School of Professional Education and Executive Development 專業進修學院





CAHMR Working Paper Series No.2, Issue 1, 2019

Title	Time banking for elderly in Hong Kong: current practice and challenges
Author(s)	Tommy K.C. Ng, Noel T.S. Yim & Ben Y.F. Fong
Issue Date	2019
Issue Number	1
Paper Number	2
Citation	Ng, T., Yim, N. & Fong, B. (2019). <i>Time banking for elderly in Hong Kong: current practice and challenges</i> (CAHMR Working Paper Series No. 2, Issue 1, 2019). Hong Kong: The Hong Kong Polytechnic University, College of Professional and Continuing Education, School of Professional Education and Executive Development, Centre for Ageing and Healthcare Management Research. Retrieved Nov 25, 2019 from http://weblib.cpce-polyu.edu.hk/apps/wps/assets/pdf/cw20190102.pdf
Rights	Copyright for this paper is owned by the author(s).

School of Professional Education and Executive Development 專業進修學院



Centre for Ageing and Healthcare Management Research 老齡化和醫療管理研究中心

CAHMR Working Paper Series No.2, Issue 1, 2019

Time Banking for Elderly in Hong Kong: Current Practice and Challenges

Tommy K. C. NG
Project Associate
School of Professional Education and Executive Development
The Hong Kong Polytechnic University
Tommy.Ng@speed-polyu.edu.hk

Noel T. S. YIM
Student Assistant
School of Professional Education and Executive Development
The Hong Kong Polytechnic University
yimtszsin@gmail.com

Ben Y. F. FONG
Associate Division Head
School of Professional Education and Executive Development
College of Professional and Continuing Education
The Hong Kong Polytechnic University
ben.fong@cpce-polyu.edu.hk

ABSTRACT

To reduce the burden of the ageing population, time banking can be one of the possible approaches in the community to maximise social capital. Time banking aims to exchange one's time to serve others and the time of service can be saved as credit so as to swap for services when necessary. It can create a virtuous cycle for providing and receiving services. Several positive outcomes to service providers and recipients of time banking are identified in this review paper. Nevertheless, there is a lack of practical adoption of time banking in Hong Kong. To analyse the challenges of the adoption of time banking in Hong Kong, the current practices of time banking in Hong Kong, the United States, European countries and Asian countries will be evaluated. To promote time banking in Hong Kong, governmental, technical and educational support are recommended.

KEYWORDS: time banking, volunteering, ageing population, social capital, service learning

1 INTRODUCTION

Low birth rate and ageing population are two of the major social and population issues in Hong Kong, affecting adversely the development of the city. The trend of birth in Hong Kong has been deteriorating over the past 36 years from almost 17 live births per thousand populations in 1981 to 7 live births per thousand population in 2017 (Census and Statistics Department, 2018). However, the number of people aged 65 years or above is projected to increase from more than 1 million to more than 2.3 million in 2036 (Census and Statistics Department, 2017). The decline in fertility and increase in life expectancy are the main causes of the increasingly ageing population, not only leading to financial burden on the next generation but also insufficient manpower in serving the elderly.

To alleviate and ease the inevitable issue, the idea of time banking may be beneficial to the ageing population and the society. The concept of time banking can bring important implications to the community, including social, physical and psychological changes in services, and social capital. Time banking can be a virtuous circle for providing and receiving services in the community so as to lighten the excessive burden on the health care system arising from the ageing population. Likewise, volunteering is the main component of time banking. In recent years, more and more countries or regions, such as the United States, Switzerland, Japan and Taiwan, are introducing the concept and practice of time banking. The implementation of time banking in these countries or regions will be discussed. This paper also aims to explore the current practices and challenges of time banking in Hong Kong.

2 CHARACTERISTICS OF TIME BANKING

2.1 Concept and development of Time Banking

Time banking is popularised in the United States in the mid-1980s and aims to effectively and humanely utilise social welfare services through the principle of co-production (Dittmer, 2013). It helps to build up and strengthen the social capital in the local community (Carroll, 2013). The concept of time banking is then widespread worldwide and is adopted in some countries. The main target service recipients of time banking are the older adults. Time bank or time banking are defined as providing an hour of service to others can earn an hour of credit or dollar, which can be used to exchange for an hour of service (Cahn, 2004). It means when a person provides three hours of service to help others, for example bringing meals to the elderly and accompanying with the elderly to the hospital, the person can earn and bank in three hours of credit or time dollars. The credits or time dollars can then be used to "purchase" services from others when necessary.

Time banking is a system for the exchange of time and services among elderly (Válek & Jašíková, 2013). The development of time banking aims to reach the vulnerable and isolated elderly who may be lack of local friends and family members to provide minimum care and accompanying medical consultations (Beenstock, 2001). Reciprocity and trust are the norms of the basic spirit of time banking. Reciprocity is emphasised for promoting the concept of time banking (Molnar, 2011). Additionally, time banking advocates the idea of egalitarianism and service recipients are not the only ones to play the role of receiving. The time value of any service is equal and every recipient has the responsibility to provide services to participants. The banks are normally created by local charity organisations or non-government organisations (Valek, 2014) to

record the debits (hours of service received) and credits (hours of service provided) in the community.

2.2 Positive outcomes of Time Banking

In essence, time banks help to enhance human bonding within the local community (Laamanen, Wahlen, & Campana, 2015). Time banking also facilitates the seeking of assistance and promotes trustworthiness in the community (Ryan-Collins, Stephens, & Coote, 2008). These align with volunteering services provided to recipients, leading to some potentially positive outcomes.

2.2.1 Social health

Social life is important to the elderly because they may be lack of care and concern from their family members. Social interaction is crucial to physical and mental health but it is easily neglected. Time banking can enhance social activities within the community so that the elderly can socialise and communicate more with others. Recipients of time banking can go to the institutions regularly to meet and get support from the service providers. They have the opportunity to reconnect to the community with access to assistance with empathy from others to lighten up their life (Seyfang, 2004). Likewise, the home environment of the recipients can be improved without cost under the utilisation of time banking. For example, the elderly can exchange renovation or improvement service from the service providers via time banking. Trust building is essential for the development of a relationship while strengthening trust among service providers and recipients is commonly found in time banking (Moyer, 2015). Hence, relationship and trust can be built within the community (Válek & Jašíková, 2013). Moreover, volunteerism in time banking may help eliminate the isolation of elderly, strengthen community participation and boost the self-esteem of the elderly. All of these have an impact in the improvement of social health (Haski-Leventhal, 2009).

2.2.2 Physical health

Adopting time banking in the community may improve the physical health of the elderly. It has been shown that the number of visits to hospitals has declined because volunteers are more likely to provide preventive health service (Kim & Konrath, 2016), which in turn reduces the risks from diseases and injuries. Some instrumental support offered as direct support to the elderly can promote health (Wu & Chou, 2017). In addition, a companionship with the elderly is also a time banking service, such as accompanying the elderly to the medical centre for follow up treatment, medical consultation and exercise (Ozanne, 2010). With more engagement with the volunteers, the amount of walking activity of the participants is increased and this can lead to better health outcome (Varma et al., 2016). Active lifestyle of the participants, health interventions and travelling around are also found in time banking. All these services can directly facilitate the elderly to achieve better physical health because some participants feel calmer when participating in time banking scheme (Beenstock, 2001).

2.2.3 Psychological health

A timely time banking plan has positive impact on the psychological health of the elderly. People who live alone will not only have an improved self-rating in physical health but also mental health because of the change of emotion when contacting with others (Lasker et al., 2011). Although individuals in the time banking system may think they do not have specific abilities or skills to serve the community, they are still valued by others for providing services to the recipients so that they are also important in serving in the community (Ozanne & Ozanne, 2011). Time banking helps the elderly to affirm their personal values and to establish a belief that they are not truly a burden to others. Additionally, time banking activities allow the service providers and users to increase self-confidence and self-esteem (Julia, 2011). On the other hand, they will be more willing and ready to ask for help when they need assistance. Thus, they are highly satisfied and engaged in time bank (Ozanne, 2010). Overall, apart from the improvement of physical and social health, psychological health of the service recipients can be enhanced. It shows that time banking contributes to health with positive attitude towards life.

2.2.4 Development of social capital

Time banking can contribute to the development of social capital. Social capital is about how the engagement of individuals generate benefits to the individuals within the community (Aldrich & Meyer, 2015). Time banking is able to connect the individuals within the community to provide service and it must lead to positive outcomes to the participants. Stronger sense of community, which is the outcome of social capital, can be found from the participants of time banking (Yuan, Hanrahan & Carroll, 2018). Participants with increased self-efficacy have higher sense of community. Building up the relationship in the community and making request of time banking contributes to social capital. It is vital that the positive outcomes of time banking can facilitate the development of social capital for the benefits of the community.

3 CURRENT PRACTICE IN HONG KONG

Similar to other developed counties or regions, Hong Kong is also facing the problem of an ageing society. At the same time, the predicted shortage of health care professionals can also affect the quality of long-term health care services. In Hong Kong, the implementation of time banking is still in the very early stage of development and it has been believed to be changing from the recipient society to the participant society (Hong Kong Sheng Kung Hui, 2018). In 2017 Hong Kong Sheng Kung Hui Welfare Council launched a three-year time banking project named as "Zhi Fu - Elderly Mutual Help Development Scheme" in Tseung Kwan O, one of the eighteen administrative districts in Hong Kong. The main purposes of this project include promoting elderly to help each other, improving their relationship with neighbours and increasing the participation of elderly within the community. The activities and events are proposed by the elderly while the social workers play the assistive role (TVB News, 2019). Almost 200 elderly members have registered with the project to provide volunteer care services to each other within the community. Members are able to accumulate over 1,000 hours of service, which is equivalent to the credit for exchanging service in the time bank. The elderly in the community are keen to serve each other and the effectiveness of time banking will be beneficial to all stakeholders. Nevertheless, the promotion and Governmental support of time banking is insufficient. Information seminars about time banking conducted by the Hong Kong Professional Teachers' Union are not regular events. As usual, the Government would not set up time banking unless non-governmental organisations have plans (Hong Kong Professional Teachers' Union, 2018; South China Morning Post, 2018). Therefore, much more work and further research on time banking are necessary in Hong Kong.

4 TIME BANKING IN OTHER COUNTRIES OR REGIONS

4.1 The United States

The concept of "time banking" first appeared in the United States in mid-1980s as a form of community currency system (Jacobson & MacMaster, 2000). The initial goal of this "time bank" practice was to encourage people in the community to utilise their time and skills by providing services to others outside the mainstream cash economy. Participants in the 'time bank' at that time was not restricted to the elderly population but to everyone in the community. They earn and spend "time dollars" that are measured by the amount of time required to provide a service instead of the monetary value of the service. These "time bank" programmes were later modified to target the socially and economically marginalised groups of people such as the elderly population (Seyfang & Smith, 2002).

The implementation of time banking is comprehensive in the United States. There were at least 125 time banks in the United States by late 2010 (Collom & Lasker, 2016). The operation expanded to more than 270 time banks and membership reached 27,000 in 2013 (Carroll, 2013). An online platform is available to interested individuals to search for a nearby time bank (TimeBanks USA, n.d.). The contact information and details of hours exchanged can be discovered from the platform. Hence, it facilitates individuals to participate in time banking more easily. There are two approaches to time banking in the United States. One is open to anyone and the other approach is limited to residents within the community so the numbers of participants vary among different states. The expenditures of time banking coordinators include software support, website maintenance, printing of promotion materials and salary of staff. It can range from US\$60 to US\$900,000 depending on the size of the time bank in the community. Likewise, time banking gives positive outcomes to the community in the economic, social, health and environmental aspects. Moreover, both the service providers and recipients are satisfied with the overall operation, particular in the quality of service (Collom, 2007).

4.2 European Countries

4.2.1 Switzerland

In Switzerland, the problem of ageing population is rising and is expected to become worse (Chastonay, Weber, & Mattig, 2018). The introduction of time banking may ease the challenges arisen from the ageing population. Several cities are initiating time banking. St. Gallen is the first region to introduce the concept of time banking. It was selected as the pilot project because of its previous experience in volunteer programme (Thoele, 2012). The time-saving foundation of St. Gallen operates as a retirement plan with the concept of time banking. The goal of the project is to reduce the cost of social services and to encourage local solidarity in response to a steadily ageing population. During their leisure time, healthy retirees provide care and support to other elderly in need. Every hour of work is recorded as a "deposit" in a special personal account that can later be used to pay for the "time" when the volunteer needs help. However, the technical support of time banking in Switzerland is still at the elementary level (The moneyland.ch, n.d.).

4.2.2 United Kingdom

United Kingdom developed time bank and operated over 100 time banks as of 2008 but rapidly developed to about 300 in 2013 (Carroll, 2013; Gregory, 2012b). The number of members

grew from 8,000 in 2008 to 20,000 in 2012 (Ryan-Collins, Stephens, & Coote, 2008). The UK operation of time banking is similar to those in Switzerland and the United States but there are three approaches to create co-production, namely person-to-person, person-to-agency and agencyto-agency. Person-to-person is about the exchange of time and service to the individuals in need within the community. Third parties or organisations shall host and coordinate the time bank. Person-to-agency involves contribution to the goals of community and time credits are earned by the hosting organisations. The agency provides choices for members to utilise the credits. The activities are not specific to individuals but the community, including planting tree. Agency-toagency mainly focuses on the collaboration between agencies to facilitate the exchange of services between organisations and individuals because this approach aims to fully utilise the community assets by sharing of facilities. When an organisation is looking for a room to promote time banking, the other authority can offer underutilised room for this purpose. By sharing resources within the community, it may not only reach the common purposes and goals of improving the services but also share the knowledge and expertise among different discipline of organisations. Ultimately, it creates and establishes a socially inclusive community, maximises the use of community assets, as well as improving the self-esteem, confidence, well-being and social network of the individuals participating in the time banking project (Boyle, Clarke & Burns, 2006; Gregory, 2012a).

4.3 Asian Countries or Regions

4.3.1 Japan

Japan is one of the first Asian countries to bring the "time bank" concept to care services for its ageing population. Japan's time bank currency system is called "Fureai Kippu" scheme. The development of "Fureai Kippu" scheme is based on a volunteering system for tackling the limited resources to support the ageing population (Boyle, 2011). Participants can earn credits by providing caring service to the elderly in the community and then use the credits to exchange for similar services they need (Colligan, 2011). The earned credits can be saved and redeemed later in life when necessary. There were more than 660 time banks recorded across Japan and about 250 less known time banks before 2012 (Hayashi, 2012). Two different approaches of time banking are adopted in Japan, which consist of the person-to-person approach and the utilising conventional money approach. In the latter approach, the service recipients may not have enough time credits to exchange for the service and have to pay small amounts of fee. The fees are paid to the organisations rather than the service providers. The Japanese time banking system reduces the burden on the service provision and the pressure on community service resources (Ng, 2017).

4.3.2 Taiwan

Taiwan has a similar cultural background to Hong Kong. It started to promote time banks as early as in the 1990s. The HONDAO Senior Citizen's Welfare Foundation created the "Volunteer Hours Bank" in 1995 (HONDAO Senior Citizen's Welfare Foundation, 2006). Local governments and higher educational institutions also support the advocacy of time banking in Taiwan (Wu & Chou, 2017). Some local governments provide community services for the elderly, including companion for medical consultation, exercise, domestic assistance and meal delivery, to promote charity-related activities. On the other hand, students can learn more about the concept of time banking through service learning in tertiary educational institutions. Both educational and governmental supports have positive impacts on time banking promotion in Taiwan. Instrumental and emotional supports are provided to community services. Instrumental support relates more to

actual assistance, such as transportation, and emotional support focuses on caring and understanding to the service recipients. The outcome of time banking has been found to be positive by both the service providers and recipients. Servers earn a sense of accomplishment after providing services while the receivers in the community feel positive after receiving services (Chou & Lee, 2015). With the platform for reciprocity, it allows community members to help one another in the physical, psychological and social aspects. Furthermore, online platforms, such as social media, are used to invite membership and they can promote time banking in the community (Taiwan Time Bank Association, 2019).

5 CHALLENGES OF ADOPTING TIME BANKING IN HONG KONG

Compared to other countries, there is insufficient promotion of the concept of time banking in Hong Kong, where less than three non-governmental organisations (NGOs) are providing time bank services. Promoting time banking to the community is rarely reported but social media can provide opportunity for the youngsters and the general public to get more exposure to the concept of time banking. Social media can also assist in advocating the exchange of time credits and encourage the members and non-members to attend promotional events. Apart from social media, information seminar pertinent to time banking is utterly insufficient and inadequate. Regarding education, the concept of reciprocity under time banking is not common in Hong Kong. Hence the concept of time banking cannot be delivered and popularised without enough, suitable and effective promotion.

Furthermore, volunteer projects organised by educational institutions may not be able to sustain the volunteerism of students. Sustainability and continuous volunteering of students to the community are also questionable. Secondary school students only have the Other Learning Experience (OLE) project related to community service. It was discovered that secondary school students cannot develop their personal and social responsibility in the community (Ling & Chui, 2016). It can be inferred that they will not keep participating in volunteer service in the future although they have certain prior experience. In addition, time banking is a kind of volunteer scheme and, if time banking is adopted into the OLE related community service for secondary school students, the continuity and sustainability of time banking may not be reached. Instilling the importance of volunteering in the community to the students has the room for improvement so as to increase the participation of youths into the time banking scheme.

With the lack of promotion, there are barriers for the participants to understand the difference between time banking and volunteering (Ozanne, 2010). The membership of time banking in Hong Kong is less than 200 (TVB News, 2019), even though the demand for time bank services is high. The people in need may just seek the traditional volunteer services when they cannot receive timely and appropriate care and services for a long time. Over time, the concept of time banking will cool down. In the meantime, the misunderstanding of time bank can lead to altruism problem (Whitham & Clarke, 2016). Time banking requires service providers to request assistance when necessary to create a chance for other participants to provide reciprocal services and to exchange for the time to service. Nevertheless, some members do not intend to receive any service but only enjoy to providing it. This causes an imbalance of the exchange of time and service. Therefore, promotion is extremely essential for the adoption of time banking in the Hong Kong community.

Governmental support is inevitable for adopting new service and system in the community. To facilitate the adoption of time banking in Hong Kong, the government should allocate resources for creating time banks in the community. Although the Hong Kong Government would like to promote public health to alleviate the burden and pressure of the health care system due to the ageing population, the current policy does not mention much about long term planning. Furthermore, the lack of governmental financial support is one of the major challenges of adopting time banking in Hong Kong since the concept of time banking is organised and established by the NGO, which bears the operating costs. Besides, the NGO needs to conduct various types of events for promoting and coordinating time banking.

6 RECOMMENDATIONS

To further generalise the concept of time banking in Hong Kong, the Government should provide more resources in the community and subsidies for NGOs, including educating the community about the importance of time banking and coordinating the activities for the exchange of time and service. As the time banks cannot earn enough income to cover the administrative costs, government's financial support can help the promotion and operations of time bank. Apart from governmental support, commercial organisations can also provide assistance in the promotional process of time banking. Device development, including website and application, can establish the basic platform for users to not only exchange of service but also increase the exposure of this concept to the public (Valor, Papaoikonomou, & Martínez-de-Ibarreta, 2017).

To promote the use of time banking, positive attitude towards the request and offer is essential. The ease of use in time banking platforms is positively associated with the positive attitude (Yuan, Hanrahan, & Carroll, 2019). Electronic application of time bank can provide user friendly platform for exchange of service and also reduce the burden of human resource. An online platform is found to be useful in some countries to display the lists of services that are offering and being requested by the recipients (Bellotti et al., 2014). It can facilitate the exchange of services since request of assistance from the recipients can be recorded on the Internet and service providers can offer help through online registration. Mobile application can be used to enhance the exchange of immediate request because it allows the service recipients to ask for assistance more conveniently than using website platform. The interested service providers can quickly respond to the requests by mobile phones, which enhance the possibility of exchange on the time sensitive issues.

Furthermore, educational support and promotion can allow students to familiarise with the concept of time banking. Emphasising the effectiveness of time banking and volunteering in the schools may allow students' involvement of volunteer service in the community. Likewise, service learning embedded with the concept and practice of time banking can lead to positive outcomes for the students because they can gain beneficial experience apart from learning from textbook or in the classroom (Parker et al., 2009). Young people should be encouraged to join time banking projects. In addition, the involvement of students may be beneficial to the relationship between young people and older adults (Marks, 2012). Moreover, earning time credits earlier in life could have direct and indirect benefits. Youths can apply their skills and techniques to optimise the operations of time banking for the improvement in the community. Furthermore, youths who participate in volunteering and Other Learning Experiences (OLE) services are found to remain

involved for providing services in the community (Ling & Chui, 2016). Overall, a virtuous cycle can be formulated to better promote and sustain time banking in the community.

Hong Kong people are in general altruistic but less willing to seek help from others, and this behaviour can be a social problem arising from altruism (The HKJC Centre for Suicide Research and Prevention, 2018). To tackle this issue, the approach of time banking can be modified from earning for oneself to earning for family members, relatives or people in the society. If the participants can earn time credits for their family and relatives or donate the time credit to people in need, it matches the characteristics of altruism through helping others. Therefore, the service providers do not only help the recipients but also other potential recipients in the community. In the end, the proposed new approach can create more service opportunities for service providers.

7 PATH TO IMPACT

The development of time banking provides the chance for the elderly to reconnect to the community and to establish self-confidence. The exchange of time and service can be beneficial not only to the service recipients but also to the providers in the social, physical and psychological aspects. In other developed countries, such as United States, United Kingdom and Japan, the time banking concept is more developed. Insufficient promotion and financial support by the Government are the main causes leading to the lagged development and operations of time banking in Hong Kong. The Government should take the initiative to publicise and promote the concept of time banking. A supporting policy and funding mechanism will pave the path to benefit the community.

8 ACKNOWLEDGEMENT

The work described in this paper was fully supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project Reference No.: UGC/IDS24/18).

REFERENCES

Aldrich, D. P., & Meyer, M. A. (2015). Social capital and community resilience. *American Behavioral Scientist*, 59(2), 254-269.

Beenstock, S. (2001). Time share. Nursing Standard, 15(46), 18-19. doi:10.7748/ns.15.46.18.s36

Bellotti, V. M., Cambridge, S., Hoy, K., Shih, P. C., Handalian, L. R., Han, K., & Carroll, J. M. (2014). Towards community-centered support for peer-to-peer service exchange: rethinking the timebanking metaphor. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 2975-2984). ACM. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.698.3184&rep=rep1&type=pdf

Boyle, D. (2011). More Than Money. *NEF*, *Nesta*. Retrieved from http://www.meansofexchange.com/reportdownloads/LETS-More-Than-Money.pdf

Boyle, D., Clarke, S., & Burns, S. (2006). Hidden work: Co-production by people outside paid employment. Joseph Rowntree Foundation.

Cahn, E. S. (2004). No more throw-away people: The co-production imperative (2nd Edn.). Essential Books Ltd.

Carroll, J. M. (2013, June). Co-production scenarios for mobile time banking. In *International Symposium on End User Development* (pp. 137-152). Berlin, Heidelberg: Springer.

Census and Statistics Department. (2017). *Hong Kong Population Projections* 2017-2066. Retrieved from https://www.statistics.gov.hk/pub/B1120015072017XXXXB0100.pdf

Census and Statistics Department. (2018). *Fertility Trend in Hong Kong, 1981 to 2017*. Retrieved from https://www.statistics.gov.hk/pub/B71812FA2018XXXXB0100.pdf

Chastonay, P., Weber, D., & Mattig, T. (2018). The Health of Older People in Switzerland. *Journal of Public Health International*, *I*(2), 5-8. doi: 10.14302/issn.2641-4538.jphi-18-2426

Chou, W. H., & Lee, L. H. (2015). Investigating the preferences for time banking for senior citizens: local needs and constraints in the context of Taiwanese culture. *Bulletin of Japanese Society for the Science of Design*, 61(5), 97-106.

Colligan, P. (2011). *Public services as a platform for giving*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file /78914/philip-colligan-essay_0.pdf

Collom, E. (2007). The motivations, engagement, satisfaction, outcomes, and demographics of time bank participants: survey findings from a US system. *International Journal of Community Currency Research*, 11, 36-83.

Collom, E., & Lasker, J. N. (2016). Equal time, equal value: Community currencies and time banking in the US. Routledge.

Dittmer, K. (2013). Local currencies for purposive degrowth? A quality check of some proposals for changing money-as-usual. *Journal of Cleaner Production*, *54*, 3-13.

Gregory, L. (2012a). Local People rebuilding their communities – an exploration of Welsh time banking. *Contemporary Wales*, 25(1), 40-57.

Gregory, L. (2012b). Time and punishment: A comparison of UK and US time bank use in criminal justice systems. *Journal of Comparative Social Welfare*, 28(3), 195-208. doi:10.1080/17486831.2012.742452

Haski-Leventhal, D. (2009). Elderly volunteering and well-being: A cross-European comparison based on SHARE data. *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, 20(4), 388-404.

Hayashi, M. (2012). Japan's Fureai Kippu time-banking in elderly care: origins, development, challenges and impact. *International Journal of Community Currency Research*, 16(A), 30-44.

HONDAO Senior Citizen's Welfare Foundation. (2006). *Current Services*. Retrieved from http://www.hondao.org.tw/en/index.html

Hong Kong Professional Teachers' Union. (2018). *Time Banking Plan – Body Check and Recruitment Exercise of Living Assistants under the Time Banking Plan (時間銀行計劃上身體檢查暨 時間銀行計劃招募生活助手活動)*. Retrieved from https://www.hkptu.org/timebank

Hong Kong Sheng Kung Hui. (2018, August 12). Elderly in the Tseung Kwan O Aged Care Complex Serve as Volunteers and Accumulate Credits for the Zhi Fu Scheme (將軍澳安老大樓長者做義工儲分織福).

Retrieved from http://echo.hkskh.org/issue.aspx?lang=2&id=3393&nid=5615

Jacobson, W., & MacMaster, P. (2000). Family Support and Time Dollars: How To Build Community Using Social Capital. Family Support America.

Julia, S. (2011). *More than money. Literature review of the evidence base on Reciprocal Exchange Systems*. Nesta discussion paper.

Kim, E. S., & Konrath, S. H. (2016). Volunteering is prospectively associated with health care use among older adults. *Social Science & Medicine*, *149*, 122-129.

Laamanen, M., Wahlen, S., & Campana, M. (2015). Mobilising collaborative consumption lifestyles: A comparative frame analysis of time banking. *International Journal of Consumer Studies*, 39(5), 459-467. doi:10.1111/ijcs.12190

Lasker, J., Collom, E., Bealer, T., Niclaus, E., Young Keefe, J., Kratzer, Z., Baldasari, L., Kramer, E., Mandeville, R., Schulman, J., Suchow, D., Letcher, A., Rogers, A., & Perlow, K. (2011). Time banking and health: the role of a community currency organization in enhancing well-being. *Health promotion practice*, *12*(1), 102-115.

Ling, W. H., & Chui, W. H. (2016). Students' willingness for future volunteering in Hong Kong. *VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations*, 27(5), 2311-2329.

Marks, M. B. (2012). Time banking service exchange systems: A review of the research and policy and practice implications in support of youth in transition. *Children and Youth Services Review*, 34(7), 1230-1236.

Molnar, S. (2011). Time is of the essence: The challenges and achievements of a Swedish time banking initiative. *International Journal of Community Currency Research*, 15(A), 13-22.

Moyer, L. (2015). An Impact Assessment Model for Web-Based Time Banks–A Thought-Experiment in the Operationalization of Social Capital. *Consilience: The Journal of Sustainable Development*, 14(2), 106-125.

Ng, D. (2017, April 21). *Time bank lets Japan's seniors swop services for free - from cleaning to companionship*. Retrieved from https://www.channelnewsasia.com/news/asia/time-bank-lets-japan-s-seniors-swop-services-for-free-from-clean-8755056

Ozanne, L., & Ozanne, J. (2011). Building Community Efficacy and Welfare Through Time Bank Exchanges. *Association for Consumer Research*, *39*, 65-66.

Ozanne, L. K. (2010). Learning to exchange time: Benefits and obstacles to time banking. *International Journal of Community Currency Research*, 14, 1-16.

Parker, E. A., Myers, N., Higgins, H. C., Oddsson, T., Price, M., & Gould, T. (2009). More than experiential learning or volunteering: A case study of community service learning within the Australian context. *Higher Education Research & Development*, 28(6), 585-596.

Ryan-Collins, J., Stephens, L., & Coote, A. (2008). The new wealth of time: How timebanking helps people build better public services. London: NEF.

Seyfang, G. (2004). Time banks: rewarding community self-help in the inner city?. *Community Development Journal*, 39(1), 62-71.

Seyfang, G., & Smith, K. (2002). The time of our lives: Using time banking for neighbourhood renewal and community capacity building. London: New Economics Foundation

South China Morning Post. (2018, July 20). *Elderly encouraged to volunteer in return for care later*. Retrieved from https://www.scmp.com/news/hong-kong/community/article/2119436/elderly-hong-kong-encouraged-volunteer-and-later-get

Taiwan Time Bank Association. (2019). *Home Page*. Retrieved from http://www.timebank.org.tw/

The HKJC Centre for Suicide Research and Prevention. (2018). 2017 Research Report on Hong Kong Altruism Index Survey (香港助人指數研究報告). Retrieved from https://csrp.hku.hk/wp-content/uploads/2018/06/2017_Hong_Kong_Altruism_Index_Survey_CN.pdf

The moneyland.ch. (n.d.). *Time Banking and Time-Based Currency in Switzerland*. Retrieved from https://www.moneyland.ch/en/time-banking-currency-switzerland-guide

Thoele, A. (2012, March 04). Swiss city set to launch elderly care "bank". Retrieved from https://www.swissinfo.ch/eng/swiss-city-set-to-launch-elderly-care--bank-/32209234

TimeBanks USA. (n.d.). *Home Page*. Retrieved from https://timebanks.org/

TVB News. (2019, January 6). *Time Banking (時間銀行)* [Video file]. Retrieved from http://news.tvb.com/programmes/sundayreport/5c319987e603838f2224e18f/%E6%99%82%E9%96%93%E9%8A%80%E8%A1%8C

Valek, L. (2014). The Time Bank Implementation and Governance: Is PRINCE 2 Suitable? Procedia Technology, *16*, 950-956. doi:10.1016/j.protcy.2014.10.048

Válek, L., & Jašíková, V. (2013). Time Bank and Sustainability: The Permaculture Approach. *Procedia - Social and Behavioral Sciences*, 92, 986-991. doi:10.1016/j.sbspro.2013.08.788

Valor C., Papaoikonomou, E., & Martínez-de Ibarreta Zorita, C. (2017). Consumer-to-consumer exchanges: A goal theory approach in the timebanking context. *Spanish Journal of Marketing* – *ESIC*, 21(1), 14-24.

Varma, V. R., Tan, E. J., Gross, A. L., Harris, G., Romani, W., Fried, L. P., Rebok, G. W., & Carlson, M. C. (2016). Effect of community volunteering on physical activity: A randomized controlled trial. *American journal of preventive medicine*, 50(1), 106-110.

Whitham, M. M., & Clarke, H. (2016). Getting is giving: Time banking as formalized generalized exchange. *Sociology Compass*, *10*(1), 87-97.

Wu, M. J., & Chou, Y. H. (2017). Exploratory study on the implementation of Time Banking in Taiwan: Perspectives from Social Network Analysis. *Journal of Community Work and Community Studies*, 7(2), 45-96. doi: 10.29755/JCWCS

Yuan, C. W. T., Hanrahan, B. V., & Carroll, J. M. (2018). Is there social capital in service exchange tools?: Investigating timebanking use and social capital development. *Computers in Human Behavior*, 81, 274-281.

Yuan, C. W. T., Hanrahan, B. V., & Carroll, J. M. (2019). Assessing timebanking use and coordination: implications for service exchange tools. *Information Technology & People*, 32(2), 344-363.