MONASH University
Business and Economics

SUBJECTIVE WELL-BEING OF BEIJING TAXI DRIVERS

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Asian Business and Economics Research Unit
Discussion Paper DEVDP 09-03

ABSTRACT

This study investigates subjective well-being among a sample of Beijing taxi drivers in the lead up to the 2008 Beijing Olympic Games using the Personal Wellbeing Index (PWI). The specific aims of this study are (a) ascertain whether Beijing taxi drivers are satisfied with their lives; (b) investigate the psychometric properties of the PWI in this unique population; and (c) examine whether the responses to the PWI from participants falls within the narrow range predicted by the 'Theory of Subjective Wellbeing Homeostasis'. The PWI demonstrated good psychometric properties and was consistent with previous studies for Western and non-Western samples. The data revealed a moderate level of subjective well-being (PWI score = 61.1). While Beijing taxi drivers work long hours for low wages, the PWI was nonetheless within the normative range predicted for Chinese societies by the 'Theory of Subjective Wellbeing Homeostasis'. The results suggest that the homeostatic mechanism is fairly resilient, even when the individual leads a hard life based on objective indicators. For Beijing taxi drivers, it may be that personal relationships and feeling part of the community acts as an important buffer for the homeostatic system.

Keywords China, Personal Wellbeing Index, Subjective Wellbeing

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* The data in this study were collected by Yongsheng Zhang as part of the research program of the Renmin-Monash Advanced Centre for Economic Studies (ACES). Xiaolei Qian provided research assistance.

1. INTRODUCTION

Research on subjective well-being in China is still embryonic, relative to the large literature that has emerged in Western contexts (Chen & Davey, 2008a, 2008c). One promising line of inquiry is the application of the Personal Wellbeing Index (PWI) to Chinese samples. The PWI is a multi-item indicator of subjective well-being first developed in Australia as part of the Australian Unity Wellbeing Index (Cummins *et al.*, 2003). As of 2005, the PWI was being used by over 100 researchers in 50 countries (International Wellbeing Group, 2006). The psychometric properties of the PWI are well established in a series of studies with western samples (International Wellbeing Group, 2006). The PWI has been found to have similar psychometric properties to its use in Western samples when applied in Hong Kong (Lau *et al.* 2005, 2008), Macau (Macau Inter-University Institute, 2007), urban China (Chen & Davey, 2008b; Huang & Xing, 2005; Smyth *et al.,* 2009), rural China (Davey *et al.,* 2008) and to a sample of off-farm migrants residing in Fujian province (Nielsen *et al.,* 2009).

While the results from these initial applications of the PWI appear promising, there have been several calls to undertake further empirical research on the application of the PWI to Chinese samples. For example, Chen & Davey (2008b) stated, "the validation of the [PWI] for Chinese populations should be deemed as a work in progress, and ….[is] expected to undergo evolution in response to further empirical evidence". Davey *et al.* (2008) have echoed these sentiments: "Although research [applying the PWI in China] has reached interesting findings, it is in an early stage of development compared to Western research. …. Further research is needed from a range of demographic groups to gain an overall understanding of Chinese citizens' subjective quality of life. …. China is a country with considerable diversity in its land and people, and there are ample opportunities for further work."

The theoretical underpinning for the PWI is the "Theory of Subjective Wellbeing Homeostasis" (Cummins, 1998; Cummins & Nistico, 2002; Cummins *et al.,* 2002). This theory proposes that, under normal circumstances, subjective well-being is maintained within a limited positive range by neuro-psychological mechanisms analogous to the homeostatic management of body temperature. For western samples, the normative range has been found to be 70-80 points on a 0-100 scale distribution with a mean of 75 (Cummins *et al.,* 2003, 2004). These values are generally about 10 points lower in Chinese samples, which has been attributed to cultural bias (Lau *et al.,* 2005; see also Chen & Davey, 2008a, 2008b). One instance in which subjective well-being was found to fall below the normative range predicted by the "Theory of Subjective Wellbeing Homeostasis" was Algeria for which the PWI was 52.30 (SD=21.10). This finding was explained in terms of the existence of adverse environmental factors that defeated the homeostatic mechanism (Tiliouine *et al.,* 2006).

This paper responds to calls for research on subjective well-being using more diverse demographic groups in China through reporting the findings of a study that administered the PWI to a sample of Beijing taxi drivers in the lead-up to the Beijing Olympic Games in 2008. In previous research, Nielsen *et al.* (2009) argued that China's off-farm migrants represent a particularly strong test of the "Theory of Subjective Wellbeing Homeostasis" because of the harsh environmental conditions which they are forced to endure. Nielsen *et al.* (2009) found that the subjective well-being of off-farm migrants was in the range predicted by the theory 62.56 (SD=14.64). Examining the subjective well-being of Beijing's taxi drivers, who work long hours for low wages, represents a similarly strong test for the "Theory of Subjective Wellbeing Homeostasis". The Beijing Olympic Games represented a further external shock that intensified pressure on Beijing's taxi drivers and potentially impacted on their homeostatic mechanism. If the PWI for Beijing taxi drivers is found to lie within the normative range predicted for Chinese societies under these circumstances, this would provide further evidence that the homeostatic mechanism is resilient in Asian contexts.

Recent estimates calculated the number of legitimate Beijing taxis to be around 66,000 (SSB, 2007; Xiao-shan, 2006) and the number of illegitimate taxis to be between 60,000 and 70,000 (Xinhua News Agency, 2006). Among the legitimate taxis, 98-99 per cent are operated by one of

333 registered taxi companies, with the remaining 1-2 per cent being self-owned and operated (Hexun News, 2006). For those operated by registered taxi companies, the companies are responsible for purchasing the cars, applying for taxi and business licenses, paying taxes and also managing their drivers. The company taxi drivers then licence the car from, and pay monthly rent to, the taxi companies and are required to operate them in accordance with company policies (Hexun News, 2006). For owner-operated taxis, drivers purchase their own cars, apply for taxi licenses and business licenses, pay tax, run their daily business and are responsible for complying with other related regulations.

Beijing's taxi drivers are low income earners. Some statistics show that salaries of owner-operated taxi drivers are at least double the amount of company appointed taxi drivers, with owner-operated taxi drivers earning 4000 to 6000 RMB per month, while company appointed drivers earn 1000 to 2000 RMB per month (YUD, 2005). China Youth Daily reported that company drivers could earn up to 9000 RMB per month, but less oil, maintenance and rental costs and other expenses, they are likely to pocket no more than 1000 RMB per month. Rental fees paid to the taxi companies alone range from 2000 to 5000 RMB per month and the rental fees are payable regardless of the taxi fares that drivers take (CYD, 2006; YUD, 2005). The low salaries of drivers is in stark contrast to the income level of the senior management staff at Beijing taxi companies, which is around 20,000 RMB per month (Hexun, 2006). In 2007, average income per month for urban residents in Beijing was about 2000 RMB. Thus, the 98-99 per cent of Beijing's taxi drivers, who work for taxi companies earn about 50 per cent of average income in the city. In addition to the high monthly fees, including rental fees, paid to the taxi companies, the cab drivers have to pay a cab deposit of around 40,000 RMB to a taxi company to acquire a licence (China Daily, 2004).

Beijing's taxi drivers are required to work long hours, leaving little time for leisure or moonlighting to supplement their income. Officially, company drivers are required to work 14 hour per day, while owner-operated drivers can choose their own hours (China Daily, 2004). In reality, however, the owner-operated drivers may have to work even longer hours than the company drives to effectively compete in the industry. It therefore seems that the plight of both private and company operators overlaps when it comes to the issue of work hours; they both need to work long hours to compete and make money. Most drivers are reluctant to complain to the companies, but accept all the clauses in the labor contract set by the taxi companies. This is because their positions are precarious. If they do not agree to the terms stipulated by the taxi companies, they can be removed and replaced by others.

The strain of long hours and low wages was compounded in the lead up to the Beijing Olympic Games. The significant majority of traffic during the Olympics was expected to be accounted for by taxis. In light of this, at the time of the survey, owner-operated and company-appointed drivers were preparing for an unprecedented busy operating period. The Beijing Municipal Government mounted a campaign to get taxi drivers to learn English in time for the Olympics (Lane, 2008). Organisers of the Games viewed taxi drivers as having an integral role, as they were the public's main means of transport to and from events. Therefore, their knowledge of conversational English was regarded as being of utmost importance for further enhancing Beijing's international image during the Games (Xu, 2006). To underpin their campaign, the government threatened to temporarily seize the licenses of any taxi drivers who neglected to learn English, attracting the criticism from the taxi drivers that this threat was discriminatory and promoted unfair work practices (Chowdhury, 2006).

The specific aims of this research are as follows:

(a) Ascertain whether Beijing taxi drivers are satisfied with their lives.
(b) Investigate the equivalence of the PWI in terms of its psychometric properties.
(c) Examine whether the responses to the PWI from participants falls within the narrow range predicted by the "Theory of Subjective Wellbeing Homeostasis".

2. METHODOLOGY

2.1 Instrument

The PWI was used in the present study to measure domain-level representation of subjective life satisfaction. The Chinese (Mandarin) version of the PWI, which has been translated previously using a rigorous procedure, and is available on the International Wellbeing Group website, was used for this purpose (Huang & Xing, 2005; Chen & Davey, 2008b). The PWI used in the present study consisted of seven domains, measured on an 11-point end defined Likert scale, with numerical ratings ranging from 0 (extremely dissatisfied) to 10 (extremely satisfied). The seven domains were standard of living, personal health, achievement in life, personal relationships, personal safety, community-connectedness and future security. An eighth domain focused on religion and spirituality added to the PWI in November 2006 (International Wellbeing Group, 2006), does not form part of the current study. An additional item was included to probe participants' satisfaction with their life as a whole. While not part of the PWI, inclusion of this item facilitated testing for construct validity.

2.2 Participants

Five hundred and twelve Beijing taxi drivers, operating outside the Beijing railway station, agreed to participate in this study. The characteristics of participants are reported in Table 1. There were 480 males (95.8%) and 21 females (11 participants did not identify their gender), with ages ranging from 20 to 56 (M = 39.65, SD = 6.58). On average, the participants work 12.57 hours per day and 6.55 days per week. These results indicate that the sample is fairly representative of anecdotal accounts of the Beijing taxi driver population, with a vast majority being married males, earning an income at the lower end of the income spectrum, and working long hours. It is noteworthy that the descriptive statistics pertaining to gender, marital status and number of children demonstrate limited variability with a majority of the present sample being male, married and having at least one child.

Table 1 Characteristics of participants

Gender	%
Male	95.8
Female	4.2
Marital status	%
Unmarried	8.1
Married	91.9
Age	
Mean	39.65
SD.	6.58
Number of children	%
Zero	11.1
One or more	88.9
Educational level	%
Primary school	4.1
Middle school	41.5
High school	39.4
Technical degree	12.3
Bachelor degree	2.8
Average monthly	RMB

income	
	%
1000 or below	4.8
1001-1500	15.9
1501-2000	31.9
2001-2500	34.4
2501-3000	12.0
3001-5000	1.5
Hours worked	
Mean	12.6 h/d
SD	2.1 h/d

2.3 Procedure

The PWI was administered in verbal format and was self-completed by participants in 2007. Each participant was assured of anonymity and generally completed the questionnaire containing the PWI and questions about demographic characteristics within 10 minutes.

2.4 Data Analysis

The data were checked prior to analysis to ensure that there was no response bias that could confound the results. The Likert scale data were standardized into units of %SM on a 0-100 distribution. Descriptive statistics were used to summarize satisfaction ratings and *t*-tests and one-way ANOVA were employed to examine the relationship between satisfaction ratings and age, education, gender and income. Cronbach α, item total correlations and item domain correlations were calculated to determine the internal reliability of the PWI. Exploratory factor analysis was used to assess the structure of the PWI. Bivariate correlations and multiple regression were conducted to study the inter-relationships between the PWI domains and their contributions to "satisfaction with life as a whole" to establish construct validity.

3. RESULTS

3.1 Satisfaction Ratings of the PWI

The means and standard deviations of the domains of the PWI are given in Table 2. The mean domain scores ranged from 44.5 (SD=27.5) to 76.8 (SD=21.2) and the PWI score was 61.1 (SD=15.0). This score is within the normative range of 60-70 points for Chinese societies (Chen & Davey, 2008a, 2008b, 2008c; Davey *et al.,* 2008; Huang & Xing, 2005; Lau *et al.,* 2005, 2008; Macau Inter-University Institute, 2007; Nielsen *et al.,* 2009; Smyth *et al.,* 2009). The PWI score is slightly lower than that reported for Chinese off-farm migrants (62.6) (Smyth *et al.,* 2009), the general adult population in Macau (63.9) (Macau Inter-University Institute, 2007), urban residents in Zhuhai (64.4) (Chen & Davey, 2008b) and the general adult population in Hong Kong (65.9) (Lau *et al.,* 2008). This result implies that objective measures suggesting Beijing taxi drivers have a relatively low quality of life, such as low wages, long working hours and low job security, are not reflected in subjective measures. This finding is consistent with the "Theory of Subjective Wellbeing Homeostasis".

Table 2 Satisfaction ratings of the PWI

Variable	Six Cities
	Mean (SD)
Satisfaction with …….	
Standard of living	57.5 (25.3)
Health	55.1 (26.1)
Life Achievement	64.0 (25.0)
Personal Relationships	76.8 (21.2)
Personal Safety	54.1 (26.2)
Feeling Part of the Community	73.6 (23.1)
Future Security	44.5 (27.5)
Personal Wellbeing Index	61.1 (15.0)

Satisfaction with life achievement, personal relationships and community connectedness lie above the PWI score, while standard of living, health personal safety and future security lie below the PWI score. The highest mean score was for satisfaction with personal relationships (76.8, SD=21.2). The lowest mean score was for future security (44.5, SD=61.1). These findings are similar to those reported in Nielsen *et al.,* 2009 for Chinese off-farm migrants, in which personal relationships scored the second highest satisfaction rating and future security scored the lowest satisfaction rating. Most previous studies have found personal relationships to have the highest or second highest mean score of the domains. This is true for the general adult population in urban China (Chen & Davey, 2008b; Smyth *et al.,* 2009), rural China (Davey *et al.,* 2008), Hong Kong (Lau *et al.,* 2005), Macau (Macau Inter-University Institute, 2007), Australia (Cummins *et al.,* 2003, 2004) and Algeria (Tiliouine *et al.,* 2006). Thus, the results here support existing research which suggests that of the seven domains, personal relationships is the area of their life with which people are most satisfied.

Gender and Wellbeing

Table 3 presents participants' satisfaction ratings broken down according to gender. There were no significant gender differences in the PWI score, which is consistent with the previous findings of Chen and Davey (2008b) and Smyth *et al.,* (2009) for urban China, Nielsen *et al.,* (2009) for Chinese off-farm migrants and Lau *et al.* (2008) for Hong Kong. In the present study, this result likely reflects the fact there is little variability in gender with most participants being male, consistent with the demographic profile of taxi drivers in Beijing. The only statistically significant difference was with respect to satisfaction with personal relationships, for which males scored statistically higher. Given the amount of time taxi drivers spend working it is likely that most personal relationships will be formed in the workplace. Taxi drivers in Beijing often spend large amounts of time in the one location, together with other taxi drivers, waiting for a fare (such as the Beijing railway station where the data in the current study were collected). This provides ample opportunities for taxi drivers to form personal relationships with other taxi drivers. The significant lower score for personal relationships for females could reflect the fact the industry is male dominated.

Table 3 Personal wellbeing and gender

	Males (N=474)		Females (N=21)			
	Mean	SD	Mean	SD	*t*-statistic	Sig.
Satisfaction with						
Standard of living	57.4	25.3	64.8	25.4	1.30	0.21
Health	55.1	26.3	57.5	22.2	0.48	0.64
Life achievement	64.0	25.1	64.8	25.2	0.14	0.89
Personal relationships	77.4	21.1	65.2	23.8	-2.31	0.03
Personal safety	53.9	26.1	63.3	28.0	1.51	0.15
Feeling part of the community	74.0	23.1	71.9	22.5	-0.41	0.69
Future security	44.4	27.4	50.0	33.2	0.76	0.45
Personal Wellbeing Index	61.2	15.2	61.5	13.0	0.08	0.93

Age and Wellbeing

Table 4 presents participants' satisfaction ratings broken down according to age. The highest mean score was reported by the age group 26 to 30: 65.7 (SD=15.6), while the lowest mean scores was reported by the youngest age groups (18-25): 56.7 (SD=15.6). There was, however, little difference in the mean scores between age groups and these differences were not significant. This result concurs with Chen and Davey's (2008b) findings for urban residents in China and Nielsen *et al*'s (2009) findings for Chinese off-farm migrants.

Table 4 Personal wellbeing and age

age group (years)	N	%	Mean	SD
18-25	12	2.5	56.7	12.0
26-30	38	7.9	65.7	15.6
31-35	68	14.2	58.4	17.6
36-40	141	29.4	61.0	14.7
41-45	130	27.1	61.3	14.3
46-50	74	15.4	62.4	15.1
51-55	14	2.9	60.2	10.0
56-60	3	0.6	61.4	10.0
Total	480	100	61.1	15.0

$F(7, 479) = 1.05$ $p=0.40$.

Education and Wellbeing

Table 5 presents participants' satisfaction ratings broken down according to education. Those who answered that primary school was their highest education level had the highest PWI score: 69.6 (SD=12.8). This is similar to previous findings for Algeria (Tiliouine *et al.,* 2006). For those with a higher educational qualification, reported PWI scores are similar to each other (60-62). Differences in PWI scores are not statistically significant with respect to education.

Table 5 Personal wellbeing and education

Highest qualification	N	%	Mean	SD
Primary school	19	4.1	69.6	12.8
Middle school	193	41.5	60.3	15.8
High school	183	39.4	60.9	14.5
Technical degree	57	12.3	60.7	14.4
Bachelor degree	13	2.8	62.4	14.6
Total	465	100	61.1	15.0

$F(4, 464) = 1.73$ $p=0.14$.

Income and Wellbeing

Table 6 presents participants' satisfaction ratings broken down according to income. Higher income earners reported higher personal wellbeing. A one-way ANOVA found differences across income categories were significant. Tukey's HSD test confirmed that generally higher income categories scored higher than lower income categories across the board. This result is consistent with previous findings for urban China (Smyth *et al.,* 2009). It likely reflects the fact that in large cities at least, over the last three decades more emphasis has been placed on consumerism and that more people have looked to purchasing material goods as a source of well-being (Davis, 2005). Designer brand stores and large shopping centres housing Chinese and Western goods have sprung up all over Beijing. Rising incomes have provided even middle-class Beijingers with the means to acquire such goods. The results here suggest that even for a relatively low income occupational group, such as taxi drivers, higher incomes, and the lifestyle they can purchase, are associated with higher well-being. While there is much evidence that well-being does not increase with income over time (Easterlin, 1974), it has been shown higher income is associated with higher subjective well-being in a cross-sectional sample, as in the present study, at a single point in time. This is true for western samples (see Clark *et al.,* 2008; Dolan *et al.,* 2008 for reviews) and samples from rural and urban China (see eg. Appleton & Song, 2008; Knight *et al.,* 2008; Smyth *et al.,* 2009). The results reported here are consistent with existing findings reported in these studies.

Table 6 Personal wellbeing and income

Average Monthly Income (RMB)	N	%	Mean	SD
1000 or below	23	4.8	46.0	21.7
1001-1500	76	15.9	56.8	13.6
1501-2000	153	31.9	60.1	13.3
2001-2500	165	34.4	64.9	13.5
2501-3000	54	12.0	66.3	15.8
3001-5000*	7	1.5	67.1	21.3
over 5000*	1	0.2	75.7	0.00
Total	479	100	61.1	15.0

*3001-5000 RMB and over 5000 RMB omitted from post-hoc tests due to low cell numbers.

$F(5, 477) = 10.64$, $p=0.00$. Tukey's HSD test: 1000 RMB or below per month < 1001-1500 RMB per month, $p=0.02$; 1000 RMB or below per month < 1501-2000 RMB per month, $p=0.00$; 1000 RMB or below per month < 2001-2500 RMB per month, $p=0.00$; 1000 RMB or below per month < 2501-3000 RMB per month, $p=0.00$; 1001-1500 RMB per month < 2001-2500 RMB per month, $p=0.00$; 1001-1500 RMB per month < 2501-3000 RMB per month, $p=.00$; 1501-2000RMB per month < 2001-2500 RMB per month, $p=.01$; 1501-2000 RMB per month < 2501-3000 RMB per month, $p=.04$.

3.2 Internal Reliability of the PWI

Cronbach α

The Cronbach α coefficient for the PWI is 0.71. This demonstrates good reliability and is generally comparable to the findings of earlier studies. For example, Lau *et al.* (2005) found the Cronbach α coefficient in a sample of Australian participants to be 0.73 and Davey *et al.,* (2008) found the Cronbach α coefficient in a study of rural China to be 0.75.

Item-Total Correlations

The item-total correlations are reported in Table 7. All correlations were significant at the $p<0.01$ level and ranged in value between 0.32 and 0.50, with most having a moderate correlation of around 0.4. These values are similar in magnitude to, albeit slightly lower than, the findings reported in previous studies. For example, Lau *et al.* (2005) found that the majority of items in Australian and Hong Kong samples had a correlation of around 0.5.

Table 7: Item total correlation

	Item total correlation
Standard of living	0.491
Health	0.424
Life achievement	0.497
Personal relationships	0.323
Personal safety	0.459
Feeling part of the community	0.362
Future security	0.388
Cronbach's Alpha	0.711

All the correlations are significant at p<.01 level

Domain Inter-correlations

The domain inter-correlations reported in Table 8 ranged between 0.06 and 0.57. The highest correlations were community connectedness with personal relationships: 0.57; personal safety with future security: 0.39 and personal safety with standard of living: 0.37.

Table 8: Domain Inter-correlations

Variable	Stand	Hlth	Ach	Rel	Saf	Com	Sec
Stand	1.00						
Hlth	0.27	1.00					
Ach	0.51	0.22	1.00				
Rel	0.12	0.28	0.18	1.00			
Saf	0.37	0.32	0.35	0.07	1.00		
Com	0.17	0.24	0.24	0.57	0.13	1.00	
Sec	0.32	0.25	0.29	0.06	0.39	0.10	1.00

Stand – standard of living; Ach – life achievement; Rel – personal relationships; Saf – personal safety; Com – part of community; Sec – future security. All the correlations are significant at p<.01 level.

3.3 Validity of the PWI

Factor Analysis

To determine the structure of the PWI, the domains were subjected to a principal components analysis. All assumptions for the performance of this analysis were met. All variables inter-correlated with at least one other variable at >0.30 (see Table 8). The Kaisen-Meyer-Oklin value was 0.72, which exceeded the minimum recommended value of 0.60 (Tabachnik & Fidell, 2005). The PWI was significant (p<0.01) for Bartlett's test of sphericity (Bartlett: χ^2 (df=21)=671.42, p<.00). The analysis extracted one component, similar to several previous studies (Cummins *et al.,* 2003; Davey *et al.,* 2008; Lau *et al.;* Nielsen *et al.,* 2008; Smyth *et al.,* 2009). The seven items of the PWI loaded 0.48-0.69 on their factor and explained 37 per cent of the variance (see Table 9). This is higher than the 34 per cent found by Davey *et al.* (2008) for rural China and 28.2 per cent found by Renn *et al.,* (2009) for Austria and similar to the 38.3 per cent found by Cummins *et al.* (2003) for Australia.

Table 9: Factor analysis for the PWI items

Item	Factor loading
Standard of living	.69
Life achievement	.69
Personal safety	.65
Health	.61
Future security	.58
Feeling part of the community	.54
Personal relationships	.48
Eigenvalue	2.59
% of variance explained	36.96

Shared Contributions of Domains to Life as a Whole: Bivariate Correlation

The seven domains of the PWI correlate significantly with the general item of "life as a whole". They ranged from 0.15 to 0.64 (see Table 10). The highest correlations were with standard of living and health, which is similar to findings from previous studies (see eg. Lau *et al.,* 2005 for Australia, Tiliouine *et al.,* 2006 for Algeria). Overall, with the exception of standard of living and health, the correlations are lower than 0.4. This result is similar to what Nielsen *et al.* (2009) found for Chinese off-farm migrants and Smyth *et al.* (2009) found for Chinese urban residents across six cities, but, in general, is lower than those found in most previous studies (see eg. Cummins *et al.,* 2003, 2004; Lau *et al.,* 2005; Tiliouine *et al.,* 2006).

Shared Contributions of Domains to Life as a Whole: Multiple Regression

To determine the unique contribution of the domains of the PWI to "satisfaction with life as a whole", the latter was regressed on the former (see Table 10). The model explained in total 47 per cent of the variance, which is similar to previous studies for Australia (43 per cent) (Lau *et al.,* 2005), Zhuhai in Guangdong province (47 per cent) (Chen & Davey, 2008b); six Chinese cities (46 per cent) (Smyth *et al.* 2009) and Chinese off-farm migrants (44 per cent) (Nielsen *et al.,* 2009). Five domains, namely, standard of living (β=0.55), personal health (β=0.23), personal relationships (β=0.14), community connectedness (β=-0.09) and future security (β=0.06) were found to make a significant contribution to life as a whole. Previous studies have also found standard of living to make the largest unique contribution to predicting life as a whole (Nielsen *et al.,* 2009; Lau *et al.,* 2005; Renn *et al.,* 2009; Smyth *et al.,* 2009; Tiliouine *et al.,* 2006). The seven domains contribute 8 per cent in unique variance, sharing 39 per cent of variance between them. The unique and shared variance explained is similar to the findings from previous studies for China. For example Chen & Davey (2008b) found that total explained unique variability was 12 per cent and shared variability

was 36 per cent in Zhuhai in Guangdong province. Smyth *et al.* (2009) found that unique variability was 14 per cent and shared variability was 32 per cent in six Chinese cities. Nielsen *et al.,* (2009) found that total explained unique variability was 16 per cent and shared variability was 29 per cent for a sample of Chinese off-farm migrants in Fujian province

Table 10: Regression of 'satisfaction with life as a whole' on personal domains

Variables	Correlation with 'life as a whole'	Regression: 'life as a whole' is dependent variable		
Variables		*β*	Sig.	sr^2
Stand	0.64	.55	0.00	0.28
Hlth	0.41	.23	0.00	0.07
Ach	.36	.01	0.83	0.00
Rel	.22	.14	0.00	0.02
Saf	.31	.01	0.78	0.00
Com	.15	-.09	0.03	0.01
Sec	.31	.06	0.09	0.01
R^2		0.48		
Adjusted R^2		0.47		
Shared variability		0.39		
Unique variability		0.08		

Stand – standard of living; Ach – life achievement; Rel – personal relationships; Saf – personal safety; Com – part of community; Sec – personal security. All correlations are significant at $p<.01$ level.

4. DISCUSSION

The present study has provided data about subjective well-being among a sample of Beijing taxi drivers. The study adds to the literature on subjective well-being in China for a demographic profile that has until now not been studied. The aims were to (a) ascertain whether Beijing taxi drivers are satisfied with their lives; (b) investigate the psychometric properties of the PWI in this unique sample; and (c) examine whether the responses to the PWI from taxi-driver participants falls within the narrow range predicted by the "Theory of Subjective Wellbeing Homeostasis". The findings are discussed below in relation to these aims.

The PWI scores reported in Table 2 show that participants, on average, were satisfied with their lives. The PWI score was 61.1 (SD=15.0) and, apart from future security, the domain scores were situated above the scale midpoint, which is indicative of a moderate, positive level of well-being (Chen & Davey, 2008b; Nielsen *et al.,* 2009). These results are consistent with existing findings for Mainland China (Chen & Davey, 2008a, 2008b; Davey *et al.,* 2008; Huang & Xing, 2005; Nielsen *et al.,* 2008; Smyth *et al.,* 2009), other Chinese societies (Chen & Davey, 2008c; Lau *et al.,* 2005, 2008; Macau Inter-University Institute, 2007) and studies for Western countries employing the PWI and other instruments to measure well-being, that most people are content with their lives (International Wellbeing Group, 2006).

Beijing taxi drivers were most satisfied with personal relationships and community connectedness. Most previous studies have also found that personal relationships are the part of their lives with which they are most satisfied. Cummins *et al.* (2007) noted that personal relationships act as a powerful external buffer on the homeostatic mechanism. This observation is particularly true for demographic groups such as the Beijing taxi drivers in the present study and off-farm migrants in the study by Nielsen *et al.,* (2009) for which the PWI is at the lower end of the normative range predicted by the "Theory of Subjective Wellbeing Homeostasis". If these demographic groups, which otherwise lead hard lives, did not have a strong network of personal relationships to fall back

on it is likely that subjective homeostatic well-being would be defeated; ie. the PWI would fall below the lower bound predicted by the "Theory of Subjective Wellbeing Homeostasis" for Chinese societies. In this sample a 10.2% drop in mean satisfaction with personal relationships, all things being equal, would reduce the PWI below the lower bound of the normative range predicted by the theory for non-Western societies.

That Beijing taxi drivers reported a high satisfaction score for community connectedness: 73.6 (SD=23.1) is not surprising. The nature of the occupation, together with the number of hours spent in their taxis, means that Beijing taxi drivers are constantly coming into contact with a broad cross-section of the community who are getting into their cabs. Most people travelling in taxis engage in casual conversation about the events of the day. Moreover, many taxi drivers have the radio turned on while in their taxis. The radio carries news bulletins reporting on local events, which are then, in turn, discussed with passengers to pass time. Thus, taxi drivers are uniquely placed to feel part of the local community.

The lowest satisfaction scores were reported for future security: 44.5 (SD= 27.5) and personal safety: 54.1 (SD=26.2). The results for future security reflect several factors. First, for the vast majority of Beijing taxi drivers, who are company drivers, the employment contract they have with the taxi companies gives them no job security. These drivers are reluctant to speak out in favour of better wages and shorter working hours for fear of losing their jobs. The poor working conditions and lack of job security of Beijing taxi drivers has come to the attention of the Chinese People's Political Consultative Conference, which in 2004, advocated a role for the trade union movement to protect the rights of taxi drivers (China Daily, 2004), but to this point the situation has not changed. Second, at the time the survey was conducted in 2007, there had been several increases in the price of taxi fares reflecting the rapid increase in the price of oil and these price increases were expected to increase. The increase in taxi fares was adversely affecting Beijing commuters, who were looking for alternative means of transportation. Taxi drivers themselves have acknowledged to news authorities that they anticipated the inflated fares would reduce their receipt of fares (China Daily, 2006a). For example, Han Baozhu with the Yuyang Passenger Transport Company stated that he "will lose at least 20 percent of (his) customers" as a result of these price hikes (China Daily, 2006b). Third, the Beijing taxi industry is changing rapidly in response to environmental pressures, which brings uncertainty for the drivers. The Beijing taxi industry was under pressure to move towards adopting cleaner vehicle technologies in time for the Beijing Olympics (Chongfang *et al.,* 2004; Zhao, 2006). These changes were expected to inflate driver costs, and undermine future security, for both owner-operated and company drivers.

Safety among Beijing taxi drivers is an important area for concern, considering recent rates in traffic accidents. Officially, traffic accidents in Beijing accounted for 1.53 percent of total traffic accidents in China in 2006. This equates to a total of 5808 traffic accidents in Beijing in 2006 (SSB, 2007). Official statistics on traffic accidents, however, are most likely limited to those that have either been reported or have warranted police intervention, and so may in fact under-represent cases of traffic accidents in Beijing. In the past, traffic accidents in Beijing were attributed to infrastructure issues, but in anticipation of the Olympic Games the Beijing municipal government focussed on remedying these issues. As a result, infrastructure improvements have been so noticeable that one Beijing taxi driver told a reporter that everywhere the quality of roads has now become 'fine' (Lane, 2008).

Participants in a study of Chinese drivers identified a variety of issues regarding safety among professional drivers. They "mentioned a lot of characteristics relating to a driver's skills, experiences, and physical capabilities, such as quick reaction ability, good driving skill/experience, high intelligence and education, age and gender, and ability to drive different types of vehicles" (Zhang *et al.,* 2006: 25). This list implies that professional driving, including taxi driving, requires special skills for safety to be maximised. It has also been recognised that professional drivers may drive amid time pressures, which may exacerbate the other mentioned safety issues (Zhang *et al.,* 2006). Additionally, issues of fatigue as a result of drivers commonly working 14 hour days can impede driver and passenger safety (China Daily, 2004). Other identified dangers among Chinese

drivers include frequent mobile phone use (integral for businesses), more passengers in vehicles, most vehicles being equipped with manual transmission systems (challenging for novice drivers to operate in case of emergency), mixed traffic with bicycles and pedestrians, and puzzling traffic signs (Zhang *et al.,* 2006). Speeding is also a significant issue, as many taxi drivers disregard safety speeds and many more drive cabs with malfunctioning speedometers. Seatbelt use is also at best sporadic. A study that focused entirely on the rates of seatbelt use among Beijing taxi drivers found that only 7.7 percent of drivers wore their seatbelts correctly. The 92.3 percent of drivers who did not comply with correct seatbelt use either did not wear their seatbelts correctly, or did not wear a seatbelt at all (Passmore & Ozanne-Smith, 2006).

A second objective of the present study was to examine the psychometric properties of the PWI in a new demographic group. This purpose is important given that, as Chen and Davey (2008b) noted in the quotation reproduced in the introduction, the PWI remains a work in progress, particularly with Chinese samples for which the empirical evidence is limited. The PWI was found to exhibit good reliability, validity and sensitivity as a measure of subjective well-being. This result concurs with the findings from existing studies which have applied the PWI to Chinese samples (Chen & Davey, 2008b; Lau *et al.,* 2005, 2008) and samples from Western countries (International Wellbeing Group, 2006), which have concluded the PWI has good psychometric properties. The Cronbach α value of 0.71 demonstrates good internal reliability. The item-total correlations ranged from 0.32 to 0.50, which is similar, albeit slightly lower, to those found in previous studies. A coherent one-component structure emerged for the PWI which explained 37 per cent of the variance, similar to previous studies, such as Cummins *et al.,* (2003). The shared contributions of domains to life as a whole from bivariate correlations and multiple regression were also consistent with the extant literature.

The third objective was to ascertain whether the responses to the PWI from participants fell within the narrow range predicted by the “Theory of Subjective Wellbeing Homeostasis”. That the PWI displayed good psychometric properties, and that the PWI fell within the 60-70%SM range predicted for non-Western countries, is consistent with the “Theory of Subjective Wellbeing Homeostasis”. The positioning of the Beijing taxi driver data within this range supports the proposition that a psychological homeostatic mechanism is in operation. While, based on objective indicators, the quality of life of Beijing taxi drivers is lower than the urban adult population as a whole in Mainland China and certainly the adult population in Hong Kong and Macau, their subjective well-being is in the same normative range. The results reported here, together with the findings for Chinese off-farm migrants reported in Nielsen *et al.* (2009) suggest that the homeostatic mechanism is fairly resilient, even when the individual leads a hard life based on objective indicators. Nielsen *et al.* (2009) conjectured that the circular nature of migration was a release valve which provided a buffer on the homeostatic mechanism for Chinese off-farm migrants. Beijing taxi drivers do not have this release valve; however, for Beijing taxi drivers, personal relationships and feeling part of the community acts as an important buffer for the homeostatic system.

In conclusion, Beijing taxi drivers seem to be satisfied with their lives. The PWI was within the normative range predicted by the “Theory of Subjective Wellbeing Homeostasis” for non-Western societies and the PWI displayed good psychometric properties. This study adds to the literature on subjective well-being for which there is still relatively little research using properly validated measures and well-documented methodology (cf. Chen & Davey, 2008a). The reliability, validity and consistency of the PWI across Chinese urban residents, Chinese rural residents, Beijing taxi drivers and Chinese off-farm migrants, reported in the present study and in recent studies support its appropriateness in Chinese contexts.

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