

# QINGGUANG ZHENG

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## EDUCATION

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- 2023.9-2026.6 **Beijing Normal University** **Beijing, China**  
M.Ed., Psychology; GPA: 3.71/4.00 (WES)  
Thesis: *The Impact of Spousal Interaction Themes and Patterns on Marital Quality: A Semantic and Time-Series Analysis*  
Advisor: Dr. Xiaoyi Fang (Professor)
- 2019.9-2023.6 **Beijing Normal University** **Beijing, China**  
B.Sc., Psychology; GPA: 3.93/4.00 (WES)  
Minor in Pedagogy  
Thesis: *Emotional Semantic Features in Marriage Interview Text and Their Prediction of Marital Quality*  
Advisor: Dr. Xiaoyi Fang (Professor)

## HONORS AND AWARDS

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### Graduate

- 2024 First-Class Graduate Scholarship, Beijing Normal University (Top 15%; CNY 12,000)  
2024 School-Level Excellent Teaching Assistant, Beijing Normal University  
(Top 10%; CNY 1,000)  
2024 Second Prize (Project Title: *Fine-tuned BERT for Therapist-Client Interaction Encoding and Analysis*; [GitHub URL](#)), MindSpore Innovation Competition (Top 20%)  
2023 First-Class Graduate Freshman Scholarship, Beijing Normal University  
(Top 15%; CNY 12,000)

### Undergraduate

- 2023 Outstanding Graduate, Beijing Normal University (Top 5%)  
2023 Outstanding Undergraduate Thesis, Beijing Normal University (Top 5%)  
2022 Excellent Project Completion, National-Level Undergraduate Innovation and Entrepreneurship Research Project (Top 1%)  
2022 Social Service Award, Beijing Normal University (5%; CNY 1,000)  
2021 Second-Class Undergraduate Scholarship, Beijing Normal University  
(Top 30%; CNY 3,000)  
2021 Excellent Project Completion, School-Level Undergraduate Innovation and Entrepreneurship Research Project (Top 5%)  
2020 First-Class Undergraduate Scholarship, Beijing Normal University  
(Top 15%; CNY 5,000)

## **PUBLICATION AND MANUSCRIPT**

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### **Under Review**

1. **Zheng, Q.**, Zhang J., Li, Q., Li, K., Ma, S., & Fang, X. (under review by *Journal of Marriage and Family*). We-Talk Boosts Marital Quality across Contexts: Roles of Perceived Understanding and Dyadic Congruence.
2. Tong, W.\* , **Zheng, Q.\***, Li, K., Li, Q., Feng, T., & Fang, X. (under review by *Journal of Affective Disorders*). Hidden Burdens: Emotional and Behavioral Problems Among Chinese Adolescents and the Interplay of Family and Regional Socioeconomic Status.

### **In Preparation**

1. **Zheng, Q.** (in prep, *Master's Thesis*). The Impact of Spousal Interaction Themes and Patterns on Marital Quality: A Semantic and Time-Series Analysis.
2. Wang, X.\* , **Zheng, Q.\***, & Fang, X. (in prep). Fertility Decline: Need Fulfillment and Marital Quality as Predictors of Fertility Intentions Among Newlyweds.
3. Ma, S., **Zheng, Q.**, Li, Q., & Fang, X. (in prep). Neural Coupling in Newlyweds: Divergent Synchronization Patterns When Discussing Marital vs. Family-of-Origin Issues.

\* indicates equal contribution

## **CONFERENCE**

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1. **Zheng, Q.**, & Fang, X. (October 2023). *Emotional Semantic Features in Marriage Interview Text and Their Prediction of Marital Quality* [Poster presentation]. The 25<sup>th</sup> National Academic Conference of Psychology, Chengdu, China.
2. **Zheng, Q.**, & Fang, X. (November 2023). *Video-Based Machine-Learning Model for Couple Interaction Pattern Analysis* [Poster presentation]. The 2<sup>nd</sup> Academic Conference of the Marriage and Family Psychology and Counseling Professional Committee of the Chinese Psychological Society and the 6<sup>th</sup> International Symposium on Marriage and Family, Guangzhou, China.
3. Li, K., **Zheng, Q.**, & Fang, X. (November 2023). *Prevalence of Mental Health Problems, Levels, and Comorbidity among Chinese Children and Adolescents: A Population- based Nationwide Study* [Poster presentation]. The 2<sup>nd</sup> Academic Conference of the Marriage and Family Psychology and Counseling Professional Committee of the Chinese Psychological Society and the 6<sup>th</sup> International Symposium on Marriage and Family, Guangzhou, China.

### **Accepted**

4. Li, K., **Zheng, Q.**, Shen, J., Liu, C., Deater-Deckard, K. *High Maternal Sensory Processing Sensitivity and Mindful Parenting: For Better or For Worse?* SRA 2026 Biennial Meeting, Toronto, Canada.

## **RESEARCH EXPERIENCE**

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### **Research Interests:**

Relationship Science, Family Dynamics, Semantic Space, Emotion Regulation, Mental Well-Being, Social Computation, Natural Language Processing, Large Language Models in Psychology.

## Research Projects

2022.10-Present	<b>The Effect of Marital Interaction on Marital Relationship: Behavior and Cognitive Neurosis Mechanism</b>
	<b>Institute of Developmental Psychology, Beijing Normal University</b>
	A General Program from the National Natural Science Foundation of China,
	CNY 1,256,520 (USD 174,873)
PI: Dr. Xiaoyi Fang	Role: Primary Student Researcher
	<ul style="list-style-type: none"><li>Applied NLP Methods, including LIWC, LDA topic modeling, and BERT fine-tuning to analyze 720 spousal interaction texts.</li><li>Engineered a few-shot prompting strategy for state-of-the-art LLMs (Gemini, Deepseek, Qwen) to automate the thematic coding of spousal interactions, boosting coding consistency from a 67% zero-shot baseline to 94%, achieving performance comparable to human annotators.</li><li>Applied Machine Learning, OpenFace, Whisper, and LLMs to perform multi-modal analyses (e.g., facial AU tracking, sentiment computation, sound-to-text) pipeline for spousal interaction video recordings.</li><li>Applied Windowed Cross Correlation, Recurrence Quantification Analysis and Detrended Fluctuation Analysis, to extract multimodal (i.e. language, facial expression, gaze) patterns and synchrony from spousal interaction time-series data.</li><li>Developed a semi-automatic pipeline with R (Shiny Application) and Mplus to batch-process Structural Equation Modeling, model estimates extraction, and visualization [<a href="#">GitHub: SEM-Batch-Processor</a>].</li></ul>
2022.10-Present	<b>Analyses of Chinese College Students' Mental Health Status and</b>
	<b>Revisions of College Students Mental Health Screening Scale (CSMHSS)</b>
	<b>Institute of Developmental Psychology, Beijing Normal University</b>
	Projects from Department of Moral Education, Ministry of Education of the
	People's Republic of China, CNY 800,000 (USD 111,312)
PI: Dr. Xiaoyi Fang	Role: Primary Student Researcher
	<ul style="list-style-type: none"><li>Developed a fully reproducible R and Python pipeline (&gt; 7,000 lines of code) that automates data cleaning, analyzing, modeling, visualizing, scale revising, and report generating.</li><li>Annually analyzed the reliability and validity of CSMHSS and its norms in R with samples of over 250,000 Chinese college students and revised the scale according to psychometric properties.</li><li>Annually analyzed the nation-wide mental health conditions (e.g., regional distributions, prevalence, and trends of mental health problems) in R with samples of over 5,000,000 Chinese college students.</li><li>Annually led a 4-member graduate student team to produce a suite of evidence-based reports, informing national status of mental health. Key deliverables included a scale validation and revision study, a data brief on emerging trends, and an advisory report on critical mental health issues.</li></ul>

**Relationship Among Newly Couple: The Mediating Role of Marital Emotion and Affection**

**Institute of Developmental Psychology, Beijing Normal University**

A General Program from the National Natural Science Foundation of China, CNY 946,000 (USD 131,665)

PI: Dr. Xiaoyi Fang

Role: Primary Student Researcher

- Developed an automatic pipeline with R, Python, HTML, and JavaScript to analyze self-reported questionnaire data, design, and produce customized feedback reports for over 400 participated couples [[GitHub: AutoReport](#)].
- Conducted fNIRS hyperscanning experiments with over 50 couples on a NIRScout system (over 150 hours).
- Managed database of over 2,000 spousal interaction video recordings (over 1,000 hours in length and over 4TB in storage), performing quality control, comprehensive metadata tagging and batch transcoding.
- Led a 5-member team to compile a stimulus set of over 100 spousal-interaction video clips and recruited external participants for over 20,000 valence ratings for subsequent analyses.

2021.6-2022.6

**Emotional Semantic Space: Individual Differences and Prediction of Emotional Well-Being**

**State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University**

A National Undergraduate Innovation and Entrepreneurship Training Program (a highly competitive nation-wide program that grants funding to the top 4% of projects) from the Department of Higher Education, Ministry of Education of the People's Republic of China, CNY 12,000 (USD 1,670)

PI: Dr. Yanchao Bi

Role: Core Team Member

- Programmed and ran the Multiple Arrangement Task in MATLAB for 43 participants to assess the individual lexical-semantic spaces.
- Programmed Go-NoGo and word-association paradigms in PsychoPy and deployed as online experiments [[e.g. GitHub: Go-NoGo](#)].
- Applied Hierarchical Clustering and Relevance Vector Regression to predict depression and anxiety scores from semantic-space metrics in a sample of 275 participants.

2020.6-2021.6

**Associations Between Individual Lexical-Semantic Spaces and Emotional Patterns, Social Values and Moral Tendencies**

**State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University**

A School-Level Undergraduate Innovation and Entrepreneurship Training Program from the State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University, CNY 7,000 (USD 974)

PI: Dr. Yanchao Bi

Role: Core Team Member

- Programmed and ran paired-similarity ratings and triplet odd-one-out tasks in MATLAB to assess participants' lexical-semantic structures.

- Implemented MouseTracker-based facial-emotion recognition tasks to capture fine-grained emotional-response patterns of participants.
- Applied Support Vector Machine and Representational Similarity Analysis to link lexical-semantic structures with behavioral indices (mouse-trajectory, social-value-orientation, and moral-judgment tendency).

## **TEACHING ASSISTANTSHIP**

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2025 Spring	<b>Family Therapy</b> <b>Faculty of Psychology, Beijing Normal University</b>	<b>Beijing, China</b>
	<ul style="list-style-type: none"> <li>• Professor: Dr. Xiaoyi Fang</li> <li>• Graduate-level optional course; taught in Chinese</li> </ul>	
2023 Fall	<b>Family Psychology</b> <b>Faculty of Psychology, Beijing Normal University</b>	<b>Beijing, China</b>
	<ul style="list-style-type: none"> <li>• Professor: Dr. Xiaoyi Fang</li> <li>• Undergraduate-level optional course; taught in Chinese</li> <li>• Awarded the School-Level Excellent TA at Beijing Normal University</li> </ul>	

## **PRACTICAL AND CONSULTATION EXPERIENCE**

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2023.9–2023.11	<b>Mental Health Teaching Internship</b> <b>Beijing No. 35 Middle School</b>	<b>Beijing, China</b>
	<ul style="list-style-type: none"> <li>• Lectured psychology lessons and organized after-school activities for the psychology club.</li> <li>• Assisted homeroom teacher's duties, e.g., taking attendance, monitoring student behavior, and providing academic and emotional support.</li> <li>• Awarded a commendation letter from Beijing No. 35 Middle School.</li> </ul>	
2021.9–Present	<b>Group Supervision</b> <b>The Center for Marriage and Family Research and Therapy, Beijing Normal University</b>	<b>Beijing, China</b>
	<ul style="list-style-type: none"> <li>• Supervisor: Dr. Xiaoyi Fang</li> <li>• 8 times per semester; over 200 hours in total</li> </ul>	

## **PROFICIENCY**

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- **Programming:** Python, R, Mplus, MATLAB, SPSS, JavaScript, C, C# (novice), n8n (novice)
- **Natural Language Processing:** Linguistic Inquiry and Word Count (LIWC), Latent Dirichlet Allocation (LDA) topic modeling, BERT fine-tuning, LLMs few-shot prompting
- **Machine-Learning Algorithms:** Support Vector Machine (SVM), Random Forest, k-Nearest-Neighbors (k-NN), k-Means, Hierarchical Clustering
- **Deep-Learning Frameworks:** PyTorch, Mindspore, Tensorflow
- **Behavior Experimental Paradigm:** PsychoPy, jsPsych, Psychtoolbox
- **Longitudinal Data Modeling:** Structural Equation Models, Generalized Linear Models, Mixed Effects Models
- **Neuroimaging Studies:** fNIRS (NIRScout data acquisition), fMRI (MATLAB/REST)
- **Multimodal Data Processing:** OpenFace (facial AU tracking), Whisper (speech-to-text)
- **Languages:** Mandarin Chinese (native), English (TOEFL 106; R28, L30, S24, W24)