explain 18.5% of the variance in risk aversion. The multicollinearity test showed that the Vif values were less than 5 and the D-W values were close to 2, indicating that the model had no collinearity or autocorrelation problems.

Specifically, the peer comparison reference point ($\beta = .159, p < .01$), the cultural norm reference point ($\beta = .185, p < .01$), and the teacher-set reference point ($\beta = .277, p < .01$) all had significant positive effects on risk-averse behavioral tendencies, with the teacher-set reference point being the strongest predictor. Self-expectation reference point ($\beta = -.192, p < .01$) had a significant negative effect on risk-averse behavior tendency.



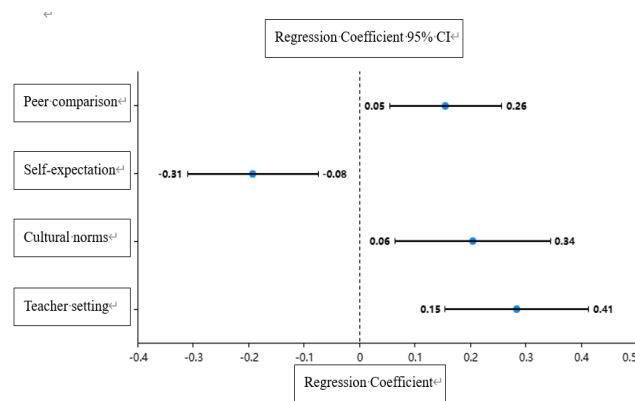


Figure 2 95% CI of regression coefficient of peer comparison, self-expectation, cultural norms and teacher setting on risk-averse behavior tendency of classroom oral English

5.3.4 Mediating Effect Test

Table 13 Analysis of the mediating effect of the perceived teacher task framework on the relationship between the source of English learning reference points and the tendency of risk-averse behavior in classroom speakin

Item	Symbol	Meaning	Effect	95%CI		SE	z/t	p	Conclusion
				Lower	Upper				
English Learning Reference Point Source=> Perceived Teacher Task Frame=> Risk Avoidance Behavior Tendency of Classroom Oral English Learning Reference	a*b	Indirect effect	.245 **	.126	.279	.039	6.329	.000 **	Partial Mediating Effect
Point Source=> Perceived Teacher Task Frame	a	X=>M	.712 **	.646	.778	.034	21.087	.000 **	
Perceived Teacher Task Frame=> Risk Avoidance Behavior Tendency of Classroom Oral English Learning Reference	b	M=>Y	.344 **	.228	.459	.059	5.853	.000 **	
Point Source=> Risk Avoidance Behavior Tendency of Classroom Oral English Learning Reference	c'	Direct effect	.203 **	.081	.325	.062	3.259	.001 **	
(When there is a mediator variable in the model)									
English Learning Reference Point Source=> Risk Avoidance Behavior Tendency of Classroom Oral English Learning Reference	c	Total effect	.448	.354	.541	.047	9.432	.000 **	
(When there is not a mediator variable in the model)									

* p<0.05 ** p<0.01

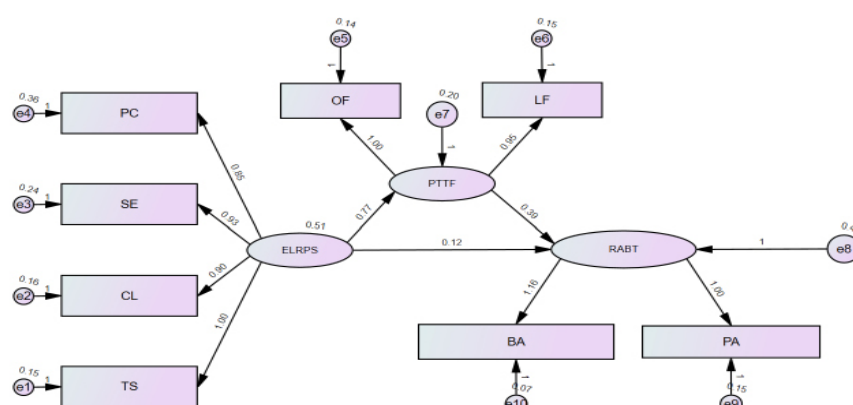
It can be seen from Table 13 that the confidence interval ($CI = [0.126, 0.279]$) of the indirect effect ($a * B = 0.245$, $p < 0.01$) of the source of English learning reference points on the risk-averse behavior tendency of classroom speaking does not include 0, indicating that the perceived teacher task framework has a significant mediating effect. Further comparison of the direct effect ($C' = 0.203$, $p < 0.01$) and the total effect ($C = 0.448$, $p < 0.01$) shows that the direct effect of the independent variable on the dependent variable is still significant after the intermediary variable is included, so the intermediary effect belongs to partial intermediary.

Table 14 Proportion of Partial Mediating Effect

Item	Inspection conclusion	Total effect	a*b effect	Mediating effect	Direct effect	Calculation formula of effect proportion	Effect Proportion
English Learning Reference Point Source=> Perceived Teacher Task Framework=> Risk Avoidance Behavior Tendency of Classroom Oral English	Partial Mediating Effect	0.448 **	0.245 **	0.203 **	a * b / c		54.702%

According to the effect proportion analysis in Table 14, the mediating effect accounts for 54.702% of the total effect, indicating that more than half of the influence of the source of English learning reference points on the risk-averse behavior tendency of classroom speaking is achieved through the mediating path of perceiving the teacher's task framework. This confirms that the perception of the teacher's task frame plays a partial mediating role between the two, and this path has important explanatory power, indicating that learners' perception of the teacher's task frame largely explains the mechanism of the reference point affecting the risk aversion tendency. This result provides an empirical basis for optimizing the design of task framework to regulate students' oral participation behavior.

5.3.5 Hypothesis Testing



Note: ELRPS: English Learning Reference Point Source; PTTF: Perceived Teacher Task Frame; RABT: Risk Avoidance Behavior Tendency of Classroom Oral English; PC: Peer comparison; SE: Self-expectation; CL: Cultural norms; TS: Teacher setting; OF: Obtain Framing; LF: Loss Framing; BA: Behavior Avoidance; PA: Psychological Avoidance

Figure 3 Path Coefficient of Structural Equation Model

In order to test the hypotheses, a structural equation model with main effect and mediating effect was constructed, which included four reference points, teacher task framework and their interaction terms (product index). The overall fit of the model is good ($\chi^2/df = 5.992$, RMSEA = .096, CFI = .970, TLI = .951, SRMR = .0378), indicating that the theoretical model fits the data. See Table 15 for standardized path coefficient and significance test results.

Table 15 Path Coefficient and Hypothesis Test Results of Structural Equation Model

Main effect path	β	S.E.	C.R.	p	Hypothesis Testing
Peer comparison→Risk Avoidance Tendency	.708	.044	19.127	***	H1a: Accept
Self-expectation→Risk Avoidance Tendency	.804	.042	22.358	***	H1b: Accept
Cultural norms→Risk Avoidance Tendency	.850	.037	24.461	***	H1c: Accept
Teacher setting→Risk Avoidance Tendency	.876	.066	23.250	***	H1d: Accept
Reference Point Source×Perceived Teacher Task Obtain Frame	.882	.062	21.565	***	H2a: Partial Accept
Reference Point Source×Perceived Teacher Task Loss Frame	.865	.043	22.153	***	H2b: Partial Accept

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The results of the structural equation model in Table 15 show that in terms of the main effect, peer comparison, self-expectation, cultural norms and teacher-set reference points all have a significant positive predictive effect on risk aversion in classroom speaking ($\beta = .708 \sim .876$, $p < .001$), and hypotheses H1a – H1d are supported; In terms of interaction effect, there was a significant interaction between reference point dependence and perceived teacher task framing, and both task gain framing ($\beta = .882$, $p < .001$) and task loss framing ($\beta = .865$, $p < .001$) significantly enhanced the effect of reference point dependence on risk aversion. Assume that H2a and H2b are verified. The above results indicate that students' risk-avoidance behavior in classroom speaking is not only directly influenced by their reference point dependence, but also mediated by teachers' task-framing perception, both of which act on students' behavioral decision-making process.

6 Discussion

6.1 Research Conclusion

This study constructed and validated a cognitive decision-making model integrating reference point dependence and teacher task framing based on Prospect Theory, aiming to explain the formation mechanism of oral risk-aversion behavior among Chinese non-English major undergraduates in English classrooms. Through empirical analysis of 541 university students, and by addressing three research questions, the following key conclusions were revealed:

First, English learning reference point dependence is the key cognitive antecedent that drives risk aversion in classroom speaking. It is empirically confirmed that learners' assessment of oral performance is strongly dependent on multiple subjective reference standards. The four reference points measured in the study, namely, social comparison (peers), internal standards (self-expectations), cultural constraints (norms) and external authority (teacher setting), all have significant positive predictive effects on risk aversion. Among them, the influence of "teacher setting" reference point is the most prominent, which reveals the central role of teacher authority in shaping students' risk perception.

Second, the perceived teacher task framework plays a central mediating and moderating role. The mediating effect analysis showed that more than half (54.7%) of the reference point dependence effects were achieved through the cognitive conduction pathway of "perceptual task framework". More importantly, the teacher's task framework (whether gain-oriented or loss-oriented) significantly enhances the positive effect of reference point dependence on risk aversion. This suggests that the common way of task presentation not only fails to alleviate the avoidance tendency, but also may produce a "resonance effect" with it, further solidifying the silence behavior.

Thirdly, this study reveals the core mechanism of "cognitive-situational reinforcement circuit". Learners' reference-point dependencies constitute the cognitive baseline for risk perception, while teachers' task frameworks serve as contextual catalysts that amplify its behavioral consequences. Therefore, classroom "silence" is not only the product of anxiety or lack of motivation, but also the result of decision-making under the systematic interaction of specific cognitive assessment and situational framework. This finding elevates risk-averse behavior from individual trait attribution to the theoretical explanation of the interaction between cognitive decision-making and classroom situations.



6.2 Theoretical Enlightenment

This study provides a new theoretical perspective and integration path for the study of English learning psychology and classroom interaction. The study deepens and expands the application of prospect theory in the field of second language acquisition, operationalizes the reference point dependence and framing effect in economics into a measurable construct of educational psychology, and verifies its explanatory power in real classroom situations, thus realizing the cross-situational transfer and refined development of the theory. Especially through the identification and measurement of the sources of multiple reference points, it breaks through the previous single and static understanding of reference points, and lays a foundation for exploring learners' decision-making psychology from a dynamic and multiple perspective. At the same time, this study promotes the paradigm shift from "trait attribution" to "cognitive-situational interaction". Traditional studies attribute oral silence to anxiety traits or lack of motivation, while this study reveals how risk-averse behavior is generated in real time through the interaction of dynamic cognitive assessment and immediate situational cues by constructing a mediated mediation model. It helps to shift the research focus from "what learners lack" to "how learners make decisions in specific cognitive situations", and provides a more process-oriented and mechanistic theoretical framework for understanding the quality of classroom interaction.

6.3 Practical Inspiration

The conclusions of this study provide practical implications for college oral English teaching from the perspective of cognitive decision-making: First, systematically reconstruct the task representation to deconstruct the inherent reference point, and teachers should consciously use the "growth-focused incentive framework" instead of the "loss-avoiding deterrent framework". By setting individualized goals and emphasizing the process of effort, we can weaken the coupling between the task framework and the inherent reference points, help students establish a new reference system with self-improvement as the core, and thus break the strengthening cycle of cognition and situation; Secondly, teachers can guide students to identify and examine the reference points they rely on through explicit teaching and reflective discussion, understand their subjectivity, and provide multiple and inclusive successful examples to help students establish new reference standards that are more flexible and pay more attention to the communicative process, so as to alleviate decision-making errors from the cognitive root; Thirdly, efforts should be made to create a "low-risk, high-support" classroom discourse environment, build a classroom culture with exploration and mutual assistance as the norm, reduce students' perceived social and academic risks by designing scaffolding tasks and providing formative feedback, and promote the transformation of the classroom from a "performance tribunal" to a "learning laboratory" so as to enable students. Turn to the pursuit of language development. To sum up, risk avoidance in classroom speaking is the result of learners' decision-making following the logic of prospect theory under the interaction of specific cognitive schemata and situational cues. Teaching practice should go beyond the simple supervision of language output and turn to the deep understanding and positive shaping of learners' decision-making psychology, so as to truly release the learning potential of classroom speaking activities.

7 Research Limitations and Future Prospects

Although this study initially reveals the mechanism between reference point dependence, teacher task framework and oral risk aversion, there are still limitations, which also point out the direction for future research.

7.1 Study Limitations

This study has the following four limitations: First, the cross-sectional design has limitations on causal inference. Although the structural equation model supports the theoretical path, it is difficult to strictly establish causality and timing effects based on cross-sectional data, for example, reference point dependence and risk aversion may be mutually causal or influenced by common factors, and the model fails to depict the possible dynamic interaction process between variables. Secondly, the representativeness of the sample and the external validity of the model need to be expanded. The samples were selected from non-English majors in some Chinese universities. The universality of the conclusion in a wider group (such as English majors and postgraduates) and in different cultural backgrounds of different universities needs to be further verified, and the model does not include key individual differences variables such as language proficiency and personality traits for testing. Third, there is an inherent bias in the self-reported measurement method. The core variables are dependent on self-report, although after statistical control, but still cannot completely rule out the social expectation effect and perception bias, especially the self-report of “behavior tendency” and the real classroom behavior may have a gap, the lack of behavior observation, teacher evaluation and other multi-source data triangle validation is a major methodological limitation. Fourth, there is insufficient investigation of the dynamic nature of the reference point. Although the study discusses the contextual dependence of the reference point, the empirical model treats it as a relatively stable antecedent variable, which fails to effectively capture its dynamic changes before and after the specific task and its immediate impact on decision-making, and the quantitative investigation of the “drift” process of the reference point is still lacking.

7.2 Future Outlook

To address the aforementioned four limitations, future research could be deepened in the following four directions: first, using longitudinal or experimental design to strengthen causal inference, observing the dynamic evolution of key variables through longitudinal tracking, or using experimental methods (such as randomized controlled experiments) to systematically manipulate teachers’ task frameworks and measure students’ reference points and behavioral changes, so as to provide direct evidence for the causal effectiveness of teaching interventions; Secondly, to expand the sample and situation to test the boundary conditions of the model, future research needs to verify the universality of the model in a wider group (such as different stages, majors, regions and types of institutions), and to examine the individual differences such as language self-efficacy, cognitive style, as well as the moderating role of situational variables such as class atmosphere and curriculum type. So as to clarify the applicable boundary of the theoretical model and construct a more explanatory contextualized model; Thirdly, to integrate multi-source data and methods to enhance ecological validity, we should combine multi-source data such as behavior observation and phys-



iological indicators to achieve objective measurement of risk-averse behavior, and adopt mixed research methods to explore the real-time cognitive and emotional process of learners' decision-making through stimulating recall interviews on the basis of quantitative analysis, so as to make the research conclusions more three-dimensional and closer to the real classroom; Fourthly, to further explore the dynamic and complex interaction of reference points, the core of prospect theory lies in its dynamic nature, and the real-time "drift" of reference points in the task process and its impact on real-time decision-making can be intensively tracked by using experience sampling method or micro-genetic design in the future. At the same time, it further explores the possible nonlinear interaction effects between different types of reference points and between reference points and multiple classroom situational factors, in order to reveal the more complex dynamic system behind classroom oral behavior.

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