

DOCTORAL THESIS

Development of resilience scale and examination of relationships among resilience, physical activity and mental health for older adults in Hong Kong

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ABSTRACT

Introduction: Resilience is an important trait and mechanism for older adults facing adversity in their later life. Physical activity has been established as an important determinant of mental health among older adults, in which relationship of resilience may play a mediating role. In order to examine the relationships among resilience, physical activity, and mental health in older adults, the current project is designed to conduct three studies. Study-1 aims to use qualitative method to identify the characteristics that contribute to resilience in a group of community-dwelling older adults in Hong Kong. Study-2 aims to develop and validate an age-specific resilience scale, named as “Resilience Scale for Chinese Older Adults (RSCOA)”. Study-3 aims to test a model in which physical activity is hypothesized to influence mental health in path mediated by resilience.

Methods: Twenty-five Chinese older adults (2 males, 23 females) aged 69 to 100 years ($M=80.00$, $SD=39.08$) were included in Study-1. Interviews were conducted to collect information about the adverse events in their lives, as well as their attitudes towards adversity and the beliefs underlying their approaches to overcoming adversity. The transcripts were analysed using qualitative content analysis. In Study-2, a sequential approach was used to develop the RSCOA in three stages. In stage 1, scale candidate items were generated and initial content validity of the RSCOA were explored. In stage 2, the factorial structure of the RSCOA was extracted using exploratory factor analysis. In stage 3, exploratory structural equation modeling was conducted to test the structure. The reliability and validity of the RSCOA were also examined. In Study-3, cross-sectional data was collected from a sample of 293 Chinese older adults [60 males, 233 females; age from 65 to 95 years old ($M=76.58$, $SD=7.02$)] from eight community senior centres located in three districts in Hong Kong. Correlation analyses were performed and path analysis was employed to assess the associations among physical activity, resilience and mental health variables.

Results: In Study-1, 7 themes were emerged from the interviews: 1). Equanimity- the realisation that life has both joys and sorrows. 2). Positive attitudes towards life. 3). Meaningfulness- the realisation that life has a purpose and is full of hope. 4). Self-reliance- a belief in one’s capabilities and the realisation that each person’s life path is unique. 5). Social support- which comes from family and friends, health care professionals, staff in the senior centres and others’ appraisal. 6). Environmental support- which includes the support from neighbours, community senior centres and government. 7). Spirituality and faith- which can take the form of a belief in destiny, gratitude or religious faith. For the scale development and validation, a pool of 70 candidate items for RSCOA was established with good content validity in stage 1. In stage 2, seven factors, namely perseverance, self-reliance, spirituality, social support, living in the moment, environmental support, and meaningfulness, reflecting internal, external and existential dimensions, were identified and reflected in 27 items in the construct of resilience. In stage 3, the 27-item RSCOA was further examined, by which 3 items were deleted to achieve acceptable internal consistency ($\alpha= 0.87$) and good concurrent as well as construct validities, and finally a 24-item RSCOA was confirmed. The measurement model displayed satisfactory model fit and proven invariant across gender. Building on the three path models, it was found that significant mediation effects of resilience on the relations from physical activity to depression ($\beta =-.54$, $p=.002$), from physical activity to loneliness ($\beta=-.25$, $p=.005$), as well as from physical

activity to psychological well-being ($\beta=.37$, $p=.008$). In sum, the results confirmed that resilience mediates relationship from physical activity to mental health among the older adults.

Conclusion: The qualitative analysis found that resilience of the Hong Kong older adults is characterised by internal, external and existential factors. A reliable and valid age-specific instrument for measurement of resilience in Chinese older people was developed. Older adults who are more physically active reported greater psychological well-being and less mental health problems, and the effects were mediated by resilience. The results may be useful for developing interventions that aim at assisting older adults to enhance the positive experiences and mental health in their lives.

Key words: Resilience, older adults, adversity, physical activity, mental health

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