Authors

John K. Stanley,
David A. Hensher,
Janet R. Stanley,
Dianne Vella-Brodrick

"Mobility, social exclusion and well-being: Exploring the link"

Lab:　　　　 **Traffic and City**
Student ID:　 **22WA003**
Name:　　　　**Tomoichi Ebata**

Review of the previous presentation

"Subjective well-being related to satisfaction with daily travel"

Authors
Cecilia Jakobsson Bergstad
Amelie Gamble
Tommy Garling
Olle Hagman
Merritt Polk
Dick Ettema
Margareta Friman
Lars E. Olsson

Review of
"Subjective well-being related to satisfaction with daily travel"

Lab: Traffic and City
Student ID: D22WA003
Name: Tomoichi Ebata

0-1. Terminology

Term	Outline	Others
Health	"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.	Definition by WHO
Well-being	**A state of** happiness and fulfillment in all aspects of life: physical, mental, and social	Using this icon →
Satisfaction	**Fulfilment** of one's wishes, expectations, or needs, or the **pleasure** derived from this.	Using this icon →

Well-being

- **Positive emotions**
- **Motivation and immersion** やる気と没頭
- **Awareness of self**
- **Mindfulness** ←------------- **Similar** ------------→
- **Psychological resistance/resilience**
- **Empathy** 共感
- **Compassion and altruistic behavior**

思いやり・利他的行動

Satisfaction

0-2. Definitions

Term		Contents	Ebata's understanding
Subjective Well-Being : SWB)		■**No definition of "happiness" at all** ■Answer "How happy do you feel about yourself" → Clarification ■Hence, the "survey" is the main focus.	**No concept of "happiness that can be compared to others"**
Two SWBs	**(A)Cognitive SWB**	■**Based on an individual's (self-imposed) assessment of well-being** ■**Also known as "life satisfaction"** ■Self-evaluations of other specific domains of life in general, such as work, consumption, health, relationships with family and friends, and leisure time (**domain-specific SWB**).	**Personal "happiness" based on the "rules of our own happiness"**
	(B)Affective SWB	■**Positive emotions** of joy, fulfillment, enjoyment ■**Negative emotions** such as sadness, anger, disappointment ■**Response portion of the individual** as determined from the above multidimensional	Happiness" based on feelings that arise spontaneously inside us, **non-logically, without even rules** within us.

0-3. Conclusions

The impact of satisfaction with **daily mobility (STS)** on emotional and **cognitive SWB** is both direct and related by satisfaction with **activity performance (SAS)**
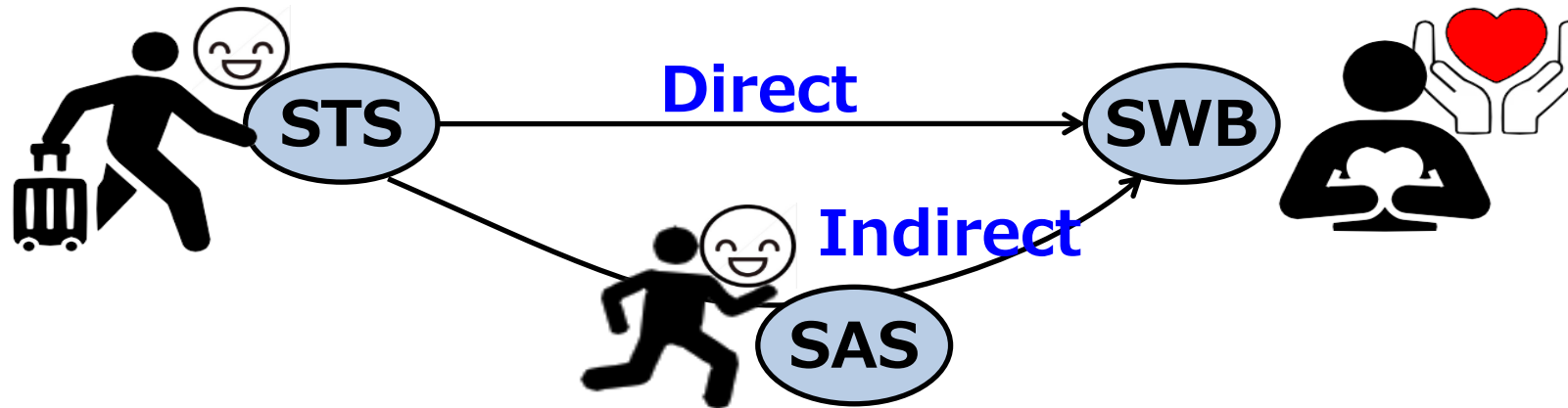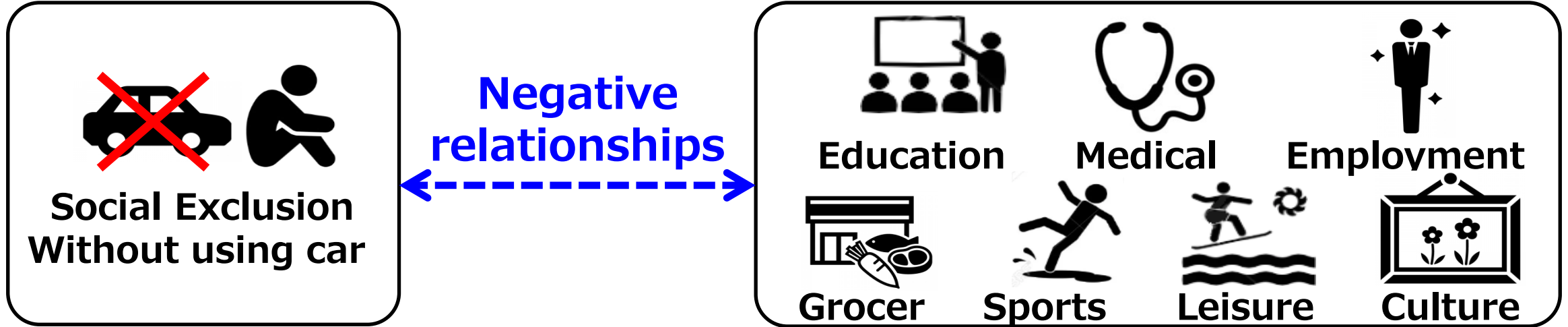

Car use plays only **a minor role** in satisfaction with **daily mobility and its impact on SWB**
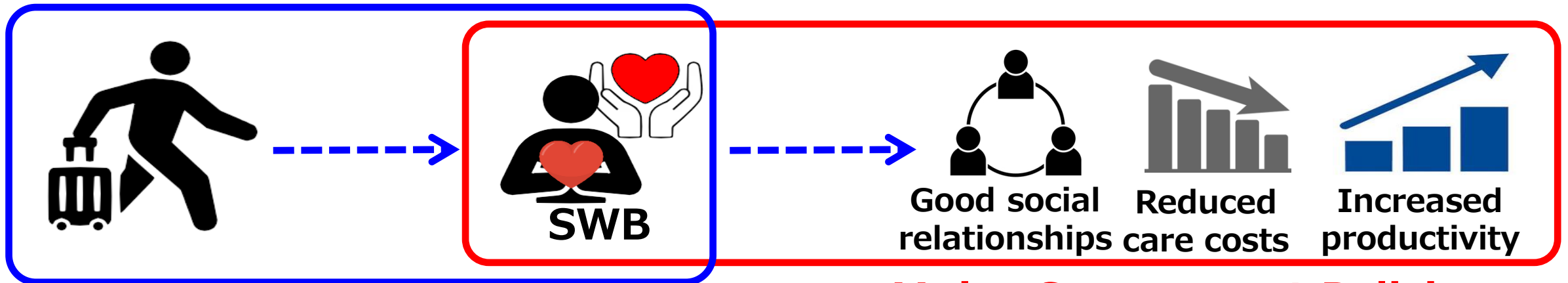

Weekly use   **Small effect**   SWB   **Daily Satisfaction**
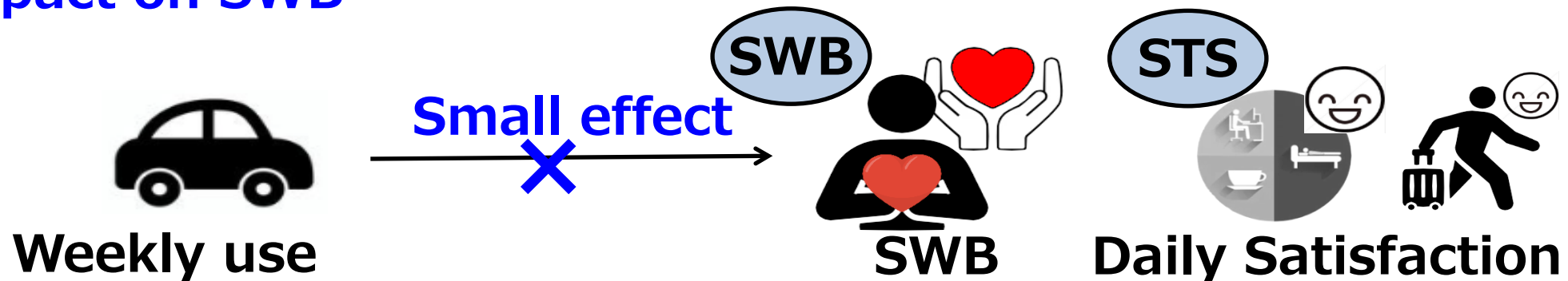
1. Introduction

Links between mobility and social exclusion have been realized

Negative relationships

Social Exclusion
Without using car

Education   Medical   Employment

Grocer   Sports   Leisure   Culture

(Cartmel and Furlong, 2000; Hine and Mitchell, 2003; Cass et al., 2005; Preston and Rae, 2007).

SWB

Good social relationships   Reduced care costs   Increased productivity

Major Government Policies

(Keyes and Grzywacz, 2005; Lyubomirsky et al, 2005)

Relationship between Transportation Mobility and Happiness
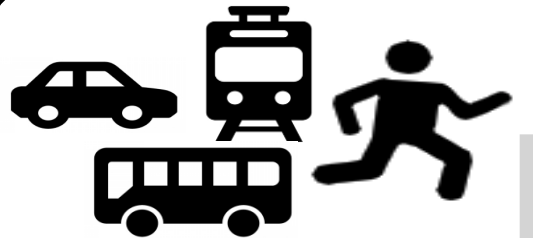
Transport Mobility Serves → Education, Medical, Employment, Grocer, Sports, Leisure, Culture → **Psychological well-being**

| Paper	Outline	Others
Mollenkopf et al., 2005	How transport mobility contributes towards enhanced quality of life	Convenience of transportation is positively correlated with quality of life
Bergstad et al. 2011	Emotional, social, and psychological aspects related to transportation mobility are receiving attention	Mobility of transit agencies has not consistently proven beneficial
Spinney et al., 2009	Satisfaction with activity performance also found to mediate this relationship	Participation leads to a sense of independence.
Cantor and Sanderson (1999)	Participation in all tasks of life is important to well-being	Transportation has a greater purpose than just simply moving from one place to another

Self-Determination Theory (Deci and Ryan, 1985)

claims that people are motivated to achieve the following three factors

factors	Outline
(1)Competence	We belief that one has the resources to achieve important outcomes
(2)Relatedness	We have supportive and satisfying social relationships
(3)Autonomy	We feel an undertaking activities based on choice, self-determination
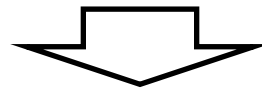
These three factors lead to our health(Deci and Ryan, 2000)

Model of Psychological Well-being (Ryff's 1989)

Comprehensive framework for assessing psychological factors as follows

| factors	Outline
(1)Autonomy	One's self-determination, ability to sustain individuality, self evaluation and regulation of one's own behavior and personal standards
(2)Environmental mastery	A sense of competence and mastery and the ability to shape surroundings to meet needs.
(3)Personal growth	A sense of continued development and potential, making the most of one's talents and openness to new experiences.
(4)Positive relations with others	One's experience of affectionate, trusting, empathetic relationships and an understanding of the reciprocity of relationships.
(5)Purpose in life	A sense of goal directedness and life meaning and the belief in one's efforts.
(6)Self-acceptance	An awareness of one's limitations and have a positive self-attitude.

2. Purpose of this study

2-1. Targets of this paper

Previous studies of Mobility and Well-being

Paper	Target	Results
Mollenkopf et al., 2005	Extensive analysis of the relationship between mobility and subjective well-being among older adults in Europe.	**Social exclusion is not covered.**
Spinney 2009	Investigating the relationship between mobility and well-being among older Canadians.	
Currie and Stanley, 2008	Survey on feeling connected to the community	**No mention of relationship between social exclusion and well-being**
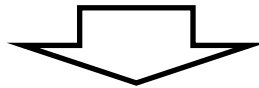
Targets of this paper are,
(1) To develop a single/simple modeling framework of the relationship between mobility, social exclusion, and subjective well-being
(2) To evaluate previous studies using the above framework.
(3) To investigate the linkages between mobility, social exclusion, and well-being from the viewpoints of this new framework
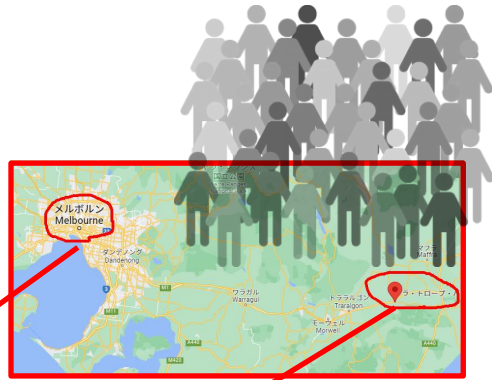
3. Target field

Experiment Field is Australia

■ Two Areas in Australia

Melbourne
(metropolitan
area) (N = 535)

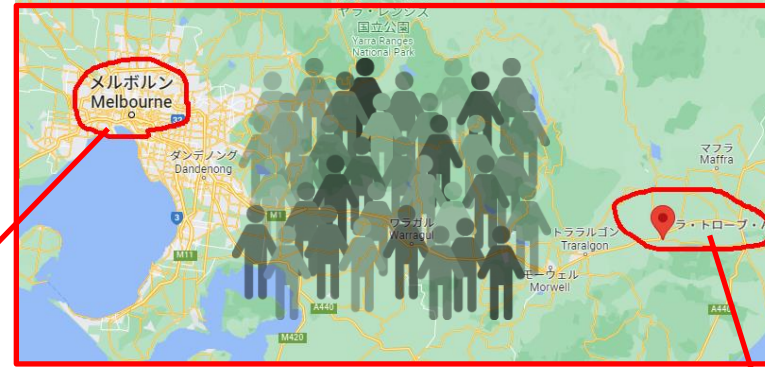Latrobe Valley
(rural areas of
Victoria) (N = 148)

(1)Demographics
(2)Household composition
(3)Risk factors for Social exclusion
(4)Social capital and community ties
(5)Subjective and psychological well-being
(6)Personality
(7)Transportation usage
(8)Transportation difficulties

■ Focus point

(A)To cover people and places to face **transportation difficulties**
(e.g many elders and youngers)

■ Characteristics

Melbourne (metropolitan area) (N = **535**)	Latrobe Valley (rural areas of Victoria) (N = **148**)
Women, low-income households, and those living outside the city	Households born abroad, low-income households, owning two or more cars **Low use of public transportation in the region**,

Socially disadvantaged (N=336)
→ **Less spontaneous travel surveys**

These are conditions to ask to join the Household Survey on Well-being and Social exclusion

3-3. Overview(Con't)

Table 1
Respondent characteristics.

Characteristic	Melbourne sample ($N = 535$)	Regional Victorian sample (Latrobe Valley) ($N = 148$)
Employment		
Full-time	24	23
Part-time	15	11
Casual	9	3
Retired	28	40
Study	13	7
Unemployed	5	6
Home duties	4	7
Other	2	3
Age		
15–17	15	5
18–35	10	12
36–50	24	23
51–65	26	33
66+	25	28
Average age	49	55
Education		
Secondary or below	52	55
Diploma	23	28
Degree	14	10
Post-graduate degree	10	7
Country of birth		
Australia	76	82
English speaking country	13	9
Non-English speaking country	11	9
Gender		
Female	60	52
Male	40	48

100% (annotation on Employment group)
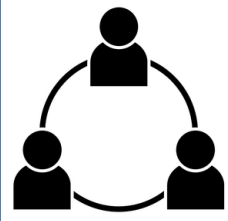
4. Social Exclusion

A state in which, individuals are unable to participate fully in economic, social, political and. cultural life
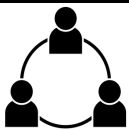
Five indicators variables for risk of social exclusion, and related thresholds

Modified 4 dimensions identified by the London School of Economics (Burchardt et al., 2002a,b)

Household income	Employment status	Political engagement	Participation	Social support
less than a threshold of $A500 gross **per week.**	not employed, in education or training, nor looking after family or undertaking voluntary activities.	- did not contribute to/participate in a government political party, campaign or action group to improve social/environmental conditions **for a year**	- did not attend one of the following: a library, sporting or exercise event, hobby, leisure or interest group, or arts or cultural event **for a month**	- not able to get help if you need it from close or extended family, friends or neighbors.
+1 Risk Point 🔥	+1 Risk Point 🔥	+1 Risk Point 🔥	+1 Risk Point 🔥	+1 Risk Point 🔥

All measurements are relatively independent

Melbourne / Latrobe Valley	Income	Employment status	Political engagement	Participation	Social support
Income					
Employment status	0.11 / 0.18				
Political engagement	0.06 / 0.03	0.00 / -0.08			
Participation	0.18 / 0.15	0.07 / 0.04	0.32 / 0.27		
Social support	-0.02 / -0.10	-0.04 / 0.19	0.08 / 0.10	0.23 / 0.07	

The more a person is politically active, the more likely he or she is to participate in other activities.

Numbers of risk points from each respondent and factor

Risk points of each respondent

2/3 of total

Zero

None | One | Two | Three | Four | Five
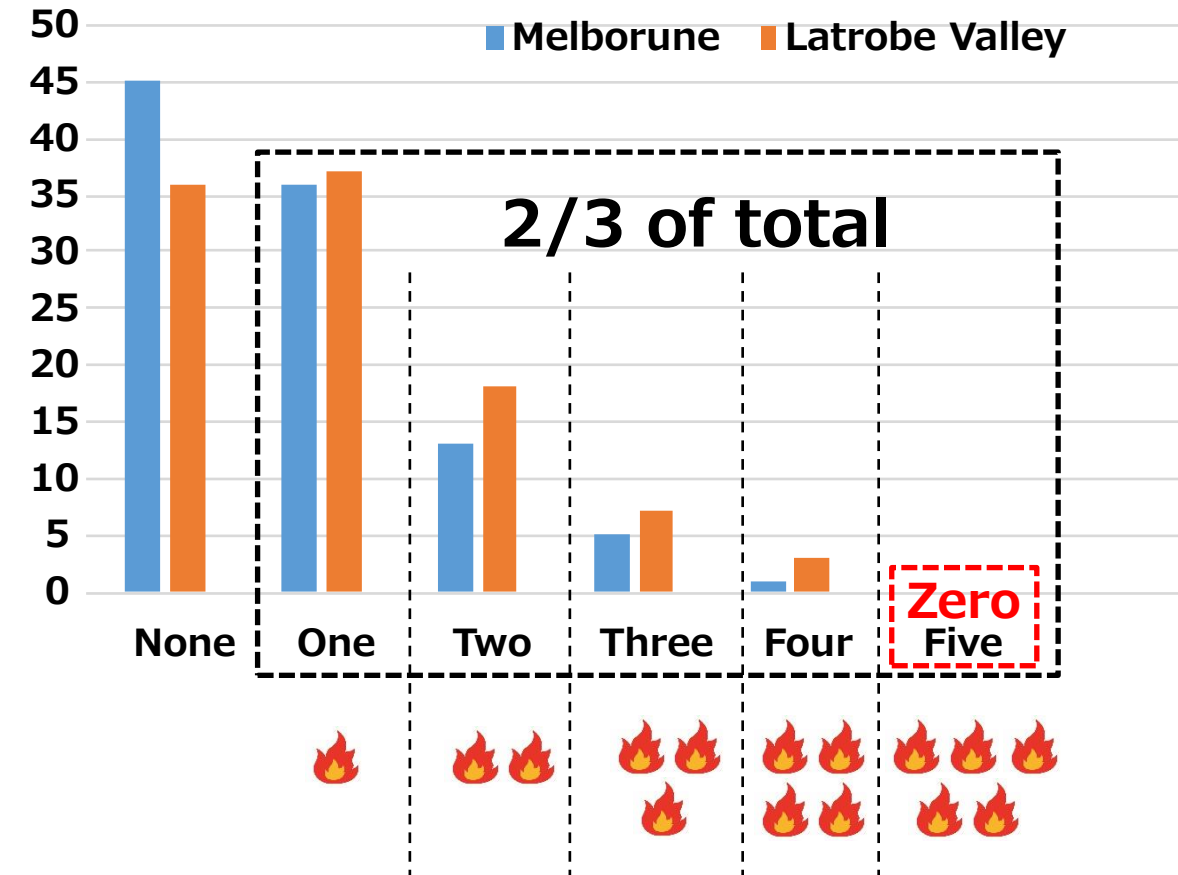
Risk points of each factor

Income | Employment | Policial engagement | Participation | Support
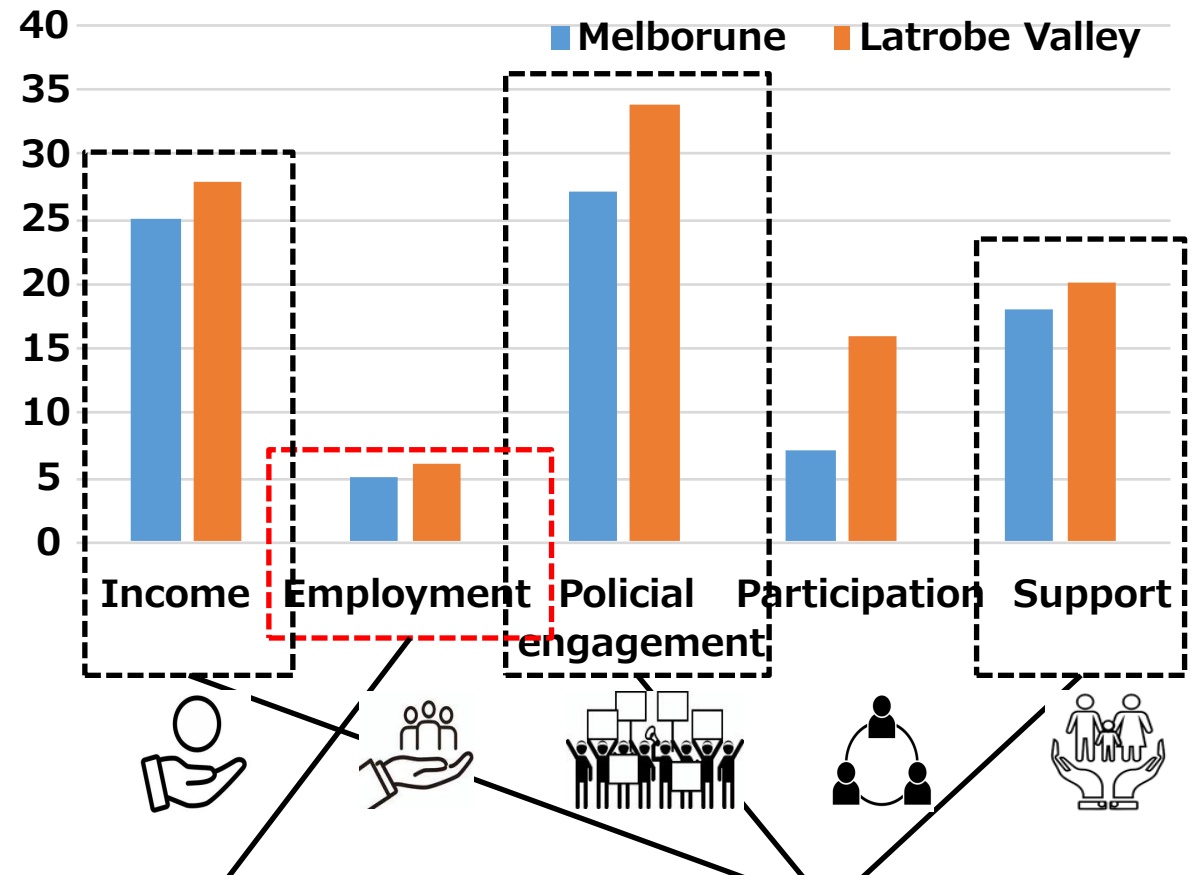
"Employment" is not a major factor

Three major factors

5. Social Capital

5-1. About Social Capital

"Social Capital" is a person's social network and views on both trust and reciprocity(Stone et al.)

Factors	How to measure
(1)Social Network	**Respondents keep in touch with those close to them (close relatives, extended family, friends / acquaintances)**
(2)Trust	**Respondents generally trust people**
(3)Reciprocity	**Respondents generally are to helped in the community**

This is a "Capital"
Realized by (e.g.)
- **neighborly companionship**
- **Summer festival(Bon dancing)**
- **New Year's visit to a shrine**

Respondents were asked on a three-point scale of "never", "sometimes", "always."

5-2. How to measure "Social Capital" in this study

People feel more connected to their community when they become actively by participating in community(Vinson,2004）

Paper	Contents
Stanley et al. (2011)	If they are in regular contact with significant others, feel attached to their community, are not low-income, mobile, and open to new experiences that allow them to grow on a personal level, they are less likely to be at risk of social marginalization
Spinney (2009)	The value of almost $A20 for additional trips

Introduced "Sense of Community Index" (Sarason (1974)、McMillan and Chavis (1986)) → Responses were measured on a **seven-point scale** ranging from **"strongly disagree" to "strongly agree"**

A measure of different aspects to the community

6. Well-Being

Ryff's (1989): psychological well-being scale is consistent with the following perspectives

SWB

SWB

factors
Autonomy
Environmental mastery
Personal growth
Positive relations with others
Purpose in life
Self-acceptance

XXXX: 0,1,2,⋯,10
XXXX: 0,1,2,⋯,10

questionnaire

XXXX: 0,1,2,⋯,10
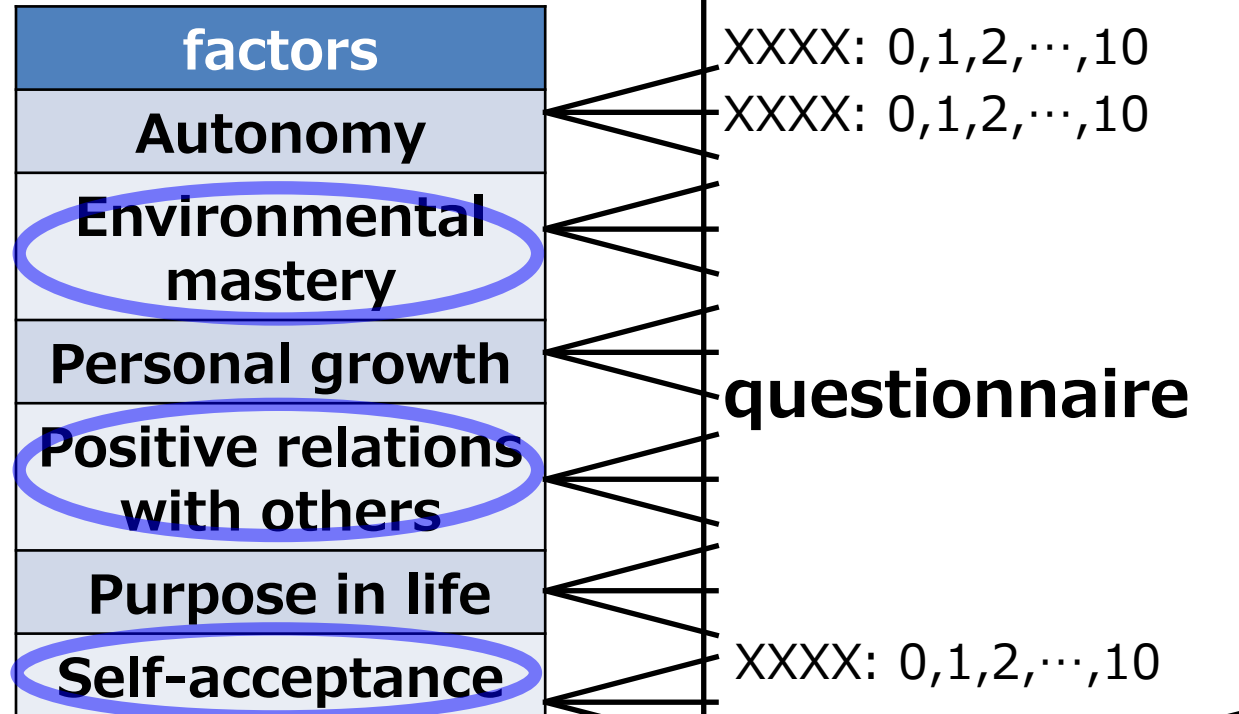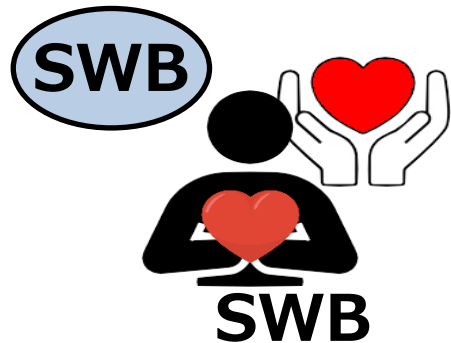
Responses are on a 7-point scale ranging from "completely dissatisfied" to "completely satisfied"

The above three factors were selected by at least 0.4 points on two or three subjective well-being variables

7. Model Structure and the Results

7-1. Hypothesized model structure

Hypothesis

1. A person's risk of social exclusion is reduced if they **don't** have **strong social capital**, **mobility**, and **high-income**;

2. Subjective well-being improves with **low risk of social exclusion**, **high levels of environmental mastery**, **positive peer relationships**, **self-acceptance**, and **a strong sense of community**
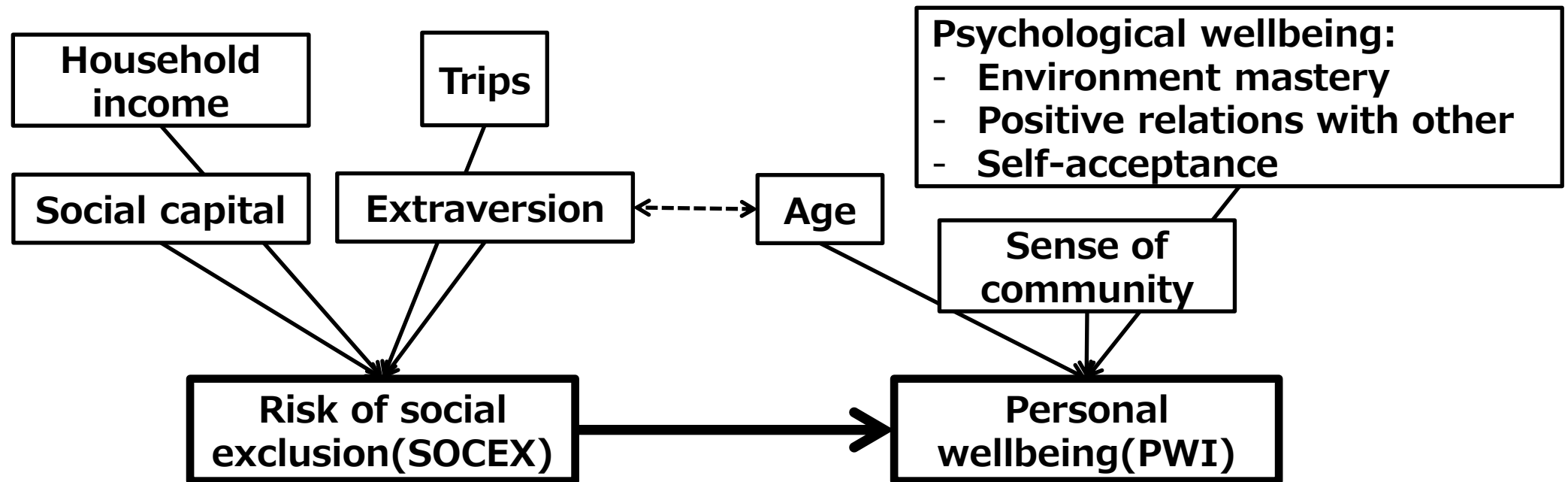
Mobility, social exclusion, and well-being: hypothesis relationship

It was built from the results of statistical calculations and the contents of the previous studies
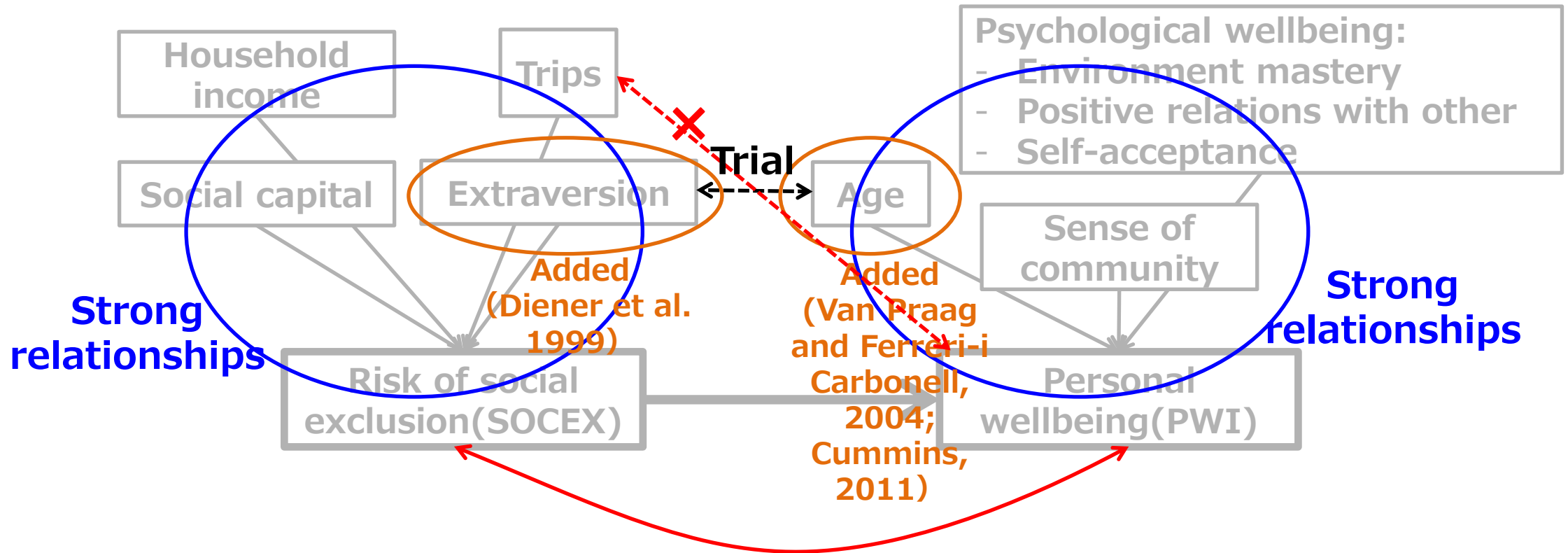
Select three-step least squares (3SLS)
→ Against the problem of "overidentification constraints in other equations not being taken into account when estimating the parameters of a single equation."

7-3. Metropolitan Melbourne (Data)

Mean, standard deviation, and sample size for each variable

Table 5
Descriptive statistics for study variables: Melbourne sample (people aged 18 and over).

Variables	Units	Mean	SD	N
Endogenous variables				
Risk of social exclusion (SOCEX)	No. of thresholds failed[*]	0.8860	0.9470	455
Personal Well-being Index (PWI)	Composite index[**]	7.4104	1.3640	455
Exogenous variables				
Person's sense of community (Socomm)	1–7 ratio scale	5.0024	0.7563	455
Contact with members of the close family more than once a year (Scnmgt1a)	1.0	0.0263	0.1602	455
Never have contact with members of extended family (Scnenev)	1.0	0.0504	0.2191	455
Do not trust people in general (Scntnot)	1.0	0.0329	0.1786	455
Household gross income per day squared (Hincpdsq)	($/day)^2	55960.0	63312.6	455
Number of trips on travel day (Numtrps)	Trips/day	3.6163	2.7616	455
Extraversion (Extrav)	Composite index[***]	4.2774	1.4155	455
PWB environmental mastery (Pwbenv)	Composite index[****]	4.6020	0.6499	455
PWB positive relations with others (Pwbposr)	Composite index[****]	4.8209	0.6008	455
PWB self acceptance (Pwbsela)	Composite index[****]	4.4910	0.6827	455
Age (Age)	Years	55.0614	16.6363	455

[*] The more thresholds failed, the greater the risk of social exclusion.
[**] Ratio scale derived from seven 10 point scales on a number of underlying items.
[***] Ratio scale derived from two 7 point scales.
[****] Ratio scale derived from seven 6 point scales.

The average age of all Victorians over 18 is "*46 years-old*" . The survey sample is heavily **weighted** toward the elderly.

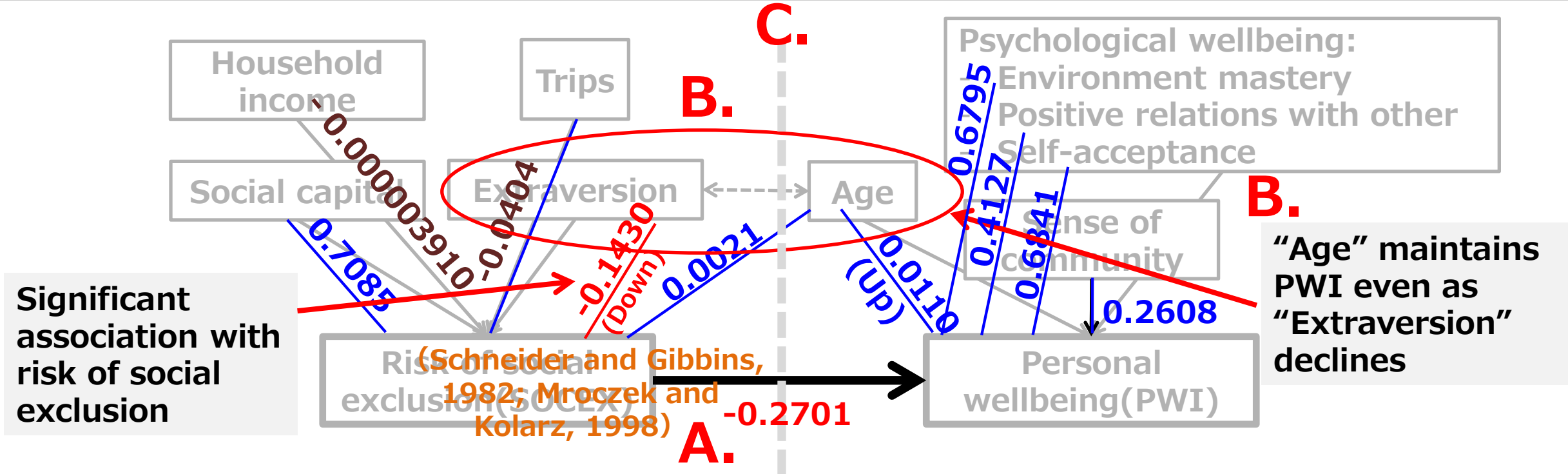# 7-4. Metropolitan Melbourne (Modeling Results)(1)

Table 6

Significant influences on risk of social exclusion and personal well-being ($N = 441^a$ complete observations) T-values in brackets.

Independent variables	SOCEX	PWI
Endogenous variable		
Risk of social exclusion (SOCEX)		−0.2701 (−2.07)
Exogenous variables		
Person's sense of community		0.2608 (3.21)
Contact with members of the close family more than once a year	0.7085 (2.88)	
Never have contact with members of extended family	0.8445 (4.79)	
Do not trust people in general	1.0647 (4.85)	
Household gross income per day squared	−0.3910D-05 (−5.69)	
Number of trips on travel day	−0.0404 (−2.873)	
Extraversion	−0.1430 (−3.43)	
Age interacted with extraversion	0.0021 (3.09)	
PWB environmental mastery		0.6795 (7.22)
PWB positive relations with others		0.4127 (3.62)
PWB self acceptance		0.6841 (7.34)
Age		0.0110 (3.134)
Constant	1.26381 (8.68)	−2.4687 (−2.53)
R-squared	.2516	.5425
Adjusted *R*-squared	.2395	.5362

[a] Ninety-four observations were eliminated because they had incomplete data.

A. **The lower the relative risk of social exclusion (SOCEX), the more personal well-begin they have**

C.

Household income

Trips

B.

Psychological wellbeing:
Environment mastery
Positive relations with other
Self-acceptance

-0.00003910

0.6795

Social capital

Extraversion

0.0404

Age

0.4127

B.

Sense of community

0.6841

0.7085

-0.1430
(Down)

0.0021

0.0110
(UP)

"Age" maintains PWI even as "Extraversion" declines

0.2608

Significant association with risk of social exclusion

Risk of social exclusion(SOCEX)
(Schneider and Gibbins, 1982; Mroczek and Kolarz, 1998)

A.

-0.2701

Personal wellbeing(PWI)

**C.** Extending the framework is not good
→ It is easier to find the relations, separated
"social exclusion" from "personal wellbeing"

**Costs of Social Exclusion are different
by "travel" and/or "household income"**

- Marginal utility of trips = **0.0404**.
- Marginal utility of household income = 2 * **0.000003910** HINCPD (HINCPD = Household income per day = **$A211.70** at average full sample level).
- Marginal rate of substitution between trips and household income (or marginal value of trip)

  = MUTRIPS/MUHINC (at average household income) = **$A24.40**.

Almost same of the previous study(Van Praag and Ferrer-i-Carbonell（2004）)
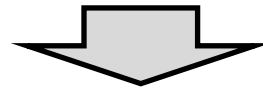
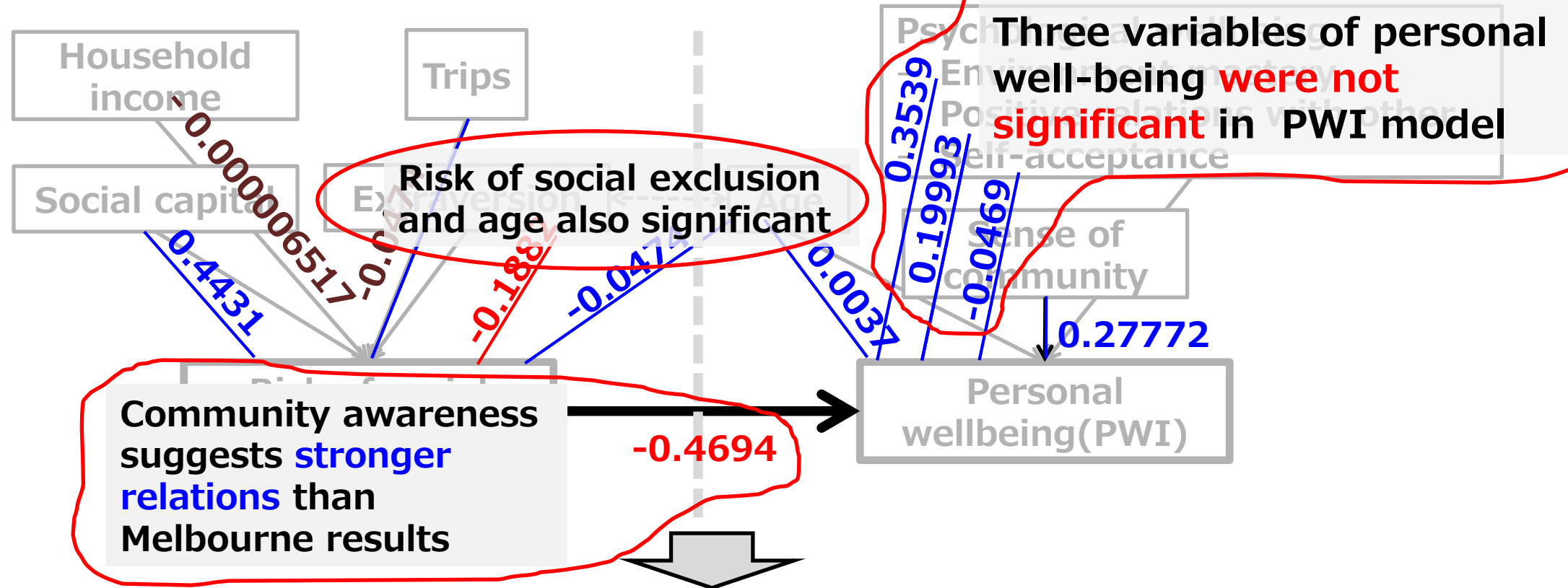**Just one trip can result in a significant change(profit)**

Table 8

Significant influences on risk of social exclusion and personal well-being: regional model (N = 134 complete observations) T-values in brackets.

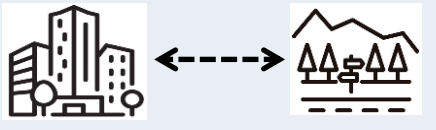| Independent variables	SOCEX	PWI
Endogenous variable		
Risk of social exclusion (SOCEX)		−0.4694 (−1.96)
Exogenous variables		
Person's sense of community		0.2772 (2.55)
Contact with members of the close family more than once a year	−0.1660 (0.26)	
Never have contact with members of extended family	1.5305 (2.87)	
Do not trust people in general	0.4431 (1.17)	
Household gross income per day squared	−0.6517D-05 (−4.60)	
Number of trips on travel day	−0.0474 (−1.61)	
Extraversion	−0.1882 (−3.20)	
PWB environmental mastery		−0.0469 (−0.21)
PWB positive relations with others		0.1993 (−0.82)
PWB self acceptance		0.3539 (1.39)
Age		−0.0055 (−0.60)
Age * extraversion		0.0037 (2.56)
Constant	2.3071 (7.73)	3.4973 (1.87)
R-squared	.2712	.1839
Adjusted R-squared	.2368	.1386
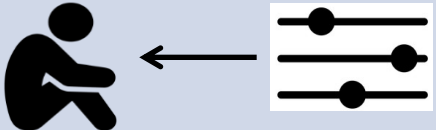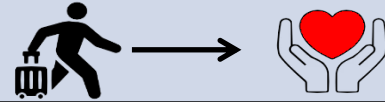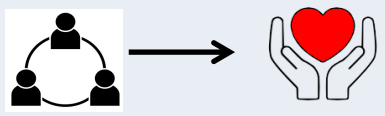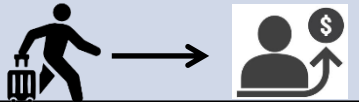
People in rural areas do not have the same psychological well-being of people in cities ?

Household income

Trips

Psychological well-being

Environmental mastery

Positive relations with other

Self-acceptance

Three variables of personal well-being were not significant in PWI model

Social capital

Extraversion

Age

Risk of social exclusion and age also significant

0.3539

0.19993

-0.0469

-0.00006517

-0.4431

-0.188

-0.0475

0.0037

Sense of community

0.27772

Community awareness suggests stronger relations than Melbourne results

-0.4694

Personal wellbeing(PWI)

People in rural areas may have fewer diverse experiences and opportunities?

8-1. Conclusion

Significant relations between increased mobility (travel and activities) and reduced risk of social exclusion

#	Contents	Ebata's Summary	
1	Risk of social exclusion may be reduced by policies and programs that promote the development of social capital, especially in metropolitan settings	**Risk of social exclusion might be controllable**	
2	Risk of social exclusion is significantly associated with individual well-being in both metropolitan and regional area	**Few different results between urban and rural**	
3	Increased mobility is an indirect means of potentially improving well-being	**Mobility improves well-being**	
4	Fostering attachment to the community is also associated with improved individual well-being.	**Community Activities improve Well-Being**	
5	In proposed framework considered, the gains from new trips are significant.	**Profits of travel are larger**	
6	The cost of a trip should be more about the number of (short) trips than the distance.	**Numbers of trip is more important than the distance**	