

Lowering Transport Cost and Social Participation of Elderly in Hong Kong: A Case Study on "Public Transport Fare Concession Scheme"

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Abstract

This research focuses on investigating the impacts of the "Government Public Transport Fare Concession Scheme for the Elderly and Eligible Persons with Disabilities" (the Scheme). Focus groups, as well as face-to-face interviews with questionnaires, were conducted and recorded for analysis. Via the focus group interviews, several themed impacts by the Scheme were identified, including its positive impact of enabling elderly to travel further and more frequently. The Scheme also enabled the elderly to become more socially active and increased their level of well-being. Eligible interviewees (aged over 65 or with Disabilities) increased their frequencies of using elderly community centers or medical facilities. They also visited their friends or relatives more frequently. Their usage of recreational facilities or going to hiking was also increased.

Keywords: transportation, social participation, elderly, learning motivation, classroom management

Background

Introduction

The Public Transport Fare Concession Scheme for the Elderly and Eligible Persons with Disabilities ("the Scheme") is an existing scheme targeting elders aged 65 or above. People aged under 65 can also benefit from the Scheme if they are recipients of either Comprehensive Social Security Assistance Scheme with 100% disabilities or Disability Allowance. Using their elder or personalized Octopus cards, eligible persons (aged over 65 or with Disabilities) only need to pay HK\$2, or less, per trip on designated public transportation.

The Scheme and the Elderly

With an aging population¹, Hong Kong needs to prepare for a shrinking labour force and a surging cost of elderly welfare. To minimize the possible burden of an ageing society, active aging is identified as a solution. Active aging refers to increasing aging people's quality of life by lengthening their activeness, in terms of work and social participation, and by enhancing their health and wellbeing.² To maintain the

elderly's social participation, the Government launched the Scheme. As elderly citizens only need to pay HK\$2 for every trip on the designated public transportation, it is the intention of the Scheme that the lowered public transportation fare could increase the elderly's activeness and social inclusiveness.

Aims of this Research

This research focuses on identifying the Scheme's impacts on senior citizens. The Scheme is selected because of its wide coverage of benefited elderly.

This paper first reviewed the literature related to impacts of mobility and public transportation on elderly, as well as the common methods to be used for valuing non-market impacts. Then it discussed the impacts discovered from the focus group interviews.

Analysis of the questionnaire was divided into two parts. The first part was related to the interviewees' behaviors in using public transportation. It served to provide evidence of behavioral changes invoked by the Scheme. The second part looks into the importance of lowering transportation cost by rating.

Literature Review

Previous researches showed that mobility was one of the major problems that may affect well-being of the elderly. Ahern and Hine (2012) and Mattson (2011) proposed that social participation in elderly was limited by insufficient transportation support. Previous studies pointed out that the elderly had more navigation problems as age increased (Burns, 1999), but they wanted to travel as frequent as if they were young (van den Berg, Arentze and Timmermans, 2011) and they needed to travel at least once a week (Grant and Rice, 1983). Transportation could also affect the health care visits of the elderly (Mattson, 2010).

Buchan (2010) calculated the social return on investment (SROI) for the Dial-A-Community Bus service in Scotland. By engaging stakeholders, Buchan discovered that insufficient mobility was the main problem faced by the elderly and the main outcome of the service was enhancing social interaction. By using financial proxy to value the outcomes, Buchan (2010) found that the service could generate £3.03 for every £1 invested.

Methodology

Focus Group Interviews

Focus group interviews were conducted from June 2016 to July 2016. Interviewees with and without the concession were included. There were 60 participants in our focus group and, among them, 38 of them were eligible for the Scheme and 22 of them were not. 6 of the participants left after focus group interviews and the remaining 54 participants, 47 females and 7 males, joined the interviews for questionnaire. 34 of

them were eligible and 20 of them were not.

All the 20 interviewees, who were not eligible in the Scheme, were aged below 65. Among the 34 eligible interviewees, one of them was aged below 65, but with disability. The age groups of the remaining 33 eligible interviewees are shown below:

Table 1: Number of interviews eligible for the Scheme by Age Groups

Age Groups	Number of interviewees eligible for the scheme
65 to 69	6
70 to 74	4
75 to 79	8
80 to 84	7
85 to 89	6
90 to 94	2

All of the five focus group interviews were conducted in public housing estates. The locations were purposively selected such that the participants were expected to travel mainly by public transportation rather than private vehicles.

Two focus group interviews were conducted in Tin Shui Wai, with 15 and 17 participants respectively. One group was conducted in Lam Tin with 12 participants. The remaining two groups were conducted in Kwun Tong with eight participants each. All focus groups were recorded and transcribed for content analyses.

After focus group interviews, each participant was invited to an individual face-to-face interview to complete a questionnaire for his / her behavior of using transportation and importance of lowering transportation cost.

Focus Group Analysis

Focus group interviews were conducted to identify the Scheme's potential outcomes invoked on the elderly.

Themes identified among Eligible Participants

Advantages of the Scheme

Among those participants eligible for the Scheme, seven advantages were identified.

Table 2: Perceived advantages of the Scheme from Eligible Participants

Perceived Advantages of the Scheme	
Advantage	Number of Times Mentioned ³
The Scheme enabled senior citizens to travel further and more frequently	41
The Scheme helped senior citizens save money	17
The Scheme increased senior citizens' social participation and wellbeing	13
The Scheme enabled the elderly to take bus instead of walking	4
The Scheme was helpful to the elderly	3
The Scheme increased senior citizens' incentive to use medical facilities	2
The Scheme increased senior citizens' activeness and changed their daily routines	1

According to the advantages identified in the focus group interviews, "The Scheme enabled senior citizens to travel further and more frequently" was mentioned the most. Below are some of the quotes:

"I rarely travelled around previously without the Scheme and just went to places nearby. And I am now happy to travel more frequently with the concession."

"I will go to Yuen Long or Sheung Shui and even Central in my spared time because of the Scheme. I did not travel that often before having the Scheme." (The participant lives in Lam Tin.)

"Before having the concession, my friends came and visited me, but now I can visit them and hang out with them."

The second advantage recognized was "The Scheme helped senior citizens save money", but with the frequency of mentioned less than half of the first one. Below were some examples of quotes related to this advantage.

"There is a big difference between spending just two dollars and over 10 dollars per trip. We do not have any income and the Scheme can really make a difference."

"The Scheme can help me save lots of money. Although the public transportation fare was halved for the elderly, it was still expensive to spend over ten dollars per trip. Up to several hundred dollars of expenses on transportation can then be saved with the Scheme. We do not have any income right now and need to rely on the Old Age Allowance which is very minimal at around two thousand dollars per month. The allowance was not enough for daily expense and we could not afford travelling around. We are now much better off with the Scheme."

"Transportation expense would have been a great burden if I had not had the Scheme."

The third advantage identified in the focus group interviews was "The Scheme increased senior citizens' social participation and wellbeing". Below are some examples of quotes related to this advantage.

"The Scheme helps create better interpersonal relationships as we can visit our friends or relatives easier and more frequently. It has mental and physical benefit to us which, in turn, can help the Government save its medical expenses."

"The Scheme can benefit the elderly as they can go travelling with three or four friends."

"I have become more socially active."

The above quotations from interviewees have shown that the main advantage of the Scheme is the betterment of elderly's social interaction by lowering their travelling cost.

Some participants mentioned that the Scheme did not have any impact on their lives because their traveling habits were not changed and they travelled only if needed. This type of "no impact" statements was mentioned five times in the focus groups.

The three major advantages identified were consistent with the intended outcomes of the Government to launch the Scheme, which was to encourage the elderly to participate more actively in the community. Although some of the participants thought the Scheme did not invoke any impact, the frequency was much less than that of the three major advantages.

Purposes of Using Public Transportation

Participants also mentioned their purposes of using public transportation during the focus groups.

Table 3: Purposes of Using Public Transportation of Eligible Participants

Purposes of Using Public Transportation	
Purpose	Number of Times Mentioned
Medical check	7
Visit relatives	6
Shopping	3
Work	2
Entertainment	2
Diet	2
others	2
Grocery shopping	1
Visit friends	1

Going for medical checkups was the most frequently mentioned purpose, followed by visiting relatives.

Although medical check was one of the main purposes of using public transportation, eligible participants indicated that they did not increase the frequency of using medical services simply because of the Scheme and only used the services when necessary.

Factors Affecting the Usage of Public Transportation

Factors that affected the elderly's frequency of using public transportation were discovered. The factors included:

Physical strength: there were two opposite dimensions of influence. Some elders were too weak that they were not willing or able to go out at all. Another influence was that if they were moderately weak, they were willing to travel around but would take public transportation even for a short distance. Frequency of using public transportation was decreased by the first one but increased by the second.

Distance: if destinations were not too far away, the elders preferred to walk instead of taking public transportation.

Fare of public transportation was not a main factor for the eligible participants. Eligible participants provided the following comments and suggestions for the Scheme.

Table 4: Comments and Suggestions on the Scheme of Eligible Participants

Comments and Suggestions on the Scheme	
Suggestions or Comments	Number of Times Mentioned
Suggested providing free public transportation	10
Suggested lowering the age limitation of the scheme	9
Thought tourists aged 65 or over should not enjoy the Scheme	5
Suggested providing free public transportation for elderly aged over 70	5
Recognized the positive effect of the Scheme	4
Recognized Hong Kong's public service	2
Thought that the target age group of the Scheme was acceptable	1
Was satisfied with the coverage of the Scheme	1
Was satisfied with the concessionary fare	1
Suggested improvement to the public transportation vehicles	1
Thought that the transportation cost in Hong Kong was high	1
Suggested further lowering the fare to HK\$1 per trip	1
Suggested providing free transportation for the elderly aged over 80	1
Thought that the age requirement was reasonable	1

The most frequently mentioned suggestion was to provide free public transportation for the eligible. Some of them thought that the free public transportation should be provided to those with age over 70. They explicitly compared the Scheme with that in China where the elderly enjoyed free public transportation.

Another frequently mentioned suggestion was to lower the age limit. Among participants with this suggestion, 60 was their most preferred threshold age.

Some of the participants were against the inclusion of tourists over 65 in the Scheme and they thought that it was not justified to subsidize tourists with the Government's expenditure.

Themes Identified among Non-Eligible Participants (Aged under 65 and without Disabilities)

Table 5: Expected Advantages Proposed by Non-Eligible Participants

Expected Advantages Proposed	
Expected Advantage	Number of Times Mentioned
The Scheme enables senior citizens to travel further and more frequently	14
The Scheme increases senior citizens' social participation and wellbeing	3
The Scheme helps senior citizens save money	2
The Scheme enables senior citizens to take bus instead of walking	1
The Scheme is helpful to senior citizens	1

Their expectations were consistent with those realized outcomes stated by the eligible participants, with the most frequently mentioned expected advantage as "enables senior citizens to travel further and more frequently".

Unlike the eligible participants, public transportation fare was the most influential factor and physical strength was not particularly mentioned. Moreover, taking public

transportation for grocery shopping was common for them, but not for the eligible ones.

Apart from the distance to destination, the factors affecting eligible and ineligible participants were diverse. The fact that the eligible participants were not concerned about the fare can be explained by the impact of the Scheme. However, physical strength was a key difference between the two groups that might affect the effectiveness of the Scheme.

Physical strength declines with age (Trombetti et al., 2016). From the focus groups, it can be hypothesized that the elderly tend to use more public transportation if their physical strength starts to decline to a moderate level. However, when they get older, their physical strength may decline to a level that they are not able to travel around and, thus, reduce the use of public transportation and the effectiveness of the Scheme. The proof of this hypothesis is beyond the scope of this research, but related researches are worth conducting to investigate the potential change of effectiveness of the Scheme.

The main suggestion to the Scheme from this group of participants was to lower the age limit to 60, though some of them were satisfied with the current Scheme and were willing to wait until 65.

Analysis of Questionnaire

Eligible Interviewees (Aged over 65 or with Disabilities)

General Information

There were 34 valid responses from the interviewees eligible in the Scheme. They were categorized as "eligible interviewees".

Health

Among the eligible interviewees, most of them claimed to have normal health condition, while some of them stated that they had either "good" or "bad" status. Two interviewees stood out, reporting to have "very bad" and "very good" health respectively.

Table 6: Health Condition of Eligible Interviewees

Interviewees' Health Condition Self-evaluation	
Health Condition	Number of Interviewees
Very good	1
Good	9
Normal	17
Bad	6
Very Bad	1

Six interviewees reported that they had no diagnosed chronic illness(es). Others suffered mainly from hypertension, diabetes and cataract.

Table 7: Diagnosed Chronic Diseases of Eligible Interviewees

Interviewees' Diagnosed Chronic Diseases	
Diagnosed Chronic Illness	Number of Interviewees (Can choose more than one, except the option "No")
No	6
Hypertension	19
Diabetes	11
Coronary heart diseases	7
High cholesterol	6
Cataract	11
Stroke	1
Alzheimer's disease	1
Parkinson's disease	0
Others	14

Family and Living

Most of them had one to four children, while some of them had seven or more children.

Table 8: Number of Children of Eligible Interviewees

Interviewees' Number of Children	
Number of Children	Number of Interviewees
0	2
1	4
2	5
3	11
4	5
5	2
6	0
7	3
8	2
9	0
10	0

Although only two interviewees reported to have no children, only one third of the interviewees lived with their children and half of them lived alone. The figure was not consistent with the statistics from 2011 Census which showed that there were just 12.7% of elderly living alone in Hong Kong. A possible reason for this bias was that the interviewees were mainly invited through elderly community centers and elders living alone were more likely to reside in these centers.

Although the figure was not sufficient to be generalized to represent the population, the importance of enhancing social inclusiveness for elders living alone is supported by the literature. Alfred, Bohdan, Patricia and Georg (1992) showed that the elderly living alone could probably have higher depressive symptom, causing health problems and exerting more severe effect on them. Seeman, Lusignolo, Albert and Berkman (2001) demonstrated that better social support and relations could avoid declines in cognitive ability in the elderly.

Table 9: People Living with Eligible Interviewees

People Living with Interviewees	
People Living with	Number of Interviewees (Can choose more than one, except the option "Living alone")
Living alone	17
Spouse	9
Children	8
Grandchildren	0
Other relatives	1
Maids	0
Other	0

Travel Habit

The responses were consistent with the impacts identified from the focus group with "visiting relatives or friends" and "going to elderly community centers or medical facilities" as the two most common purposes of using public transportation.

Table 10: Purpose of Travel of Eligible Interviewees

Interviewees' Purposes of Travel	
Purposes of Travel	Number of Interviewees (Can choose more than one)
Shopping	5
Hiking or using recreational facilities	4
Using medical / elderly community centers	10
Visiting friends / relatives	17
Grocery shopping	9
Others	10

Public transportation and walking were the interviewees' most common means of transportation. However, it cannot be generalized since the interviewees were purposively selected such that the impact of the Scheme could be identified. This aim could not have been achieved if the focus groups mainly consisted of elders from the high income group who do not commonly use public transportation.

Most interviewees needed to walk less than 15 minutes to the closest stations / stops of their commonly used public transportation, with only two needed to walk more than 15 minutes.

Table 11: Means of Travel of Eligible Interviewees

Interviewees' Purposes of Travel	
Means of Travel	Number of Interviewees (Can choose more than one)
Walking	14
Bus / Minibus	21
MTR / Light rail	23
Taxi / Private vehicle	1
Pick-up service	0
Others	0

From the above statistics, the interviewees can serve to reveal the impacts of the Scheme as public vehicles were their main tools of transportation and they had convenient access to public transportation.

Behavioral Changes of the Interviewees Eligible for the Scheme

The questionnaire contained questions related to the interviewees' behavior before and after being involved in the Scheme. The behaviors being investigated included "frequencies of using public transportation", "frequencies of visiting elderly community centers or medical facilities", "frequencies of visiting relatives or friends" and "frequencies of using recreational facilities or hiking".

According to the responses, interviewees used public transportation more frequently after being involved in the Scheme. They increased their frequencies of visiting elderly community centers and medical facilities, visiting their relatives or friends and using recreational facilities or hiking. The responses showed that the Scheme increased social participations among those interviewees with largest effect on usage of recreational facilities or hiking.

Table 12: Usage of Public Transportation of Eligible Interviewees

Interviewees' Usage of Public Transportation				
Frequency (Per Week)	Number of Interviewees			
	Before the scheme	%	After the scheme	%
<3	22	64.7%	16	47.1%
4-7	8	23.5%	7	20.6%
8-10	0	0%	3	8.8%
>10	4	11.8%	8	23.5%

Table 13: Usage of Medical Facilities / Elderly Community Centers of Eligible Interviewees

Interviewees' Usage of Medical Facilities / Elderly Community Centers				
Frequency (Per Week)	Number of Interviewees			
	Before the scheme	%	After the scheme	%
<1	23	67.6%	16	47.1%
1-2	2	5.9%	7	20.6%
3-4	2	5.9%	3	8.8%
>4	7	20.6%	8	23.5%

Table 14: Frequency of Visiting Friends / Relatives of Eligible Interviewees

Interviewees' Frequency of Visiting Friends / Relatives				
Frequency (Per Week)	Number of Interviewees			
	Before the scheme	%	After the scheme	%
<1	24	70.6%	18	52.9%
1-2	7	20.6%	10	29.4%
3-4	3	8.8%	6	17.7%
>4	0	0%	0	0%

Table 15: Frequency of Using Recreational Facilities or Hiking of Eligible Interviewees

Interviewees' Frequency of Using Recreational Facilities or Hiking				
Frequency (Per Week)	Number of Interviewees			
	Before the scheme	%	After the scheme	%
<1	29	85.3%	20	58.8%
1-2	2	5.9%	5	14.7%
3-4	2	5.9%	7	20.6%
>4	1	2.9%	2	5.9%

Non-Eligible Interviewees (Aged under 65 and without Disabilities)*General Information*

Participants aged under 65 and not meeting the eligibility for disability were grouped into this category of "non-eligible interviewees". They, at the time of the interviews, were not qualified for the Scheme and thus did not enjoy the concessionary fare when travelling by public transportation. The total number of interviewees categorized in this group was 20.

Health

When asked about their self-evaluation of health condition, more than a half of non-eligible interviewees (12) viewed their health condition as "normal", while four and three interviewees self-evaluated as "good" and "bad" respectively. The remaining one rated her health as "very bad". Generally, the health of the interviewees was acceptable.

Table 16: Health Condition of Non-eligible Interviewees

Interviewees' Health Condition Self-evaluation	
Health Condition	Number of Interviewees
Very good	0
Good	4
Normal	12
Bad	3
Very Bad	1

While six interviewees claimed that they did not have any diagnosed chronic illness(es), seven and four interviewees reported that they had hypertension and diabetes respectively. Leg problems were also prevalent as four interviewees complained that they were plagued with leg pain, joint degeneration or rheumatoid arthritis. These physical problems may decrease patients' activeness and increase their reliance on transportation in case they need to travel.

Table 17: Diagnosed Chronic Diseases of Non-eligible Interviewees

Interviewees' Diagnosed Chronic Diseases	
Diagnosed Chronic Illness	Number of Interviewees (Can choose more than one, except the option "No")
No	6
Hypertension	7
Diabetes	4
Coronary heart diseases	2
High cholesterol	2
Cataract	0
Stroke	1
Alzheimer's disease	0
Parkinson's disease	0
Others	8

Family and Living

Most of the interviewees in this group had three children, similar to the eligible interviewees. Yet, none of them had more than four children.

Table 18: Number of Children of Non-eligible Interviewees

Interviewees' Number of Children	
Number of Children	Number of Interviewees
0	1
1	3
2	6
3	8
4	2

Unlike those eligible interviewees, who mostly lived alone, most of the ineligible interviewees lived with their spouses and / or children.

Table 19: People Living with Non-eligible Interviewees

People Living with Interviewees	
People Living with	Number of Interviewees (Can choose more than one, except the option "Living alone")
Living alone	2
Spouse	8
Children	16
Grandchildren	0
Other relatives	1
Maids	0
Other	0

Travel Habit

13 interviewees revealed that they mainly travelled by bus / minibus, and eight of them travelled by MTR / Light rail. 10 interviewees preferred walking. Only one interviewee chose taxi / private vehicle as a major means of transportation. The common usage of public transportation implies that the interviewees can provide more informative idea about the impacts of the Scheme.

Table 20: Means of Travel of Non-eligible Interviewees

Interviewees' Means of Travel	
Means of Travel	Number of Interviewees (Can choose more than one)
Walking	10
Bus / Minibus	13
MTR / Light rail	8
Taxi / Private vehicle	1
Pick-up service	0
Others	0

The main purpose of travel was found to be groceries shopping as seven interviewees reported. Other common purposes included visiting medical facilities and elderly centers (6) and paying visits to friends and relatives (6). Only four interviewees

picked recreation as one of their main purposes of travel. The distribution demonstrates that non-eligible interviewees travelled around for grocery shopping, socializing and visiting friends and relatives.

Table 21: Purpose of Travel of Eligible Interviewees

Interviewees' Purposes of Travel	
Purposes of Travel	Number of Interviewees (Can choose more than one)
Shopping	4
Hiking or using recreational facilities	4
Using medical / elderly community centers	6
Visiting friends / relatives	6
Grocery shopping	7
Others	6

In terms of frequency of travelling to use medical facilities / elderly community centers, visit friends and go for recreational activities, the non-eligible interviewees were not active, as they mainly travelled for the above purposes 0-2 times per week.

Table 22: Usage of Public Transportation of Non-eligible Interviewees

Interviewees' Usage of Public Transportation		
Frequency (Per Week)	Number of Interviewees	%
<3	8	40%
4-7	4	20%
8-10	2	10%
>10	6	30%

Table 23: Usage of Medical Facilities / Elderly Community Centers of Non-eligible Interviewees

Interviewees' Usage of Medical Facilities / Elderly Community Centers		
Frequency (Per Week)	Number of Interviewees	%
<1	12	60%
1-2	7	35%
3-4	1	5%
>4	0	0%

Table 24: Frequency of Visiting Friends/Relatives of Non-eligible Interviewees

Interviewees' Frequency of Visiting Friends/Relatives		
Frequency (Per Week)	Number of Interviewees	%
<1	9	45%
1-2	8	40%
3-4	1	5%
>4	2	10%

Table 25: Frequency of Using Recreational Facilities or Hiking of Non-eligible Interviewees

Interviewees' Frequency of Using Recreational Facilities or Hiking		
Frequency (Per Week)	Number of Interviewees	%
<1	11	55%
1-2	7	35%
3-4	1	5%
>4	1	5%

Discussion for the Behavior of Using Public Transportation

Findings

Both groups of eligible and non-eligible interviewees relied on either walking or public transportation for travelling. This showed that they can provide information about the impact of the Scheme.

Table 26: Comparison of Means of Travel of Interviewees

Means of Travel	Interviewees' Means of Travel	
	Number of Interviewees (Can choose more than one)	
	Eligible Interviewees	Non-eligible Interviewees
Walking	14	10
Bus / Minibus	21	13
MTR / Light rail	23	8
Taxi / Private vehicle	1	1
Pick-up service	0	0
Others	0	0

While most non-eligible interviewees lived with their children, most of the eligible ones lived alone. Although, as mentioned before, the figure may not match with those from census, the problems caused by solitary as shown by Alfred, Bohdan, Patricia and Georg (1992) could be more severe among eligible interviewees and their needs for better social inclusiveness should be higher as indicated by Seeman, Lusignolo, Albert and Berkman (2001).

Table 27: Comparison of People Living with Interviewees

People Living with	People Living with Interviewees	
	Number of Interviewees (Can choose more than one, except the option "Living alone")	
	Eligible Interviewees	Non-eligible Interviewees
Living alone	17	2
Spouse	9	8
Children	8	16
Grandchildren	0	0
Other relatives	1	1
Maids	0	0
Other	0	0

The main purpose of travelling for non-eligible interviewees was grocery shopping, but the number was just marginally higher than those of other purposes. The purposes of travelling for eligible interviewees were concentrated on "going to elderly community centers or medical facilities" and "visiting relatives or friends". The figures showed that social interaction is an important element of eligible interviewees' daily life. One of the possible reasons for the differences between two groups of people could be attributed to the fact that most eligible interviewees lived alone while non-eligible interviewees mostly lived with their spouses or / and children. Eligible interviewees' need for social interaction was higher as a result.

Table 28: Comparison of Purposes of Travel of Interviewees

Purposes of Travel	Interviewees' Purposes of Travel	
	Number of Interviewees (Can choose more than one)	
	Eligible Interviewees	Non-eligible Interviewees
Shopping	5	4
Hiking or using recreational facilities	4	4
Using medical / elderly community centers	10	6
Visiting friends / relatives	17	6
Grocery shopping	9	7
Others	10	6

The frequency of using public transportation among eligible interviewees before joining the Scheme was less than that of non-eligible interviewees. One of the possible reasons was that the Scheme commenced in 2012 and some eligible interviewees might already be retired by that time and did not need to travel frequently for work. However, eligible interviewees' frequencies of using public transportation increased after joining the Scheme.

Table 29: Comparison of Usage of Public Transportation of Interviewees

Frequency (Per Week)	Interviewees' Usage of Public Transportation		
	% of Eligible Interviewees		% of Non-eligible Interviewees
	Before the Scheme	After the Scheme	
<3	64.7%	47.1%	40%
4-7	23.5%	20.6%	20%
8-10	0%	8.8%	10%
>10	11.8%	23.5%	30%

67.6% of the eligible interviewees visited the medical facilities or elderly community centers less than once per week, more than that of non-eligible interviewees (60%). But the frequency improved to 47.1% after those eligible interviewees joined the Scheme.

Table 30: Comparison of Usage of Medicine Facilities / Elderly Community Centers of Interviewees

Frequency (Per Week)	Interviewees' Usage of Medicine Facilities / Elderly Community Centers		
	% of Eligible Interviewees		% of Non-eligible Interviewees
	Before the Scheme	After the Scheme	
<1	67.6%	47.1%	60%
1-2	5.9%	20.6%	35%
3-4	5.9%	8.8%	5%
>4	20.6%	23.5%	0%

Eligible interviewees did not visit their friends or relatives as frequently as non-eligible ones, regardless of whether they had joined the Scheme or not. However, the frequency increased after eligible interviewees joined the Scheme.

Table 31: Comparison of Frequency of Visiting Friends/Relatives of Interviewees

Frequency (Per Week)	Interviewees' Frequency of Visiting Friends/Relatives		
	% of Eligible Interviewees		% of Non-eligible Interviewees
	Before the Scheme	After the Scheme	
<1	70.6%	52.9%	45%
1-2	20.6%	29.4%	40%
3-4	8.8%	17.7%	5%
>4	0%	0%	10%

85.3% of the eligible interviewees used recreational facilities or went hiking less than once per week: this number was much higher than that of the non-eligible interviewees (55%). But the frequency was much improved to 58.8% after the eligible interviewees joined the Scheme.

Table 32: Comparison of Frequency of Hiking or Using Recreational Facilities of Interviewees

Interviewees' Frequency of Hiking or Using Recreational Facilities			
Frequency (Per Week)	% of Eligible Interviewees		% of Non-eligible Interviewees
	Before the Scheme	After the Scheme	
<1	85.3%	58.8%	55%
1-2	5.9%	14.7%	35%
3-4	5.9%	20.6%	5%
>4	2.9%	5.9%	5%

From the above three tables, the eligible interviewees' participation in these three types of activities was less frequent than that of non-eligible interviewees before they joined the Scheme. The differences can be attributed to other background factors such as availabilities of facilities, communication technologies and public policies. Yet, more in-depth studies should be conducted to investigate the real reasons.

However, after the eligible interviewees started enjoying the Scheme, their frequencies increased to a similar level as that of the non-eligible interviewees. This changes of behavior were consistent with the impacts identified from the focus groups and could demonstrate the Scheme's substantial impact on the eligible interviewees.

Limitation of the Research

The participants of the focus groups were purposely selected such that those selected were dependent on public transportation for travelling. It could provide more information about the impact of the Scheme. However, the impacts of the Scheme on those with higher income and travel by private vehicles may not be the same.

Participants of the eligible and non-eligible group had different demographics backgrounds, and these confounding factors could affect the results.

Lacking pre-Scheme interviews makes the research less effective in controlling other factors.

Moreover, the cognitive ability of the participants, especially those of higher age, may not be sufficient enough to recall clearly their uses of public transportation and other engagement of social activities before joining the Scheme.

The question "Usage of Medical Facilities / Elderly Community Centers" should also be separated into two questions for visiting medical facilities and elderly community centers respectively, since the function of the two types of centres are not the same.

This research also does not look into the externalities created to other stakeholders.

For example, public transport may be crowded, affecting other younger users.

Conclusion

The traditional acute care system is not sufficient to fully address the ageing problem in Hong Kong because of its ignorance on the social life of elderly. As shown in our literature review, easiness of transportation is a vital factor in elderly social life. Via studying the Scheme, we found that lowering transportation cost can enhance the social interaction of elderly, including the frequencies of visiting their relatives, friends and using recreational facilities.

The Scheme is worth to be further studied and the research can be improved. For example, a group of elderly with age just lower than 65 can be tracked for their change of wellbeing because of the Scheme.

While studies relating transportation and elderly social life is plenty in other regions, they are lacked in Hong Kong. We hope that this research can induce more local studies regarding transportation and elderly social life.

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Notes

1. According to Thematic Report : Older Persons from Census and Statistics Department in Hong Kong, there were 13.3% of total population aged 65 or over in 2011.
2. World Health Organization, "Ageing and life-course," http://www.who.int/ageing/active_ageing/en/, accessed 23 May 2016.
3. Each participant can mention the same themed quote more than one time during the discussion. Therefore, the numbers do not sum up to the total number of eligible participants.

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