

Dr. Ju-Yang Chi (戚居場), Ph.D., M.Sc., B.P.T.

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Biographical details

Dr. Ju-Yang Chi, a researcher specializing in musicians' health and a qualified physical therapist, is currently undergoing postdoctoral training at the National Tsing Hua University. His interest in the prevention and management of playing-related musculoskeletal disorders (PRMDs) in musicians sparked in 2011 and eventually became the focus of his doctoral research in 2015. In 2023, Dr. Chi earned his doctoral degree with a thesis titled "Musical Instrument Ergonomics in Violin and Piano Performance". This work was subsequently transformed into at least two journal publications that explored the ergonomics of violin and piano performance. These publications played a significant role in Dr. Chi being awarded the Career Development Award at the 11th Annual Conference of the Australian Society of Performing Arts Healthcare (ASPAH 2019). Dr. Chi continues to delve into the field of violin ergonomics with a focus on preventing PRMDs. He has proposed a project that applies human pose estimation technology in violin education settings. This innovative project is currently under review for funding by the National Science and Technology Council of Taiwan.

Education

2007-2011 B.P.T.

School & Graduate Institute of Physical Therapy, College of Medicine,
National Taiwan University, Taiwan.

2011-2014 M.Mus.

Graduate Institute of Acupuncture Science, China Medical University, Taiwan.

2015-2023 Ph.D. in Biomedical Science

School of Medical Sciences, Faculty of Medicine and Health, University of Sydney, Australia.

Certification

Physiotherapist Certificate granted by Ministry of Health and Welfare of R.O.C. (Taiwan)

Certificate of National Examination

Senior Professional and Technical Examinations in the category of Physiotherapist held by Examination Yuan of R.O.C. (Taiwan)

Published Papers

Hsu, T. H., Tsai, C. L., **Chi, J. Y.**, Hsu, C. Y., & Lin, Y. N. (2023). Effect of wearable exoskeleton on post-stroke gait: A systematic review and meta-analysis. *Annals of Physical and Rehabilitation Medicine*, 66(1), 101674. [SCIE]

Wei, L., **Chi, J. Y.**, Chao, J. C. J., & Lin, Y. N. (2022). An Intelligent Cardiopulmonary Training System and Adherence to Training Intensity: A Feasibility Study. *International Journal of Environmental Research and Public Health*, 19(14), 8335. [SSCI/SCIE]

Chi, J. Y., Halaki, M., Booker, E., Boyle, R., & Ackermann, B. J. (2021). Interaction between hand span and different sizes of keyboards on EMG activity in pianists: An observational study. *Applied Ergonomics*, 97, 103518. [SSCI/SCIE]

Chi, J. Y., Halaki, M., & Ackermann, B. J. (2020). Ergonomics in violin and piano playing: A systematic review. *Applied Ergonomics*, 88, 103143. [SSCI/SCIE]

Rousseau, C., **Chi, J. Y.**, & Ackermann, B. (2020). Immediate effect of

scapular stabilisation exercises on shoulder and forearm muscles activation while playing the violin. *Gait & Posture*, 81, 303. [SCIE]

Lin, Y. N., Hu, C. J., **Chi, J. Y.**, Lin, L. F., Yen, T. H., Lin, Y. K., & Liou, T. H. (2015). Effects of repetitive transcranial magnetic stimulation of the unaffected hemisphere leg motor area in patients with subacute stroke and substantial leg impairment: A pilot study. *Journal of Rehabilitation Medicine*, 47(4), 305-310. [SCIE]

Conference Presentations

Orals

- The Australian Society of Performing Arts Healthcare, 11th Annual Conference, 2019, Melbourne, Australia. Presentation: The Key to Fitting Pianists to Pianos – Interaction between Hand Span and Different Sizes of Keyboards.
- The Australian Society of Performing Arts Healthcare, 10th Annual Conference, 2018, Sydney, Australia. Presentation: Violin to the Player or Player to the Violin –Perceptions on Ideal Violin Ergonomics.
- Performing Arts Medicine Association, 36th Annual Symposium, 2018, California, USA. Presentation: Hand Span and Muscle Activity Levels on Pianos with Different Sized Keyboard.
- The Australian Society of Performing Arts Healthcare, 9th Annual Conference, 2017, Kingscliff, Australia. Presentation: Ergonomics in pianists - the relationship between different sized keyboards and hand size.
- The Australian Society of Performing Arts Healthcare, 8th Annual Conference, 2015, Brisbane, Australia. Presentation: Ergonomics in Violin Playing.

Posters

- Performing Arts Medicine Association, 40th Annual Symposium, 2022, Chicago, USA. Presentation: Seeking Instrumental Fit for Fiddling-

Perceptions on optimizing the interface between violin and player.

- The World Confederation for Physical Therapy, Congress 2019, Geneva, Switzerland. Presentation: The Fiddle or The Fiddler? - Perceptions on Fitting The Instrument to The Player in Classical Violin Playing: Qualitative Study.

Awards

The Career Development Award recipient in the Australian Society of Performing Arts Healthcare, 11th Annual Conference (ASPAH 2019).

Working experience

Apr. 2023- May 2023	Full-time Research Assistant, Department of Physical Medicine and Rehabilitation, School of Medicine, College of Medicine, Taipei Medical University
Aug. 2021- Apr. 2022	Full-time Research Assistant, Department of Physical Medicine and Rehabilitation, Wan Fang Hospital

Current Projects

- The effects of elevated chinrests in violin playing on EMG activity and neck-shoulder kinematics: An observational study. [PI]
- Applying Human Pose Estimation for Injury Prevention in Violin Playing. [PI]