

## Curriculum Vitae

<b>Name:</b>	Bohan Zhang, RN, MM, BSN		
<b>Education:</b>	PhD	Hong Kong Polytechnic University, School of Nursing	2022-2025
	MSN	Capital Medical University, School of Nursing	2019-2022
	BSN	Capital Medical University, School of Nursing	2015-2019
<b>Dissertation:</b>	Zhang, B. (2025). <i>TBC</i> Hong Kong Polytechnic University Dissertation Committee Chair: TBC		
<b>Post Graduate Training:</b>	Visiting research student, Yale University, School of Nursing		2025
<b>Licenses, Certifications:</b>	Chinese Nursing License Registration – RN		

### Honors & Awards:

12/2024: Pi Iota at-Large Chapter Academic Scholarship Award  
 07/2024: Research Student Attachment Programme - Outgoing  
 04/2024: 2nd Runner up of the 2023 Rohto Awards HK  
 06/2022: Beijing 2022 Outstanding Graduate  
 10/2021: National Scholarship  
 2019-2021: Awarded the graduate scholarship of Capital Medical University for three consecutive years  
 08/2021: The 3rd National Student Smart Technology Application Competition Second Prize  
 11/2020: Bronze Prize of "Challenge Cup" Capital Student Business Plan Competition at Municipal Level  
 2020-2021: Capital Medical University Postgraduate Scholarship – Academic Excellence Award for 2 consecutive years  
 2016-2019: Awarded the scholarship of Capital Medical University for three consecutive years  
 06/2019: Capital Medical University 2019 Outstanding Graduate  
 06/2019: Excellent graduation studies of the 2019 undergraduates of Capital Medical University  
 08/2017: Second Prize of the 9th "Challenge Cup" Extra-curricular Academic Science and Technology Works Competition for College Students at Municipal Level

### Grant History:

#### Funded Research Grants (Principal Investigator)

#### External Research Grants:

**Cross-straits Medicine Exchange Association (Zhang B, PI)** 10/2024 – 10/2026  
**Title:** Construction and validation of an intelligent rehabilitation management system for post-stroke patients with dysphagia based on technology acceptance modeling

Total funds awarded: ¥ 5,000

### **Funded Research Grants (Participate)**

**Mental Health Initiatives Funding Scheme** 10/2023 - 10/2025

(Harry Qin: PI; Zhang B: participate)

**Title:** *Peer support virtual reality-based intervention for AD/HD carers --- stress relieving and empathy improving programme*

Total award: HK\$ 1,975,045

**Health and Medical Research Fund (HMRF), Seed Project, Food and Health Bureau** 10/2023 - 10/2024

(Harry Qin: PI; Zhang B: participate)

**Title:** *Effectiveness of social virtual-reality on enhancing social interaction skills in children with attention-deficit/hyperactivity disorder: a three-arm pilot randomized controlled trial*

Total award: HK\$ 497,836

**The Start-up Fund for New Recruits** 2023 - 2025

(Vivian Hui: PI; Zhang B: participate)

**Title:** *Exploring the online help-seeking and health information-seeking behavior among women with domestic violence experiences in Hong Kong*

Total award: HK\$ 400,000

**Innovation and Technology Fund - Mainland-Hong Kong Joint Funding Scheme (MHKJFS), Hong Kong Innovation and Technology Commission** 2021 - 2023

(Harry Qin: PI; Zhang B: participate)

**Title:** *Patient-Specific Abdominal Aortic Aneurysm Rupture Risk Assessment via Advanced Deep Learning and Computational Fluid Dynamics*

Total award: HK\$ 1,998,600

**National Natural Science Foundation of China General Project** 2021 - 2026

(Qian Xiao: PI; Zhang B: participate)

**Title:** *Construction and Time-Effect Verification of Group Intelligence-Guided Dysphagia Risk Stratification Management Model for the Elderly*

Total award: ¥ 480,000

**Ministry of Education China Higher Education Industry-University-Research Innovation Fund Key Project** 2021 - 2023

(Qian Xiao: PI; Zhang B: participate)

**Title:** *Research Management and Platform Construction of Big Data-Driven Stroke Patient Aspiration Risk Prediction Model*

**Chinese Nursing Association** 2020 - 2022

(Qian Xiao: PI; Zhang B: participate)

**Title:** *Effect of Intelligent Swallowing Function Training Mode Based on VR in Stroke Patients*

**Ministry of Education Social Science Fund Project** 2020 - 2022

(Qian Xiao: PI; Zhang B: participate)

**Title:** *Research on Trust Formation Mechanism and Improvement Strategies of Internet+ Nursing Services*

### **Publications:**

ORCID profile: <https://orcid.org/my-orcid?orcid=0000-0002-2165-9424>

Google Scholar: h-index: 5; i10-index: 3 (<https://scholar.google.com/citations?user=efWf5W8AAAAJ&hl=zh-TW&oi=sra>)

**Peer-reviewed: Selected Full-Length Journal Articles (2015 – current; \*data-based; [CA] = corresponding author)**

1. **Zhang B**, Wong KP, Guo C, Chen SC, Fu S, Kang R, Xiao Q, Qin J. Effects of Non-Pharmacological Interventions on the Swallowing Function of Patients With Post-Stroke Dysphagia: A Systematic Review and Network Meta-Analysis. *J Oral Rehabil.* 2025 Jan;52(1):109-120. doi: 10.1111/joor.13901. Epub 2024 Nov 12. PMID: 39532528; PMCID: PMC11680505.
2. Liu Y, **Zhang B**, Montayre J, Koduah AO, Leung AYM. Non-Pharmacological Interventions Targeting Sense of Coherence Among Older Adults and Adults With Chronic Conditions: A Meta-Analysis With Trial Sequential Analysis. *J Adv Nurs.* 2025 Jan 3. doi: 10.1111/jan.16558. Epub ahead of print. PMID: 39749849.
3. \* **Zhang B**, Wong KP, Liu M, Hui V, Guo C, Liu Z, Liu Y, Xiao Q, Qin J. Effect of artificial intelligence-based video-game system on dysphagia in patients with stroke: A randomized controlled trial. *Clin Nutr.* 2024 Dec 25;45:81-90. doi: 10.1016/j.clnu.2024.12.022. Epub ahead of print. PMID: 39765160.
4. Liu M, Liu M, **Zhang B**, Fang M, Chen K, Zhang Y, Wang Q, Tian C, Wu L, Li Z. Research hotspots and frontiers of vagus nerve stimulation in stroke: a bibliometric analysis. *Front Neurosci.* 2024 Dec 11;18:1510658. doi: 10.3389/fnins.2024.1510658. PMID: 39723424; PMCID: PMC11668697.
5. \***Zhang B**, Wong KP, Liu M, Hui V, Guo C, Liu Y, Liu Z, Liu Y, Xiao Q, Qin J. Face Recognition-Driven Video Game for Dysphagia Rehabilitation in Stroke Patients: A Pilot Randomized Controlled Trial. *Arch Phys Med Rehabil.* 2024 Nov 2:S0003-9993(24)01309-1. doi: 10.1016/j.apmr.2024.10.005. Epub ahead of print. PMID: 39491573.
6. \*Wong KP, **Zhang B**, Lai CYY, et al. Empowering Social Growth Through Virtual Reality-Based Intervention for Children With Attention-Deficit/Hyperactivity Disorder: 3-Arm Randomized Controlled Trial. *JMIR Serious Games.* 2024 Oct 28;12:e58963. doi: 10.2196/58963.
7. \*[CA] Wong, K. P., **Zhang, B.**, Xie, Y. J., Wong, F. K. Y., Lai, C. K. Y., Chen, S. C., & Qin, J. Impacts of Job Demands on Turnover Intention Among Registered Nurses in Hong Kong Public Hospitals: Exploring the Mediating Role of Burnout and Moderating Effect of Pay Level Satisfaction. *Journal of Nursing Management*, 2024(1), 3534750.
8. \***Zhang, B.**, Ding, P., Hui, V., Wong, K. P., Liu, Y., Liu, Z., ... & Qin, J. Technology acceptance of the video game-based swallowing function training system among healthcare providers and dysphagia patients: A qualitative study. *DIGITAL HEALTH*, 10, 20552076241284830.
9. \***Zhang, B.**, Wong, A., Constantino, R.E. et al. The association between psychological distress, abusive experiences, and help-seeking among people with intimate partner violence. *BMC Public Health* 24, 1060 (2024). doi:10.1186/s12889-024-18350-y
10. Hui V, **Zhang B**, Jeon B, et al. Harnessing Health Information Technology in Domestic Violence in the United States: A Scoping Review. *Public Health Rev* 2024;45:1606654. doi: 10.3389/phrs.2024.1606654
11. Chen SC, Ruan JY, **Zhang B**, et al. Traditional Chinese medicine interventions based on meridian theory for pain relief in patients with primary dysmenorrhea: a systematic review and network meta-analysis. *Front in Med.* 2024;11:1453609. Published 2024 Sep 5. doi:10.3389/fmed.2024.1453609
12. **Zhang B**, Guo C, Hui V, et al. Evaluating the effectiveness of video-game based swallowing function training in patients with dysphagia: study protocol for a randomized controlled trial. *Trials.* 2023;24(1):735. Published 2023 Nov 16. doi:10.1186/s13063-023-07738-7
13. **Zhang B**, Wong KP, Kang R, et al. Efficacy of Robot-Assisted and Virtual Reality Interventions on Balance, Gait, and Daily Function in Patients With Stroke: A Systematic Review and Network Meta-analysis. *Arch Phys Med Rehabil.* 2023;104(10):1711-1719. doi:10.1016/j.apmr.2023.04.005
14. **Zhang B**, Wong KP, Qin J. Effects of Virtual Reality on the Limb Motor Function, Balance, Gait, and Daily Function of Patients with Stroke: Systematic Review. *Medicina (Kaunas).* 2023 Apr 21;59(4):813. doi: 10.3390/medicina59040813.

15. \*Wong KP, **Zhang B**, Qin J. Unlocking Potential: The Development and User-Friendly Evaluation of a Virtual Reality Intervention for Attention-Deficit/Hyperactivity Disorder. *Applied System Innovation*. 2023; 6(6):110. <https://doi.org/10.3390/asi6060110>
16. Wong KP, Qin J, Xie YJ, **Zhang B**. Effectiveness of technology-based interventions for school-age children with attention-deficit/hyperactivity disorder: A systematic review and meta-analysis of randomised controlled trials. *JMIR Mental Health*. 22/10/2023:51459 (forthcoming/in press) doi: 10.2196/51459.
17. **Zhang B**, Li D, Liu Y, Wang J, Xiao Q. Virtual reality for limb motor function, balance, gait, cognition and daily function of stroke patients: A systematic review and meta-analysis. *J Adv Nurs*. 2021 Aug;77(8):3255-3273. doi: 10.1111/jan.14800.
18. Liu Y, Wang Y, **Zhang B**, Wang J, Sun L, Xiao Q. Gastric-tube versus post-pyloric feeding in critical patients: a systematic review and meta-analysis of pulmonary aspiration- and nutrition-related outcomes. *Eur J Clin Nutr*. 2021 Sep;75(9):1337-1348. doi: 10.1038/s41430-021-00860-2.
19. Wang J, Ren D, Liu Y, Wang Y, **Zhang B**, Xiao Q. Effects of early mobilization on the prognosis of critically ill patients: A systematic review and meta-analysis. *Int J Nurs Stud*. 2020 Oct;110:103708. doi: 10.1016/j.ijnurstu.2020.103708.
20. Zhou L, **Zhang B** \*, Kang R, Hui V, Wang Y, Xiao Q. (2024) Efficacy of conventional rehabilitation robot and bio-signal feedback based rehabilitation robot on upper-limb function in patients with stroke: A systematic review and network meta-analysis. *Am J Phys Med Rehabil*. (Under review)
21. \*Ruan J, Yeung W, Li S, Chen L, **Zhang B**. (2025) Experiences of bedtime procrastination among Chinese clinical nurses: A qualitative study. *International Journal of nursing studies*. (Under review)
22. Kang R, **Zhang B** \*, Fu S, Wang Y, Xiao Q. (2025) Application of head-mounted display-based augmented and mixed reality in nursing education: A scoping review. *Nurse Educ Today*. (Under review)
23. \***Zhang B**, Yao W, Feng Y, et al. (2024) Deep learning assisted prediction model of MAKE for patients with acute kidney injury in ICU. *International Journal of nursing studies*. (In process)
24. **Zhang B**, Zhou L, Kang R, Xuan Z, Xiao Q. (2025) Deep learning image recognition techniques for pressure ulcer management: a scoping review. *EClinicalMedicine*. (In process)
25. Ni Z, **Zhang B**, Balakrishnan V, Tee V, Batubara I, Peng M, et al. (2025) Implementation of Chatbot Technology in Health Care: A bibliometric analysis. *International Journal of nursing studies*. (In process)
26. Wang Y, Jiang M, **Zhang B**, Kim S, Kuo C, Bajgain T, et al. (2025) Leveraging Digital Health Interventions to Manage Hypertension in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis of Randomized Controlled Trial. *JMIR*. (In process)
27. \*Malavika E, **Zhang B**, Wong A, et al. (2024) Evaluating the Domains, Characteristics, and Relevance of Website Resources Shared in Response to Help-seeking Posts by Women with Intimate Partner Violence Experiences: Analysis of an Online Health community. *JMIR*. (In process)
28. \*Hui V, **Zhang B**, Wong A, et al. (2024) The attitudes towards learning pitching competence to improve communication skills in nursing informatics course among nursing students. *Nurse Education in Practice*. (In process)
29. \*Sun X, **Zhang B**, Xiao Q, et al. (2024) Mindfulness-oriented virtual reality trip system versus light music on anxiety in patients during breast biopsy surgery: A randomized controlled trial. *Journal of Clinical Nursing*. (In process)
30. \*[CA] Ji B, Chen S, Chen Y, Wei W, Zhao L, **Zhang B**. (2025) Determinants of social inclusion of parents of children with autism spectrum disorder based on the SEM model: A cross-sectional study. *Journal of Clinical Nursing*. (In process)

**Selected Books and Book Chapters: (in Chinese)**

**Zhang B.** (2022) Aspiration Risk Assessment and Nursing, *Peking University Medical Press*  
**Zhang B.** (2021) Nursing Informatics, *People's Health Publishing House*

### **Published Abstracts**

1. Hui V, Guan S, **Zhang B**, Lee YJ, Constantino RE. Predicting the Information Need for Domestic Violence Survivors Based on the Fine-Tuned Large Language Model. *Stud Health Technol Inform.* 2024 Jul 24;315:691-692. doi: 10.3233/SHTI240282. PMID: 39049384.
2. Liu, Y., **Zhang, B.**, Wang, Y., & Xiao, Q. Nasointestinal Tube Versus Nasogastric Tube for Preventing Pulmonary Aspiration in Critically Ill Patients: A Systematic Review and Meta-Analysis. *Respiratory Care* October 2019, 64 (Suppl 10) 3234246

### **Presentations:**

### **Conference/ Invited / Keynote Addresses (2015 -present)**

1. **Zhang B**, Liu Y, Hui V, et al. Effectiveness of Video-game Based Swallowing Function Training in Patients with Dysphagia: A Pilot Randomized Controlled Trial. American Medical Informatics Association 2024 Annual Symposium. November 2024, San Francisco, US. Oral Presentation
2. **Zhang B**, Guo C, Hui V, et al. Technology Acceptance of the Video-game Based Swallowing Function Training System: A Qualitative Study. Nursing Informatics. July 2024, Manchester, UK. Poster Presentation
3. **Zhang B**, Yao W, Ren Z, et al. Development of a prediction model for prognosis of patients with acute kidney injury in intensive care unit. Summer Institute in Nursing Informatics (SINI). July 2024, online. Oral presentation
4. Kang R, **Zhang B**, Fu S, et al. Application of head-mounted display-based augmented reality and mixed reality in nursing education: A scoping review. CITERS 2024. May 2024, HongKong, China. Paper Presentation
5. **Zhang B**, Wong KP, Guo C, et al. Efficacy of robot-assisted and virtual reality interventions on balance, gait, and daily function in patients with stroke: A systematic review and network meta-analysis. 2023 Yonsei International Nursing Conference. November 2023, Seoul, South Korea. Poster Presentation
6. **Zhang B**, Wong KP, Qin J. Effects of virtual reality on physical outcomes for people with stroke: A systematic review of systematic reviews. 26th East Asian Forum of Nursing Scholars 2023. March 2023, Tokyo, Japan. Poster Presentation
7. **Zhang B**, Ren Z, Xiao Q. A survey of the current status of the application of robot-assisted rehabilitation training in neurological disease-related departments in 311 Chinese hospitals. The 3rd Europe-China Health IT Summit on Medical Innovation, Medical Informatics, Medical Imaging and Medical Technology Transfer. August 2022, online. Oral presentation.
8. **Zhang B**, Xiao Q. Effects of robot-assisted therapy for gait, balance and daily function of neurological patients: A systematic review and meta-analysis. ICN Congress 2021-Nursing Around the World. November 2021, online. Oral presentation.
9. **Zhang B**, Xiao Q. Development of a virtual reality system for swallowing function training of patients with dysphagia. ICN Congress 2021-Nursing Around the World. November 2021, online. Oral presentation.
10. **Zhang B**. Research and Implementation of Swallowing Function Training System Based on Video Games. The 5th Annual Conference of Swallowing Disorder Rehabilitation Professional Committee of China Rehabilitation Medical Association & Conference on New Theories and Advances in Swallowing Disorders. October 2023, Guangxi, China. Oral Presentation
11. **Zhang B**. Best Evidence Summary of Prevention and Management of Aspiration Pneumonia in Elderly Patients. The 2nd Cross-Straits and Hong Kong-Macau Nursing Development Symposium. December 2019, Jilin, China. Oral Presentation, Outstanding Paper Award
12. **Zhang B**. Best Evidence Summary of Aspiration Prevention and Management for Neurosurgical ICU Patients. The 4th Beijing-Tianjin-Hebei Nursing Graduate Academic Forum. November 2019, Beijing, China. Oral Presentation, First Prize in Session

**Manuscript Reviewer:**

- 2025 – ongoing: Journal of Cardiothoracic Surgery, IF: 1.5, Q2 (1)  
 2025 – ongoing: Journal of NeuroEngineering and Rehabilitation, IF: 5.2, Q1 (1)  
 2025 – ongoing: BMC Sports Science, Medicine and Rehabilitation, IF: 2.1, Q2 (1)  
 2025 – ongoing: BMC Nursing, IF: 3.1, Q1 (3)  
 2024 – ongoing: Archives of physical medicine and rehabilitation, IF: 3.6, Q1 (1)  
 2024 – ongoing: International Journal of nursing studies, IF: 7.5, Q1 (2)  
 2024 – ongoing: Journal of Nursing Management, IF: 3.7, Q1 (1)  
 2023 – ongoing: Heliyon, IF: 3.4, Q1 (1)  
 2023 – ongoing: Computers in Biology and Medicine, IF: 7, Q1 (2)

**Patents:**

1. Software Copyright, Intelligent Swallowing Disorder Training System V1.0, 2024, China, Registration Number: 2024SR0974016 (First Inventor)
2. Invention Patent, A Multi-functional Integrated Swallowing Disorder Rehabilitation Training Device, 2022, China, Registration Number: CN202220694156.4 (First Inventor)
3. Utility Model Patent, Oral Organ Movement Rod, 2022, China, Registration Number: CN202220694123.X (First Inventor)
4. Utility Model Patent, Tongue Exercise Rod, 2022, China, Registration Number: CN202220694619.7 (Second Inventor)
5. Software Copyright, VR-based Swallowing Function Training System, 2020, China, Registration Number: 2020SR1257351 (First Inventor)
6. Software Copyright, Pu Xiaoying's Adventure Drift - Children's Lung Function Examination Auxiliary System, 2020, China, Registration Number: 2020SR1257350 (Fourth Inventor)
7. Invention Patent, A Swallowing Rehabilitation Training Method, Device, Equipment, and Storage Medium, 2024, China, Application Submitted (First Inventor)

**Teaching:**

Sem	Academic Year	Course Number & Title	Teaching Role	Class Size
Spring	2023	<i>Virtual Reality in Healthcare</i>	Teaching assistant	29
Fall	2024	<i>Personal Development in Health Informatics</i>	Teaching assistant	35