BIOGRAPHICAL SKETCH

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NAME: GUO, JIA-WEN

eRA COMMONS USER NAME (credential, e.g., agency login): JIAWGUO

POSITION TITLE: Associate Professor

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	END DATE MM/YYYY	FIELD OF STUDY
National Taipei University of Nursing and Health Sciences, Taipei, Taiwan	BSN	06/1998	Nursing
National Sun Yat-Sen University, Kaohsiung City, Taiwan	MS	07/2002	Biomedical Science, Molecular Biology
University of Utah, Salt Lake City, Utah	MS	05/2007	Nursing Informatics
University of Utah, Salt Lake City, Utah	PHD	05/2013	Nursing

A. Personal Statement

As a nurse scientist holding a PhD and specializing in informatics research, I possess advanced skills in utilizing data science methodologies, such as machine learning and text mining, particularly in the realm of Big Data research. My expertise extends to analyzing electronic health records (EHR) and social media data, notably X (formerly known as Twitter). My research program encompasses several key areas: a) Instrument or scale development, b) Symptom management, including personalized cancer pain care, c) Health disparities and equity in healthcare, such as assessing depression in individuals with intellectual/developmental disabilities (IDD), d) Care of vulnerable or underserved populations, spanning minorities, adolescents, juvenile offenders, individuals with IDD, cancer patients, and family caregivers of cancer or palliative care patients.

I have taken a leading or collaborative role in numerous research endeavors focused on developing, translating, or validating survey instruments for both clinical and educational investigations. Utilizing Classical Test Theory and Item Response Theory, I have contributed to the creation of measurements across various domains. These endeavors, encompassing both published and unpublished projects, have involved assessing social needs within the general population, measuring depression in individuals with intellectual/developmental disabilities (IDD), evaluating health-related quality of life among the IDD population, exploring interprofessional education for health science students and healthcare providers, adapting the Chinese version of weight pressures in sport for females, and examining pain care quality, including its Chinese version, for oncology patients. These projects underscore my extensive experience and training in instrument development, translation, and psychometric evaluation.

Furthermore, my methodological repertoire extends to conducting studies using scoping review methods, Delphi methods, usability analysis (e.g., user-centered design), and qualitative approaches such as content analysis—a technique for quantifying qualitative data. I have disseminated findings from these varied methodologies through numerous publications and presentations, demonstrating their effective application in research projects.

The following are examples of publications relevant to my collaboration in nursing science:

1. Rice KL, Castex J, Redmond M, Burton J, **Guo J**, Beck SL. Bundling Interventions to Enhance Pain Care Quality (BITE Pain) in Medical Surgical Patients. Ochsner J. 2019 Summer;19(2):77-95. PubMed Central PMCID: PMC6584199.
2. Beck SL, Dunton N, Berry PH, Brant JM, **Guo J**, Potter C, Spornitz B, Eaton J, Wong B. Dissemination and Implementation of Patient-centered Indicators of Pain Care Quality and Outcomes. Med Care. 2019 Feb;57(2):159-166. PubMed PMID: 30570589.

3. Beck SL, Brant JM, Donohue R, Smith EM, Towsley G, Berry PH, **Guo J**, Al-Qaaydeh S, Pett MA, Donaldson G. Oncology Nursing Certification: Relation to Nurses' Knowledge and Attitudes About Pain, Patient-Reported Pain Care Quality, and Pain Outcomes. Oncol Nurs Forum. 2016 Jan;43(1):67-76. PubMed PMID: 26679446.
4. Beck SL, Towsley GL, Pett MA, Berry PH, Smith EL, Brant JM, **Guo J**. Initial Psychometric Properties of the Pain Care Quality Survey (PainCQ). J Pain. 2010 Dec;11(12):1311-9. PubMed PMID: 20537957.

Ongoing and recently completed projects that I would like to highlight include:

R01 NR019944
Intensifying Community Referrals for Health: The SINCERE Intervention to Address COVID-19 Health Disparities
NIH/NINR PI: Wallace Role: Co-I 04/2021-03/2025

R01 HS0291584
Uncovering Caregiver Discharge Readiness for Patient Care Transitions from Hospital to Home
AHRQ PI: Wallace Role: Co-I 09/2022-09/2025

R21 HS026505
From Emergency to Community: Implementing a Social Needs Assessment and Referral Infrastructure using Health Information Technology
AHRQ PI: Wallace Role: Co-I 10/2018-09/2020

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2020 -	Associate Professor, University of Utah College of Nursing, Salt Lake City, UT
2013 - 2020	Assistant Professor, University of Utah College of Nursing, Salt Lake City, UT
2005 - 2013	Research Assistant & Teaching Assistant, University of Utah College of Nursing, Salt Lake City, UT
2005 - 2005	Clinical Nurse (Cardiac Care Unit), Chi-Mei Medical Center, Tainan City
2003 - 2004	Clinical Instructor, Shu Zen College of Medicine and Management, Kaohsiung City
2003 - 2004	Clinical Instructor, Chung Hwa University of Medical Technology, Tainan City
2002 - 2003	Clinical Instructor, National Tainan Institute of Nursing, Tainan City
2000 - 2002	Research Assistant, National Sun Yat-Sen University, Kaohsiung City
1998 - 2000	Clinical nurse (Oncology), Koo Foundation Sun Yat-Sen Cancer Center, Taipei City

Honors

2022 - 2022	Excellence in Research and Scholarship Award, College of Nursing at University of Utah, United States
2018 - 2018	Excellence in U of Utah Health Partnership Award, College of Nursing at University of Utah, United States
2018 - 2018	Excellence in Research and Scholarship Award, College of Nursing at University of Utah, United States
2016 - 2017	Vice President’s Clinical & Translational Research Scholar, enter for Clinical & Translation Science at the University of Utah, United States
2016 - 2017	Biomedical Data Science Scholar, School of Medicine at University of Utah, United States
2010 - 2012	George S. and Dolores Doré Eccles Graduate Fellowship, College of Nursing at University of Utah, United States
2010 - 2010	Graduate Student Research Award, Sigma Theta Tau International Gamma Rho Chapter, United States
2007 - 2010	PhD Incentive package scholarship, College of Nursing at University of Utah, United States
2017	AAMC Minority Early-Career Faculty Development Seminar Travel Stipend Awardees, The Office of the Associate Vice President for Health Equity and Inclusion (OHEI) at University of Utah, United States

2014	Theresa S. LaPlante Research Award, Sigma Theta Tau International Gamma Rho Chapter, United States
2013	ONS Foundation Genentech Research Career Development Award, Oncology Nursing Society Foundation, United States
2013	Outstanding PhD Student Dissertation, College of Nursing at University of Utah, United States

C. Contribution to Science

Dr. Guo has published 48 journal articles; of those, 46 are peer-reviewed review articles. Her citation indices are H-factor 17, i10-index 21, total citations over 750 times.

1. Developing Measurements for Healthcare Outcomes and Interprofessional Education

   I would like to highlight four instrument development projects. First, I led a project testing the psychometric properties of a social needs screening tool—the Screener for Intensifying Community Referrals for Health (SINCERE) [a]. Secondly, I joined a team of oncology nursing researchers to develop the Pain Care Quality Surveys (PainCQ) to evaluate the quality of pain care from patients' perspectives; this tool has been widely used in English-speaking populations [b]. Thirdly, I conducted data management and statistical analysis and participated in research design for a project developing a health-related quality of life measure for people with IDD [c]. Finally, one of my passions is improving interprofessional education. I was part of a multidisciplinary healthcare team that developed the Interprofessional Attitudes Scale (IPAS), a valid and comprehensive scale that has been cited more than 110 times. My main contribution to the IPAS development is to conduct statistical tests for validity (e.g., EFA, CFA) and reliability (e.g., internal consistency); our team continues working on improving the IPAS [d].

   a. **Guo J**, Wallace AS, Luther BL, Wong B. Psychometric evaluation of the screener for intensifying community referrals for health. Eval Health Prof. 2022 Sep;45(3):270-276. PubMed Central PMCID: PMC8741833.
   b. Beck SL, Towsley GL, Pett MA, Berry PH, Smith EL, Brant JM, **Guo J**. Initial psychometric properties of the pain care quality survey (PainCQ). J Pain. 2010;11(12):1311-9. Epub 2010/06/12. doi: 10.1016/j.jpain.2010.03.008. PubMed PMID: 20537957.
   c. Clark L, Pett MA, Cardell EM, **Guo J**, Johnson E. Developing a health-related quality-of-life measure for people with intellectual disability. Intellect Dev Disabil. 2017;55(3):140-53. Epub 2017/06/14. doi: 10.1352/1934-9556-55.3.140. PubMed PMID: 28608771.
   d. Norris J, Carpenter JG, Eaton J, **Guo J**, Lassche M, Pett MA, Blumenthal DK. The development and validation of the Interprofessional Attitudes Scale: Assessing the interprofessional attitudes of students in the health professions. Acad Med. 2015 Oct;90(10):1394-400. PubMed Central PMCID: PMC4651848.

2. Translating and Implementing Developed Survey Instruments to Enhance Their Use

   As a nursing researcher from a minority background, I understand that having a survey tool with languages other than English will benefit more patients who have limited literacy and/or health literacy. Because I am a native Chinese speaker from Taiwan, my research projects focus on translating the instrument from English to Chinese (Mandarin Chinese) using cross-cultural translation approaches to ensure translation equivalences [a, b, c]. To extend the use of the PainCQ, I led a project of conducting studies to translate it into Chinese and test it with 68 Chinese-speaking participants; the results were satisfactory. Additionally, I have furthered my expertise in survey translation through active participation in a research project dedicated to translating the PainCQ from English to Arabic [d]. This demonstrates my capability to promote cross-cultural accessibility and guarantee the relevance of valuable instruments in diverse linguistic contexts.

   a. **Guo J**, Chiang HY, Beck SL. Cross-cultural translation of the Chinese Version of Pain Care Quality Surveys (C-PainCQ). Asian Pac Isl Nurs J. 2020;4(4):165-172. PubMed Central PMCID: PMC7014383.

b. Yang R, **Guo J**, Beck SL, Jiang F, Tang S. Psychometric properties of the Chinese version of the evidence-based practice questionnaire for nurses. J Nurs Meas. 2019 Dec 1;27(3):E117-E131. PubMed PMID: 31871292.
c. **Guo J**. Is Google Translate adequate for facilitating instrument translation from English to Mandarin? Comput Inform Nurs. 2016 Sep;34(9):377-83. PubMed PMID: 27606576.
d. Al-Atiyyat N, Salim NA, **Guo J**, Toffaha M, Brant JM. Evaluating the quality of pain management satisfaction among oncology patients in a hospital setting: Psychometric properties of the Arabic version of Pain Care Quality Survey. JCO Glob Oncol. 2023 Sep;9:e2300012. PubMed Central ID: PMC10730070.

3. Exploring Social Determinants of Health (SDOH) for Improving Healthcare Equity and Accessibility

My research has played a significant role in uncovering the challenges associated with addressing social determinants of health through the referral of available social resources or services. I led a research project examining the psychometric properties of the Screener for Intensifying Community Referrals for Health (SINCERE), a 10-item, low-literacy screening tool designed to identify social needs (e.g., transportation, housing) [a]. Collaborating with other researchers in the social determinants of health (SDOH) field, our studies revealed that despite the implementation of universal social needs screening in emergency department (ED) settings, only a small portion of ED patients actively engage with community service referrals. Barriers such as issues related to digital connectivity, variations in preferred contact methods, and concerns about stigmatization were systematically uncovered through our scholarly works. These findings emphasize the need to address staff perceptions and mitigate communication challenges with patients for the effective implementation of such initiatives [b, c]. Furthermore, our research on food insecurity underscores the necessity for a comprehensive approach, involving the integration of multi-level data and the assessment of social needs in primary care, to proficiently identify and address populations at risk [d].

a. **Guo J**, Wallace AS, Luther BL, Wong B. Psychometric evaluation of the screener for intensifying community referrals for health. Eval Health Prof. 2022 Sep;45(3):270-276. PubMed Central PMCID: PMC8741833.
b. Bybee SG, Sharareh N, **Guo J**, Luther B, Grigorian E, Wang C-Y, Wong B, Wallace A. A secondary data analysis of technology access as a determinant of health and impediment in social needs screening and referral processes. AJPM Focus. 2024. doi: 10.1016/j.focus.2024.100189.
c. Wallace AS, Luther B, **Guo J**, Wang CY, Sisler S, Wong B. Implementing a social determinants screening and referral infrastructure during routine emergency department visits, Utah, 2017-2018. Prev Chronic Dis. 2020;17:E45. Epub 2020/06/20. doi: 10.5888/pcd17.190339. PubMed PMID: 32553071; PMCID: PMC7316417.
d. Sharareh N, Wallace AS, Brintz BJ, Wan N, **Guo J**, Wong B. Associated factors with patient-reported unmet food needs among emergency department adult patients – A social need perspective. Prev Med Rep. 2022;29:101974. doi: 10.1016/j.pmedr.2022.101974.

4. Supporting Better Outcomes of Symptom Management of Cancer Patients and Their Informal Caregivers

Because of my clinical background in oncology nursing, I have a long research interest in symptom management, particularly in cancer patients and their family caregivers. I worked with various research groups for cancer pain management research to investigate the interventions related to pain care quality, study pain care provided by certified oncology nursing, and evaluate oncology nurses' pain care knowledge. We found that the BITE intervention significantly improved patients' perceived pain care quality [a], that certified oncology nurses' knowledge and attitudes related to pain management were superior to noncertified nurses [b], and that nine pain quality indicators of pain were identified and suggested to hospitals to monitor quality improvement targeting pain care quality [c]. Regarding the family caregiving research, we explored the perceived support and stress in social networks of hospice family caregivers and identified three distinct types of social network relationships from the participants: supportive, ambivalent maximizers, and family-focused ambivalent. The findings provide essential information to identify or develop more effective management for caregiver burden [d].

a. Rice KL, Castex J, Redmond M, Burton J, **Guo J**, Beck SL. Bundling interventions to enhance pain care quality (BITE Pain) in medical surgical patients. Ochsner J. 2019 Summer;19(2):77-95. PubMed Central PMCID: PMC6584199.
b. Beck SL, Brant JM, Donohue R, Smith EM, Towsley G, Berry PH, **Guo J**, Al-Qaaydeh S, Pett MA, Donaldson G. Oncology nursing certification: Relation to nurses' knowledge and attitudes about pain, patient-reported pain care quality, and pain outcomes. Oncol Nurs Forum. 2016 Jan;43(1):67-76. PubMed PMID: 26679446.
c. Tavernier SS, **Guo J**, Eaton J, Brant JM, Berry P, Beck SL. Context matters for nurses leading pain improvement in U.S. Hospitals. Pain Manag Nurs. 2018 Oct;19(5):474-486. PubMed PMID: 30082216.
d. **Guo J**, Reblin M, Tay D, Ellington L, Beck AC, Cloyes KG. Patterns of stress and support in social support networks of in-home hospice cancer family caregivers. J Soc Pers Relat. 2021 Nov;38(11):3121-3141. PubMed Central PMCID: PMC8664070.

5. Utilizing Existing Data to Extract Patient-Reported Symptoms and Explore Patient Needs

As a nursing informaticist, prominent data analyst, and research database developer and manager, I used existing and available research data or social media data to contribute to science. During the COVID-19 pandemic, I analyzed Twitter tweets and found that people shared COVID-19-related symptoms on social media platforms earlier than the announcement by the Centers for Disease Control and Prevention (CDC) [a] and that people with COVID-19 positive were vulnerable to not only physical infection but also mental stress from Twitter tweets in the early pandemic [b]. These findings suggested that monitoring social media data is a promising approach to public health surveillance. Working with a group of women's health researchers, we identified the support needs of reproductive health in women with disabilities from their blogs [c]. In collaboration with our research team members (Wallace, Wong, and Bybee), I played a key role in conducting a secondary data analysis using our NIH-funded projects to revealed that limited access to a reliable telephone might hinder patients from engaging with resource referrals [d].

a. **Guo J**, Radloff CL, Wawrzynski SE, Cloyes KG. Mining Twitter to explore the emergence of COVID-19 symptoms. Public Health Nurs. 2020 Nov;37(6):934-940. PubMed Central PMCID: PMC8080690.
b. **Guo J**, Sisler SM, Wang CY, Wallace AS. Exploring experiences of COVID-19-positive individuals from social media posts. Int J Nurs Pract. 2021 Oct;27(5):e12986. PubMed Central PMCID: PMC8420411.
c. Litchman ML, Tran MJ, Dearden SE, **Guo J**, Simonsen SE, Clark L. What women with disabilities write in personal blogs about pregnancy and early motherhood: qualitative analysis of blogs. JMIR Pediatr Parent. 2019 Mar 14;2(1):e12355. PubMed Central PMCID: PMC6715048.
d. Bybee SG, Sharareh N, **Guo J**, Luther B, Grigorian E, Wang C, Wong B, Wallace A. A secondary data analysis of technology access as a determinant of health and impediment in social needs screening and referral processes. AJPM Focus. 2024. doi: 10.1016/j.focus.2024.100189.

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