Facilitating the caring embracement between generations – Gerontechnology design philosophy from the Sinophone world

Yeh-Liang Hsu
Professor, Mechanical Engineering Department
Director, Gerontechnology Research Center, Yuan Ze University
Sinophone Chapter President, International Society for Gerontechnology
2016/09/29
**THE SINOPHONE WORLD**

- The Sinophone or Chinese speaking countries and regions
  - China, Taiwan, Hong Kong and Macao
  - A significant portion of population in Malaysia and Singapore also speak Mandarin Chinese as native language.
- The native Mandarin Chinese speaking population is by far the largest among all languages in the world.

Statista, The most spoken languages worldwide
THE SINOPHONE WORLD IS AGING, FAST

- Mainland China has the world’s largest aging population.
  - This Chinese population are ‘getting old before getting rich’, with limited ability to support old age life.

- Satisfying the care needs of the older adults has been the primary issue.

- Taiwan, Hong Kong, Macao, and Singapore are hit simultaneously by rapid population aging and traditional pattern of family support for elderly care is gradually collapsing.

<table>
<thead>
<tr>
<th>2015</th>
<th>Hong Kong</th>
<th>Taiwan</th>
<th>Macao</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude birth rate</td>
<td>9.23 (206/224)</td>
<td>8.88 (211/224)</td>
<td>8.47 (216/224)</td>
<td>8.27 (219/224)</td>
</tr>
<tr>
<td>Fertility rate</td>
<td>1.18 (221/224)</td>
<td>1.13 (222/224)</td>
<td>0.94 (223/224)</td>
<td>0.81 (224/224)</td>
</tr>
</tbody>
</table>

Look into Gerontechnology for solution
TRADITIONAL VALUE SHARED ACROSS THE SINOPHONE WORLD

• Filial piety
  • Still an essential element of Chinese culture shared across the Sinophone world, where children growing up are constantly and emphatically taught to be filial to their parents and respectful to their elders.

  • “The young kid carries the older person on the back.”
  • “The young kid lends an arm to support the older person.”

  “The caring embracement between the older person and the young kid”
“To take care of the older parents, you should make them happy, and let them do what they will; help them see well, hear well, and provide them a safe and comfortable living environment.”

(Zeng, a disciple of Confucius, about 2,500 years ago)
One day when Zeng was out cutting wood among the mountains, there came a visitor to his house. After awaiting her son’s return in vein, his mother bit her finger.

Zeng felt heartache all of a sudden and knew there was an emergency. He rushed back home with a burden of wood, and on arrival, knelt down to asked his mother what happened. His mother replied, “Here is a visitor who needs you urgently. So I bit my finger to awake you to come back…”

From the “24 stories of filial piety”

**THE beginning of telehealth…**
10 YEARS AFTER THE MAJOR “UBIQUITOUS CARE” PROJECT, HOME TELEHEALTH PROVED TO BE A FAILURE IN TAIWAN…

• More than 40 home telehealth projects were sponsored by the government in Taiwan from 2006~2011, very few survived after government funding ends.

WHO ARE MISSING IN THE PICTURES?
How if the vital sign measurements of the older adults are sent to children and family members?

Care, interaction, connection, in addition to health monitoring.
DO YOU HAVE A ROBOT @ HOME?

iRobot

Sony QRIO

Honda ASIMO

Paro, about USD 5,000

Robot @ Home!

iRobot (2002)
What do you see in these photos?
SMART HOME / SMART LIVING?

• CHT Smart Home
  • Service controller, wireless gas detector, wireless motion detector, wireless smart plug, wireless temperature/humidity sensor, wireless smoke detector, wireless reed switch, wireless IP camera, wireless remote controller

ARE THEY REALLY SELLING “LIVING”?
“NEED” MAY NOT NECESSARILY TURNS INTO “MOTIVATION”

• Older adults may have strong need for home telehealth systems, but very little motivation of using them…

“Enjoyment as a source of life”, more fun than functions!

Facilitating the caring embracement between generations

A telepresence robot that expresses emotion
**Whiz Series: Put “Smart” into “Living”**

- Transform artifacts familiar to the older adults into Internet of Things
- Physical world ↔ digital world
WhizPAD is an extremely comfortable mattress capable of motion sensing


LEARNING MORE ABOUT GERONTECHNOLOGY
FACING REAL WORLD PROBLEMS

WhizPad 天才床墊
IMAGER-37
Yeh-Liang Hsu
mehsu@saturn.yzu.edu.tw
https://www.facebook.com/gerontechnologyrc/

THANK YOU
Fri, 10:15am, Grey Room