



Background

- ❑ Public health priority - improve the cognitive health of the aging population
- ❑ Hobbies
 - * Non-pharmacologic interventions, a potentially modifiable factors (cognitive, psychosocial, and physical elements)
 - * Delay the onset or reduce cognitive decline
 - * lower risk than standard medical interventions.

Methods

- ❑ Literature Search - "Hobbies and Dementia”, “Hobbies and Cognitive Health," "Leisure Activities and Dementia," and "Leisure Activities and Cognitive Health”, Pubmed
 - * Systematic Reviews and Meta-Analyses (PRISMA) guidelines.
 - * Age: > 65 (23 studies), > 50, 65-79 (2 studies)

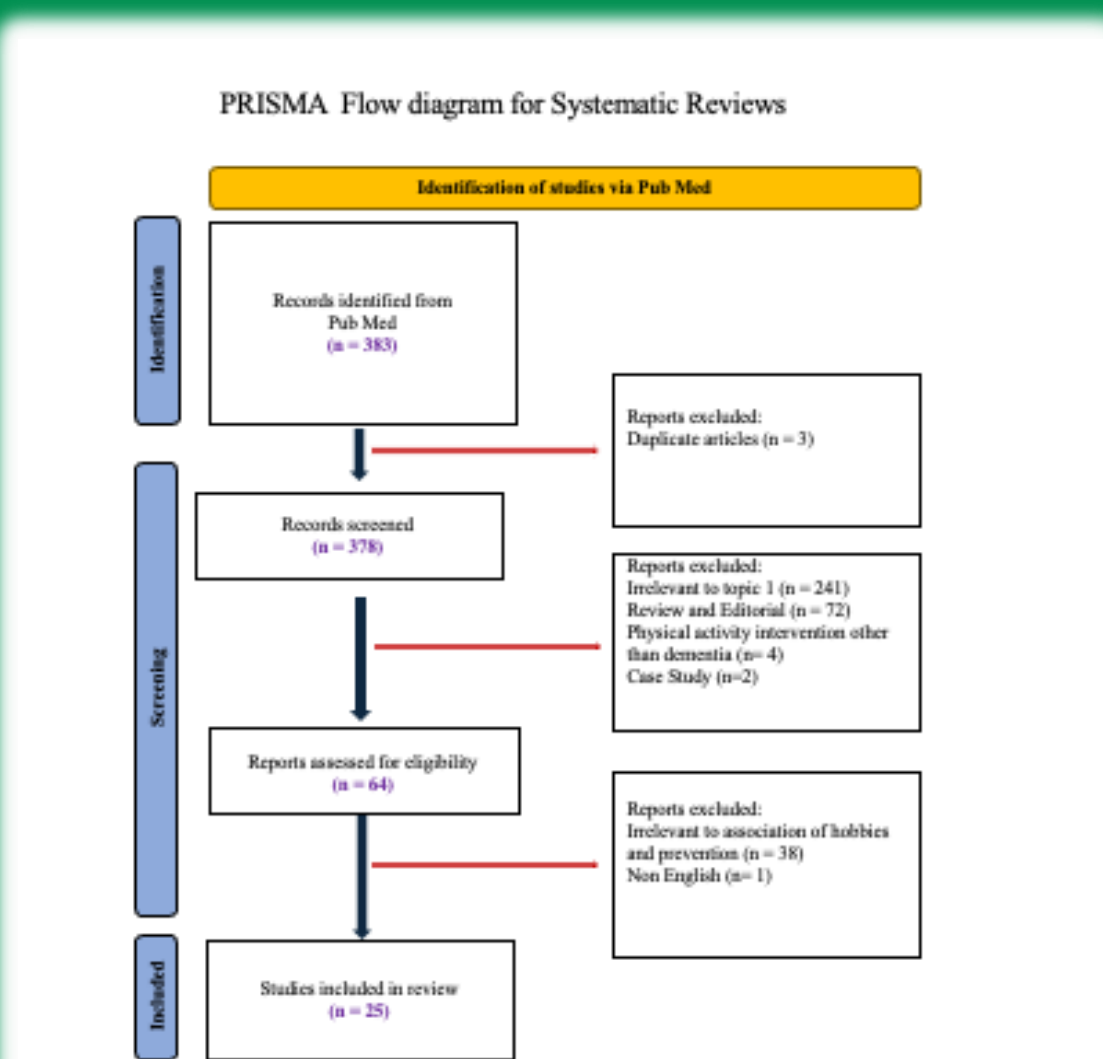


Figure 1. PRISMA Flow diagram for Systematic Reviews

- * Studies
 - Longitudinal – 19
 - Retrospective cohort – 1
 - Case-control - 2
 - Cross-sectional – 3
- * Countries
 - The United States (9)
 - United Kingdom (3)
 - Sweden (3), France (5)
 - Finland (1), Korea (1)
 - Japan (2), and China (1)

Findings

Hobbies Improved Cognitive Functions

- ❑ **Physical Hobbies**
 - * Activities of golf, ground golf, gate ball
 - * Exercises: various types: Walking/Skiing, cycling, brisk walking, jogging, swimming, climbing, ball games and gymnastics
 - * Household tasks
- ❑ **General Types of Hobbies**
 - * Doing odd jobs: Hunting/Fishing;
 - * Positions of office (school governor, councilor)
 - * Going to a restaurants/Cooking/Take a nap
 - * Get a new experience/Learning new skill
 - * Taking a new hobby/Take a risk/Do things that are challenge
- ❑ **Religious Hobbies**

Su et al. : participation in religious activities improve performance on word list learning (β : 0.12, 95% CI: 0.08,1.88) and digit vigilance tests (β : 0.20, 95% CI: 11.61, 3.32)

Findings

Cognitive Hobbies



Figure 2. Showing Different Types of Cognitive Hobbies



Figure 3. Showing interlacing of Hobbies across domains

Cognitive hobbies

- **Huges et al.:**
Cognitive hobbies reduce dementia (HR 0.86, 95% CI 0.75,0.99)
Reading newspapers was associated with higher dementia risk (HR 2.82, 95% CI 1.14, 7.18)
- **Almeida-Meza et al.:** participation in intellectual leisure activities was associated with reduced dementia risk (HR 0.92, 95% CI 0.86,0.99).
Reading newspapers was associated with a decreased dementia risk in females (SHR 0.65, 95% CI 0.49, 0.84)

Possible explanation:

- The contents of newspapers and types of news.
- Reading about the news may predispose individuals to an overall reduction in mental activity
- Possible that study design, such as differing racial/ethnic compositions of study population could be contributed.

Findings

Musical Hobbies

- Playing musical instruments reduced dementia risk. (Su, Hughes, and Sommerland et al.)
- Su et al. : association between singing and better performance on the Cantonese version of the Mini-Mental State Examination (β : 0.15) and trail making test (β : - 0.12)
- Sommerland et al : listening to music and attending live music events reduced dementia risk (HR: 0.92)
- The way the music was engaged may play an important role in the pathways of observed associations
- Different music genres among communities of American, European, African, and Asian older adults with differences in language, rhythm, and instrument popularity could variably contribute to psychosocial and neurobiological mechanisms in cognitive impairment.

Context of Studies	Studied Hobbies (Exposure)	Primary Findings
Almeida-Meza, 2021, UK, Longitudinal study, >15 year period (2002 – 2017) , n = 8030	Intellectual – Reading newspapers, using cellphone, using internet, engaging in art Social – belonging to organization (religious, political, or hobby), volunteering, meeting friends, traveling	Reading the newspaper in females (HR: 0.65; 95 % CI 0.49–0.84), mobile phones use in males (HR: 0.61, 95 % CI 0.45, 0.84), and engaging in hobbies in single/divorced (HR: 0.70; 95 % CI 0.51–0.95) have a reduced dementia.
Hughes, 2010 USA , Longitudinal, study - 15 year period (1987 – 2002) , n = 942	Reading, playing board/card games, completing crossword and jigsaw puzzles, engaging in art, and playing musical instruments	Medium (HR: 0.72, 95 % CI 0.40, 1.29) and high (HR: 0.43, 95 % CI 0.25, 0.75), duration of hobby participation reduced dementia. Crosswords puzzles (HR: 0.57; 95 % CI 0.33, 0.97), playing musical instruments (HR: 0.59, 95 % CI 0.18, 1.98) reduced dementia. Reading newspaper was associated with an increased f dementia (HR: 2.82, 95 % CI 1.14, 7.18).
Sommerland, 2020, UKLongitudinal study - 20 year period (1987 – 2007) n = 8280	Reading, listening to music, using home computer, being a member of an organization, playing games, volunteering, visiting art galleries, theatres, and concerts, gardening, completing household chores, engaging in religious activities/observance, going to social clubs, visiting friends or relatives.	Individuals with higher participation in hobbies were less likely to develop dementia with 8.3-year follow-up (HR 0.82, 95 % CI 0.69, 0.98).
Su, 2018, China Cross-sectional study, n = 557	Singing, attending a class, participating in religious activity, joining a social club, meeting friends or relatives, and volunteering	Attending an interest class: associated with higher performance on the Cantonese version of MMSE, the word list learning, delayed recall, and trail making tests. Religious activity was less likely to associated with dementia (word list learning and digit vigilance tests). Singing was less likely to associated with dementia (CVFT and making test).
Verghese, 2003, USA Longitudinal study – 21 year period (1980 -2001) , n = 469	Intellectual: Reading, writing, completing crossword/puzzles, playing board games or cards, participating in organized group discussions, and playing musical instruments) Physical activities: Playing sports, exercising, taking care of children, and completing household chores	Reading (HR: 0.65; 95% CI 0.43, 0.97), playing board games (HR: 0.26; 95 % CI 0.17, 0.57), playing musical instruments (HR: 0.31: 95 % CI 0.11, 0.90), dancing (HR: 0.24; 95 % CI 0.06, 0.99) were associated with reduced dementia. A one-point increment in the cognitive activity score was significantly associated with reduced dementia (HR: 0.93; 95 % CI 0.90, 0.97).

Conclusion

- The way of definition of hobbies and their measurements across different countries representing different languages, religions, and customs: limitation
- Generalizability: limitation
- Future longitudinal studies: assessing temporal relationships between diverse hobbies and preservation of cognitive function to address the potential for reverse causality in prior studies.