

Wellington Chinese Psychological Health Survey 2018

AN ANALYTICAL REPORT

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ASIAN FAMILY SERVICES



Abstract

There were a great deal of national research regarding the general psychological health conditions of the entire population living in New Zealand. There were also a good number of studies exploring one specific and professional aspect of psychological pathology, such as gambling addiction. However, as far as ethnicity is concerned, little research has been conducted regarding the psychological health conditions of the Chinese ethnic groups living in New Zealand.

The aim of this research is to find out the actual psychological health conditions of the Chinese ethnicity in the Wellington region, and moreover, shed light on the status quo of relevant psychological issues such as the life satisfaction and emotional distress level, as well as the determinant of life satisfaction of the Chinese Wellingtonians.

Samples were collected by interception interviews at various locations in Wellington, such as the harbour-side Sunday market near Oriental Bay, the Lower Hutt CBD, the Victoria University campus, the Massey university campus and the Chinese Methodist Church where the local Chinese normally cluster. ANOVA and regression analysis were used to explore the life satisfaction levels, the psychological well beings and the determinants.

Generally speaking, the Chinese living in Wellington suffered from dual sources of psychological pressure, i.e., the cultural adaptation pressure (such as linguistic barriers), and the environmental pressure (academic pressure, financial pressure, etc).

We come up with a life satisfaction conceptual model, and have important findings regarding the determinants of the psychological wellbeing of the Chinese Wellingtonians as well. The findings are: age is positively associated with their life satisfaction level; emotional distress negatively affect their life satisfaction; the duration of settlement and the dwelling conditions are important predictors of life satisfaction. We also revealed that more than half of the Wellington-based Chinese

have little knowledge about the public medical knowledge, and pay less attention to their mental wellbeing than their physical health.

This research is a trial study for a national psychological health survey to be implemented by Asian Family Services. This trial survey may serve as important reference for the clinic counselling services, and create the basis of comparison for the forthcoming psychological health research to be held in Auckland, Christchurch and other cities in New Zealand.

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1. Research objectives

There were a series of national research regarding the general psychological health conditions of the entire population living in New Zealand. There were also a good number of studies probing one specific and professional aspect of psychological pathology, such as gambling addiction. However, as far as ethnicity is concerned, little research has been conducted regarding the psychological health conditions of the Chinese ethnic groups living in New Zealand. Therefore, the actual needs and the psychological status quo of the Chinese immigrants remained unknown; Without these information, non-governmental organizations such as Asian Family Services could not provide more oriented psychological help to the needed.

The purpose of this research is to find out the actual psychological health conditions of the Chinese ethnicity in the Wellington region, and moreover, shed light on the status quo of the life satisfaction, emotional distress level, as well as relevant psychological issues.

Specifically, this study consists of four principal aspects of psychological health issues, namely, the general life satisfaction living in New Zealand, the cultural adaptation of the Chinese immigrants, the sources of stress and ways to cope with psychological stress, as well as addiction related survey questions.

Besides these aspects, this survey research also ask questions about the awareness and knowledge of the Chinese immigrants about the psychological health services/channels here in New Zealand.

This research is a trial study for a national psychological health survey to be implemented by Asian Family Services. The national survey plans to cover the Chinese ethnic groups, as well as other Asian groups such as the Japanese, the Vietnamese, the Indian etc in New Zealand. This trial survey may serve as important reference and form the basis of comparison for the forthcoming psychological health research to be held in Auckland, Christchurch and other cities in New Zealand.

2. Survey design

The survey is designed by Bo Ning, who had rich experiences with psychological survey and research, with the support from Ivan Yeo and Kelly Feng. This survey is then revised based on professional opinions of Billy Zhang and Mayumi Young, experienced counselors from Matua Raki and Asian Family Services, as well as Hou Yi, a visiting scholar in psychology from Massey University.

The survey is comprised of four sections: 1) demographics and general life satisfaction level 2) cultural adaptation and possible sources of psychological stresses 3) general addiction issues 4) public awareness of medical services in New Zealand.

3. Sample and data collection

Samples were collected by interception interviews at various locations in Wellington, such as the harbor-side Sunday market near Oriental Bay, the Lower Hutt CBD, the Victoria University campus, the Massey university campus and the Chinese Methodist Church where the Chinese cluster. A small proportion of the respondents were interviewed at health workshop or seminars held by Asian Family Services, or jointly held by Asian Family Services and SkyKiwi Wellington Office.

Since our data collection process has taken into account the diversity of locations, and the variety of demographics such as gender, age and education background, this dataset has a certain level of generalizability with regard to the general psychological health conditions of the Wellington-based Chinese population.

With respect to several psychological constructs involved in this survey, we find reference from scientifically proved yet widely applied academic scales.

To measure life satisfaction, we use the five-item, six-point consumer Satisfaction With Life Scale (SWLS) by Diener, Emmons, Larsen & Griffin (1985), with the points scaling up from “strongly disagree”(1) to “strongly agree”(7). This seven-point

scale is generally used to measure the perceived quality of life in the psychological health area (Pavot & Diener, 1993).

We use the PHQ-9 scale to assess the possibility and severity level of emotional distress of respondents (Kroenke, Spitzer & Williams, 2001). This four-point scale has nine items, whose frequencies ranging from (1) “not at all”, (2) “several days in a month”, (3) “more than half the time” to (4) “nearly every day”. Each item states a psychological or physical condition. Respondents tick the frequency that best corresponds to their own condition. For details of the measure and grading, see Table below.

Range of summed score	Grade of Depression severity	details
1-13	Minimal or none	Minor, may not require treatment
14-18	Mild depression	May use professional judgement to determine whether treatment is needed
19-24	Moderate depression	May use professional judgement to determine whether treatment is needed
25-28	Moderately severe	Need treatment
29-36	Severe depression	Active treatment with psychotherapy, medications or combination is needed

4. Descriptive analysis

In total we have collected 317 questionnaires. After a series of data purification by deleting incomplete/invalid responses and excluding answers with obvious response biases (such as extreme responding, question order bias and acquiescence bias), we have totaled 296 valid survey answers (with a valid response rate of 93.38%). This is a satisfying response rate considering that most of the questionnaires were on-site

disseminated and administered by our trained psychology-majored researcher/students.

With regard to gender proportions, we have 114 male respondents (38.5%) and 182 females (61.5%). Respondents aged 19 to 37 (i.e., the young adults) take the largest proportion of our sample (72%), whereas the senior group (aged 56 and above) took up 12.2% and the middle-aged adults (aged 38 to 55) accounted for 13.2%.

49% of our respondents are single, and 44.6% of the sample are in a marriage relationship. Besides, we have 11 respondents who claimed “divorced” and 1 case which claimed “widowed”.

107 Chinese respondents (36.1%) lived in New Zealand for less than a year, while those who have settled in New Zealand for more than ten years make up almost 1/5 of the whole sample (19.6%).

With regard to the education background, the majority of our sample (227, 76.7%) got a bachelor or equivalent degree. We also have 49 people who held or is studying a high school degree, and another 20 respondents who have received postgraduate education.

As far as living conditions are concerned, the sample scattered in four options. Having said that, cohabitating, along with flat-mating are the prevalent living styles for our Chinese respondents (57.1%). Those who lived in their own houses only represented 28.4% of our sample.

4.1 Demographics

See details of the descriptive analysis of the sample in Table 1-5.

sex			
Frequency	Percent	Valid Percent	Cumulative Percent

Valid	male	114	38.5	38.5	38.5
	female	182	61.5	61.5	100.0
	Total	296	100.0	100.0	

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 or under	6	2.0	2.0	2.0
	19 to 37	215	72.6	72.6	74.7
	38 to 55	39	13.2	13.2	87.8
	56 or above	36	12.2	12.2	100.0
	Total	296	100.0	100.0	

marital

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	145	49.0	49.0	49.0
	married	132	44.6	44.6	93.6
	divorced	11	3.7	3.7	97.3
	widowed	1	.3	.3	97.6
	other	7	2.4	2.4	100.0
	Total	296	100.0	100.0	

education

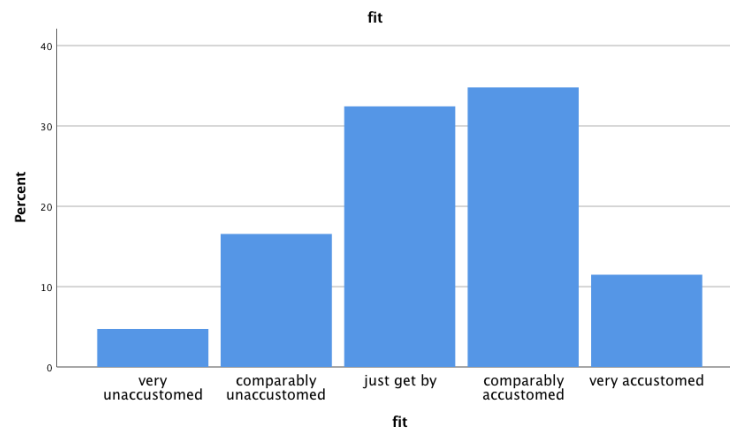
		Frequency	Percent	Valid Percent	Cumulative Percent
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Valid	high school, vocational college or equivalent	49	16.6	16.6	16.6
	bachelor or equivalent	227	76.7	76.7	93.2
	master or above	20	6.8	6.8	100.0
	Total	296	100.0	100.0	

Living conditions

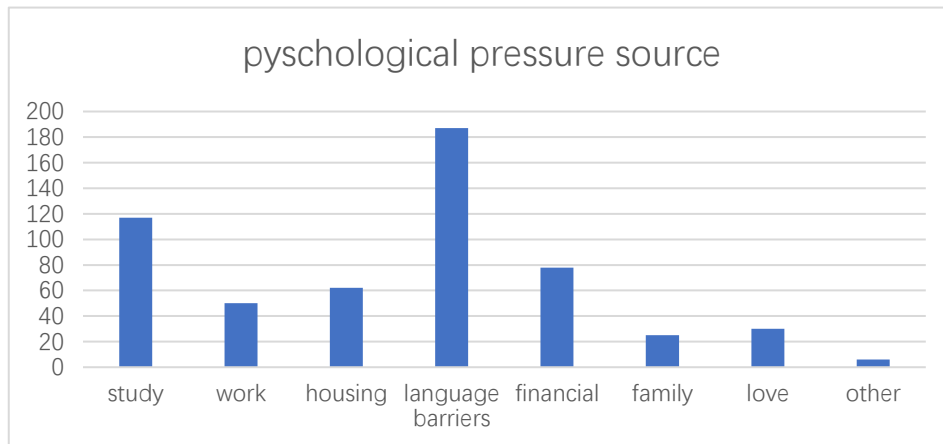
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	in own house	83	28.4	28.4	28.4
	cohabitating with friends	52	17.6	17.6	45.9
	renting or flat-mating	117	39.5	39.5	85.5
	boarding	27	9.1	9.1	94.6
	other	15	5.1	5.1	99.7
	Total	294	100.0	100.0	

4.2 Environmental adaptation



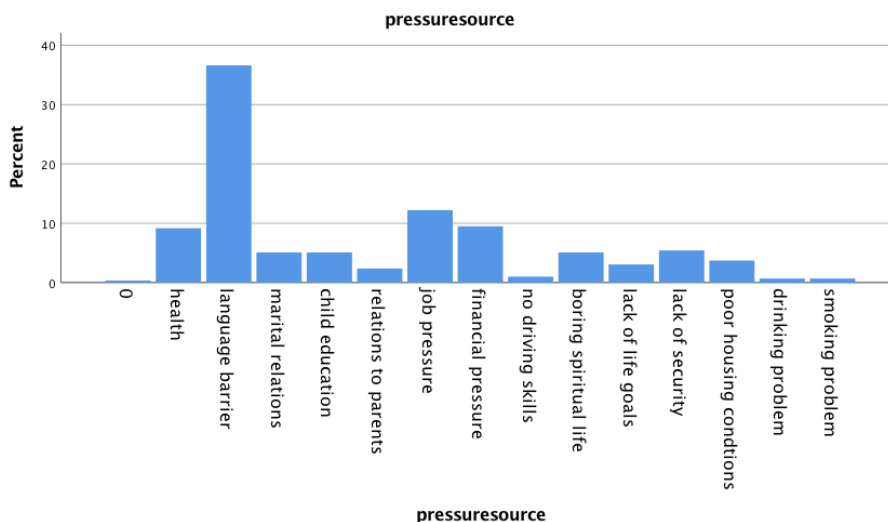
When asked how adapted they feel living in New Zealand, about 4/5 of respondents feel “comparably accustomed” or “just get by”. Those who felt “unaccustomed” living in New Zealand account for nearly 20%. This may suggest that most Chinese have a certain level of environmental adaptation.

Sources of psychological pressure



Among the interviewed Chinese residents, the top three psychological pressures are respectively language barriers, academic pressure, and financial pressure. This indicates that for most Wellington-based Chinese, the survival pressure and life pressure give them tremendous pressure. Pressure that derives from family or love relationships are not mainstream pressure sources.

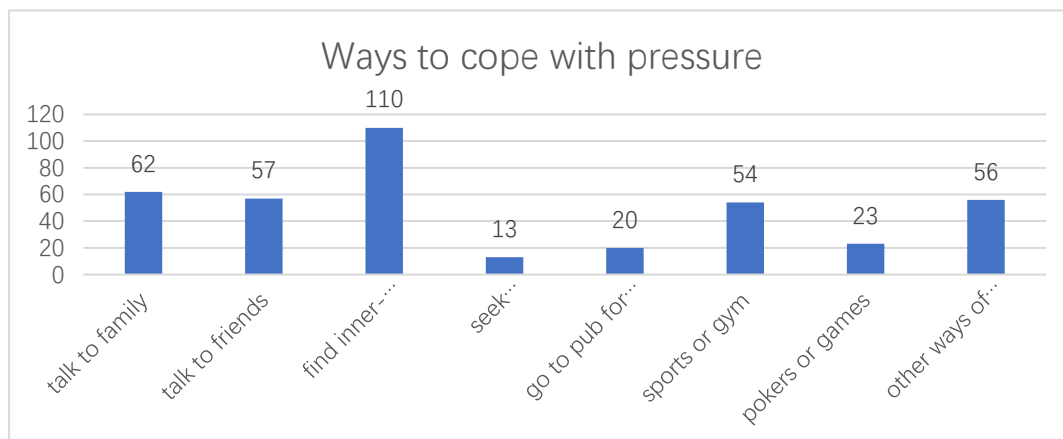
Sources of psychological pressure on initial arrival



In the next question, we ask the respondents to recall their sources of pressure when they arrived in New Zealand in the first few months. The result showed a similar pattern with that of the psychological pressure in the present time. The top three pressure sources are language barriers, pressure to find a job, and financial pressures, although more people ticked the “language barrier” choice, as it was the urgent and foremost source of pressure if they want to adapt to the overseas environment. For the new arrivals, the primary source of pressure, apparently, comes from cross-cultural communication, with language barriers the manifestation. Also there are answers that show anxiety regarding the lack of motivation and lack of fun residing in Wellington.

4.3 Ways to cope with pressure

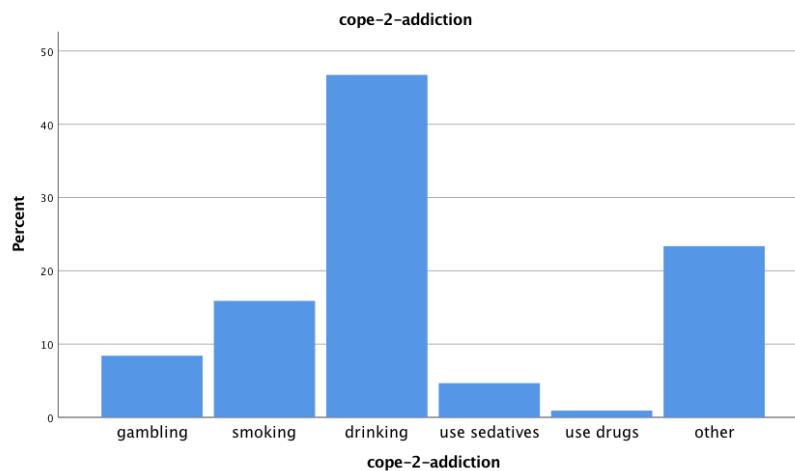
This question was a multiple choice question that probe into the ways that are commonly used by the Wellington Chinese in cope with psychological pressures they face.



As is seen in the above chart, the most common ways of dealing with pressure for the Chinese Wellingtonians is self-consultation (110 people), followed by talking to family and friends (62 and 57 respectively) and physical exercises (54 people). Less than 5% of the sample chose to seek for professional consultation when faced with psychological pressure. This finding is in line with other research targeting the

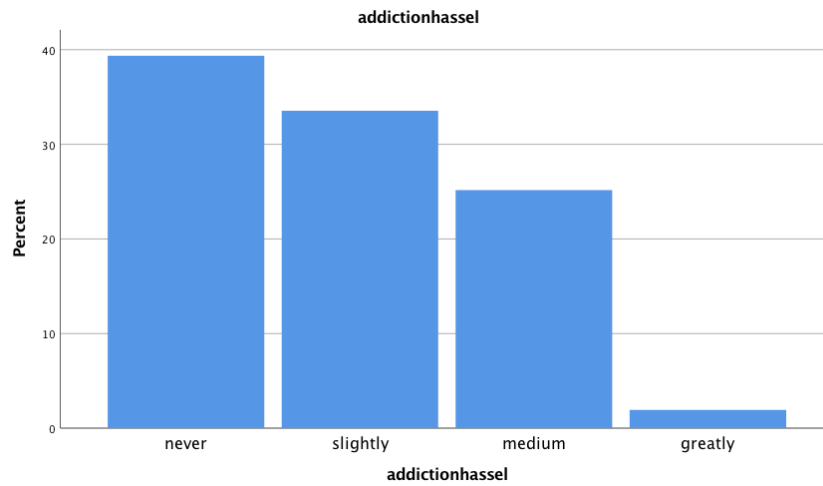
overseas Chinese community in that they revealed the Chinese generally pay little attention to their mental health. It is a remarkable fact that approximately 8% of the Chinese sample would choose pokers or other games when confronted with psychological pressures. When they choose to evade or escape from the reality pressure, they are likely to engage in gambling problems. If this gambling issue become uncontrollable, it may bring more negative impact to them and their families.

The next question followed the previous one, asking if a respondent choses “other ways of relaxation”, what would the particular way (s) be. Among the 56 respondents who chose “other ways of relaxation”, 4 ticked “gambling”, 7 chose “drinking” and 2 respondents selected “use sedatives”. Nobody chose “use drugs such as P or meth”. In the “other” option that several people chose, most supplemented answers are positive ways such as going to church, meditation or travel. It is notable that 5 respondents filled in “online gaming”, which may be possibly associated with gambling activities.

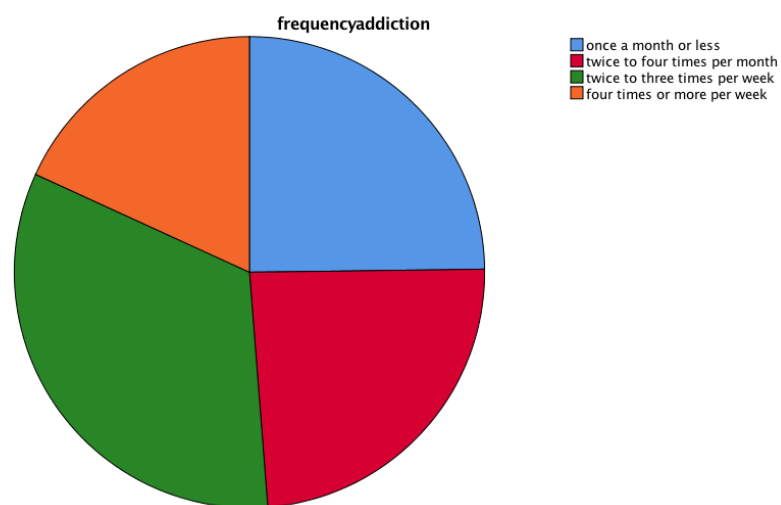


The further analysis is about whether the obsession with “the other ways of relaxation” would have an impact on their lives. Among the 155 respondents who answered this follow-up question, about 36.5% believe that their ways of dealing with pressure has never negatively impact their lives. Around 50% reckon that their

obsession has some influence (from slight to medium) on their pace of life. What is noteworthy is that there are 5 respondents (1.7%) reported that their addiction to drinking/smoking/gambling has severely affect their lives.



As for the frequency of their obsession behavior, or rather, addiction behavior, their answers somehow resonate with the answers to the previous questions. Most of the respondents (81.8%) could reportedly control their frequency of using the particular way of relaxation to less than three time per week.



5. Analysis on life satisfaction and emotional distress level

5.1 Life satisfaction and determinant factors

(1) Overall satisfaction level

In querying about Wellington Chinese's overall life satisfaction, we use a five-item 7-point scale to measure the level of life satisfaction.

	N	Minimum	Maximum	Mean	Std. Deviation
avgsatisfaction	296	1	7	4.909	1.337

As is seen from the above table, the average life satisfaction of the 296 residents is 4.91, near 5 which equals “good”. This may indicate that the overall life satisfaction for those who lives in Wellington is good.

(2) Gender difference in life satisfaction

	sex	N	Mean	Std. Deviation	Std. Error Mean
avgsatisfaction	male	114	4.949122807017543	1.438979826313484	.134772808847750
	female	182	4.883516483516481	1.272945315388641	.094356984517878

We have conducted an Independent Sample T test ($F=.793$, $p>0.5$), indicating the variances of the male and female subsamples are equal. The two-tail mean difference test proved insignificant ($p>0.5$). It suggests that male immigrants and their female counterparts show no difference regarding the level of life satisfaction.

Note: to pursue the brevity of the analytical report, in the following similar analyses we will abbreviate the reporting process, focusing on the results and findings rather than reporting the processes of T-test, homogeneity of variance test and mean difference test.

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Assumed	.793	.374	.410	294	.682	.06560632	.1599568529
Not assumed			.399	218.198	.690	.06560632	.1645203650

(3) Age difference in life satisfaction

Do the Chinese immigrants of different ages differ in the levels of life satisfaction.

We have conducted the ANOVA procedure.

	N	Mean	Std. Deviation	Std. Error
18 or below	6	4.933333333333334	1.695484198294595	.692178525462262
19 to 37	215	4.680000000000001	1.322105372813540	.090166838044233
38 to 55	39	5.123076923076924	1.060898709997564	.169879751806108
56 or above	36	6.038888888888889	1.032964603951110	.172160767325185
Total	296	4.908783783783784	1.337309672391453	.077729545842388

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	59.025	3	19.675	12.261	.000
Within Groups	468.552	292	1.605		
Total	527.577	295			

From the ANOVA result, the four age groups differ significantly ($p < 0.01$). What is noteworthy is that by “significant difference”, we mean there are significant differences exist between those groups. We need to use Post-Hoc analysis to identify where the differences lie in.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
avgsatisfaction	Based on Mean	1.679	3	292	.172
	Based on Median	1.389	3	292	.246
	Based on Median and with adjusted df	1.389	3	277.260	.246
	Based on trimmed mean	1.641	3	292	.180

In the process of the Post-hoc analysis, we first confirmed that the variances of the four groups are equal ($P > 0.05$). Then by using the LSD test we found that significant differences ($p < 0.05$) exist between group 1 and group 4 ($p < 0.05$), group 2 and group 3 ($p < 0.05$), group 2 and group 4 ($p < 0.05$), as well as group 3 and group 4 ($p < 0.05$). Check the significance levels in the table below.

Post-hoc Multiple Comparisons (LSD test)

Dependent Variable: avgsatisfaction

	(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
LSD	18 or below	19 to 37	.253333333333333	.524310807016574	.629	-.778573989882252	1.285240656548918
		38 to 55	-.189743589743591	.555502292935513	.733	-1.283039544112665	.903552364625484
		56 or above	-	.558579891516093	.049	-2.204908597573250	-.006202513537860
			1.10555555555555*				
	19 to 37	18 or below	-.253333333333333	.524310807016574	.629	-1.285240656548918	.778573989882252
		38 to 55	-.443076923076924*	.220471700873806	.045	-.876991997206388	-.009161848947459
		56 or above	-	.228115033778370	.000	-1.807846970128723	-.909930807649054
			1.35888888888888*				
	38 to 55	18 or below	.189743589743591	.555502292935513	.733	-.903552364625484	1.283039544112665
		19 to 37	.443076923076924*	.220471700873806	.045	.009161848947459	.876991997206388
		56 or above	-.915811965811964*	.292775415187047	.002	-1.492029527887596	-.339594403736332
	56 or above	18 or below	1.10555555555555*	.558579891516093	.049	.006202513537860	2.204908597573250
		19 to 37	1.35888888888888*	.228115033778370	.000	.909930807649054	1.807846970128723
		38 to 55	.915811965811964*	.292775415187047	.002	.339594403736332	1.492029527887596
		19 to 37	1.35888888888888*	.194343480695627	.000	.828913110598893	1.888864667178883
38 to 55		.915811965811964*	.241864548621127	.002	.261689750460723	1.569934181163206	

*. The mean difference is significant at the 0.05 level.

Note: to pursue the brevity of the analytical report, in the following similar analyses we will abbreviate the reporting process, focusing on the results and findings rather than reporting the details of ANOVA, Test of variance homogeneity, and the post-hoc tests.

(4) Marital status and life satisfaction

	N	Mean	Std. Deviation	Std. Error
single	145	4.646896551724137	1.181339586397918	.098104912822634
married	132	5.136363636363636	1.457032052190459	.126818362148818
divorced	11	5.527272727272727	1.284594028548248	.387319672784148
widowed	1	3.800000000000000	.	.
other	7	5.228571428571429	1.229788986932698	.464816546358569
Total	296	4.908783783783782	1.337309672391453	.077729545842388

The descriptive of the life satisfaction scores of people in different marital status are presented in the table above.

To facilitate ANOVA, we delete the group “widowed” whose cases are less than two. The analysis indicate that there is a significant difference between the married group and the singled group ($p < 0.05$). Those in a marriage relationship are happier than those who are single.

(5) Arrival time and life satisfaction

	N	Mean	Std. Deviation	Std. Error
1 yr or less	107	4.357009345794393	1.478660290475407	.142947485770544
2 to 5 yrs	81	5.034567901234570	.996890226382419	.110765580709158
6 to 10 yrs	50	5.368000000000000	1.035973366610614	.146508758531805
10 yrs or more	58	5.355172413793103	1.374986113332506	.180544521773346
Total	296	4.908783783783784	1.337309672391454	.077729545842389

As is seen from the above table of descriptive analysis, the group living in Wellington for more than five years generally have higher levels of life satisfaction than those

who lived here for less than five years (including the “2 to 5 yrs” and “less than 1 yr” group). Those who arrived in Wellington for less than a year felt averagely the lowest level of life satisfaction.

ANOVA test indicate that the between-group differences are statistically significant. In the following Post-hoc test, we first found unequal variances between the four groups. Using Tamhene test, we found that the life satisfaction score of group 1 is significantly different from that of group 2, 3 and 4 respectively. No significance are detected between group 2, 3 and 4 regarding life satisfaction levels ($p < 0.05$).

It is concluded that those who lived a shorter period of time in Wellington felt less satisfied. Those who lived here for more than 5 years experienced a higher level of life satisfaction. By and large, it seemed that the arrival time and life satisfaction is positively associated.

(6) Education background and life satisfaction

	N	Mean	Std. Deviation	Std. Error
high school, vocational college or equivalent	49	4.089795918367348	1.699539753624392	.242791393374913
bachelor or equivalent	227	5.070484581497797	1.211581732742451	.080415503992985
master or above	20	5.080000000000000	.967688510126879	.216381728968920
Total	296	4.908783783783784	1.337309672391453	.077729545842388

From the descriptive table, we can see that the high school group’s life satisfaction level is generally lower than the bachelor group and postgraduate group.

ANOVA test indicate that between-group differences are significant.

Using Tamhane test as a Post-hoc analysis, we can see that with respect to the average score of life satisfaction, the high school group is significantly different from those

who held a bachelor's or postgraduate's degree ($p < 0.05$). The bachelor group, however, does not show significant difference from the postgraduate group.

(7) Living conditions and life satisfaction

	N	Mean	Std. Deviation	Std. Error
in own house	84	5.438095238095237	1.162662582169501	.126856887868680
cohabitating with friends	52	5.357692307692310	1.083448769809821	.150247311303373
renting or flat-mating	117	4.423931623931625	1.337564021841866	.123657837563248
boarding	27	4.496296296296297	1.535598475534109	.295526064405599
other	15	4.773333333333333	1.066011703679163	.275243038347440
Total	296	4.908783783783784	1.337309672391453	.077729545842388

ANOVA shows significant between-group difference exists. The Chinese immigrants who own houses have the highest level of life satisfaction, followed by cohabitating with family and friends.

Compared with the above-mentioned two groups, those who tenant or board, or live in a homestay have significantly lower level of life satisfaction ($p < 0.05$).

(8) Purpose of immigrating to NZ and life satisfaction

	N	Mean	Std. Deviation	Std. Error
studying	179	4.710614525139664	1.298594383572585	.097061501353272
working	30	5.333333333333334	1.072969882063841	.195896602643341
visiting or travel	64	5.209375000000000	1.462517806159410	.182814725769926
other	23	5.060869565217391	1.357048646021204	.282964203272058
Total	296	4.908783783783784	1.337309672391453	.077729545842388

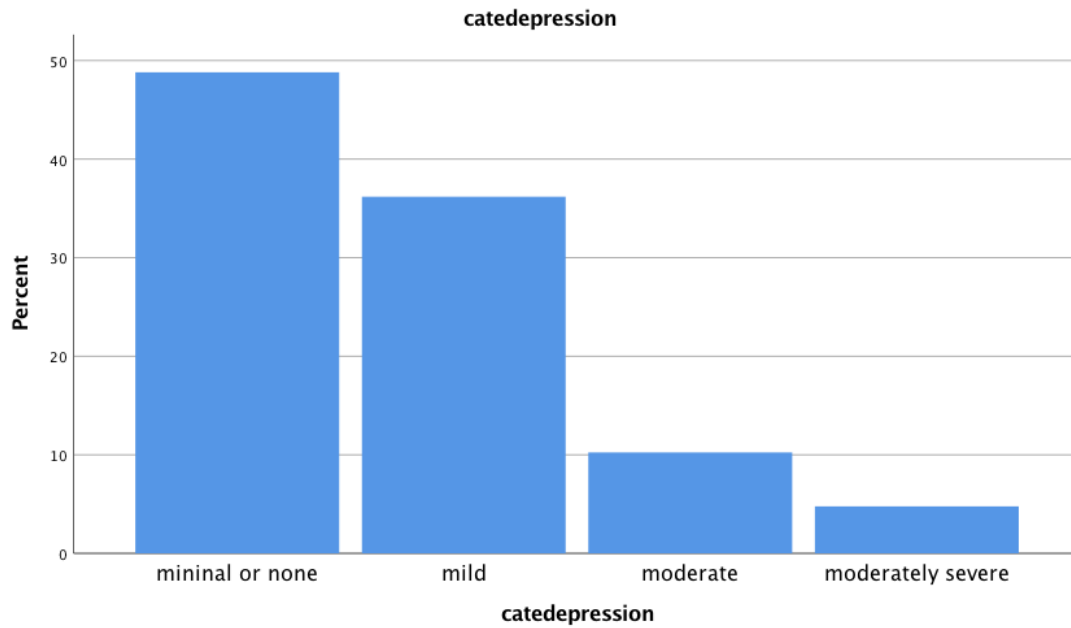
Those who came to Wellington for studying has the lowest level of life satisfaction. The employee/working professional group has the highest level. ANOVA and Post-hoc analysis indicate that the life satisfaction levels between the “study” group and the “work” group are significantly different ($p < 0.05$) .

5.2 Association between demographics and emotional distress levels

(1) General emotional distress levels

The descriptive scores for different grades of emotional distress conditions are shown in the table and chart below.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	minimal or none	143	48.3	48.8	48.8
	mild	106	35.8	36.2	85.0
	moderate	30	10.1	10.2	95.2
	moderately severe	14	4.7	4.8	100.0
	Total	293	99.0	100.0	
	Missing	System	3	1.0	
Total	296	100.0			



Among the 296 respondents, we excluded 3 non-responses. Following the grading algorithm of severity levels by Kroenke, Spitzer & Williams (2001), we first summed the scores of the questions in the scale and then graded them into five grades, i.e., “minimal or none”, “mild”, “moderate”, “moderately severe” and “severe”. From the statistics, 48.5% self-reported having none or minimal emotional distress issues. Those who claimed to suffer from severe psychological distress only took up nearly 5% (14 cases). The overall conditions of the surveyed sample are good, however, more than half (51.2%) have more or less different symptoms of emotional distress. This result also suggest that a high proportion of the Chinese immigrants might suffer from different levels of psychological distress or disorder. Some may even have to seek professional help (4.8%). Nonetheless, we found zero case who fit the grade of “severe” depression.

(1) Gender and emotional distress levels

	sex	N	Mean	Std. Deviation	Std. Error Mean
sumdepression	male	114	13.9035	4.52714	.42401

	female	180	14.2556	4.05014	.30188
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Independent T test indicate that the male and the female show no difference regarding the general emotional distress level.

(2) Age and emotional distress levels

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
18 or below	6	17.5000	4.23084	1.72723	13.0600	21.9400
19 to 37	214	14.7243	4.35337	.29759	14.1377	15.3109
38 to 55	38	12.9737	2.78497	.45178	12.0583	13.8891
56 or above	36	11.1667	3.10299	.51717	10.1168	12.2166
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	510.626	3	170.209	10.391	.000
Within Groups	4750.207	290	16.380		
Total	5260.833	293			

ANOVA indicates differences exist between the four age groups regarding the emotional distress scores ($p < 0.05$).

By running the Tamhane tests in Post-hoc analysis, we found that there are significant differences between the 19-37 age group and 38-55 age group ($p < 0.05$), and between

19-37 and 56-and-above age group. No significant difference were found between “19-37 age” group and “18 and below” group

We found that Wellington-based Chinese aged 19 to 37 generally have the greatest level of psychological emotional distress.

(3) Marital status and emotional distress

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
					single	145
married	131	12.8931	3.73600	.32642	12.2474	13.5389
divorced	10	14.8000	3.45768	1.09341	12.3265	17.2735
widowed	1	10.0000
other	7	18.7143	5.31395	2.00849	13.7997	23.6289
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

ANOVA revealed that in general people with different marital status have significant difference in emotional distress levels.

After removing the single “widowed” case, we have run the LSD test in Post-hoc. The results turned out that significant difference exist between the distress levels of the married group and the single group, with the single group having higher levels of emotional pressure. The difference between the single group and the divorced group are not significant (nevertheless, the cases under the divorced group are much fewer, lack of comparison basis).

(4) Education background and emotional distress level

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
					high school, vocational college or equivalent	49
bachelor or equivalent	225	13.9733	4.02106	.26807	13.4451	14.5016
master or above	20	12.8000	3.57771	.80000	11.1256	14.4744
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

ANOVA test shows that the between-group differences are significant ($p < 0.05$).

Deploying Tamhene test, we revealed that the significant differences of the distress level are between the high schoolers and those who held a postgraduate degree. No difference were found between the high school subsample and their bachelor counterpart. It is apparent to detect a tendency that those who have higher education levels seemed to worry less.

(5) NZ arrival time and emotional distress level

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
					1 yr or less	107
2 to 5 yrs	81	15.5556	4.42154	.49128	14.5779	16.5332
6 to 10 yrs	49	13.6122	4.91094	.70156	12.2017	15.0228
10 yrs or more	57	12.3860	2.88317	.38188	11.6210	13.1510
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

From the mean values of the four groups presented in the above table, it is easy to find a pattern that the longer the Chinese respondents settled in New Zealand, the less emotional distress they suffer in daily life. This pattern might be related to cultural adaptation and environment fit over time.

ANOVA indicate between-group significant difference exists. Tamhene test revealed that those lived in NZ for more than 10 years are remarkably different from those who just settled in NZ for less than a year, or the 2 to 5 year group. There is no significant difference between those who have lived here between 6 and 10 years, and those who lived in NZ for more than 10 years. No difference in distress level were found between the less than a year group and 2 to 5 year group as well.

(6) Dwelling conditions and emotional distress

sumdepression						
					95% Confidence Interval for Mean	Minimum
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound
in own house	83	13.3614	3.77921	.41482	12.5362	14.1867
cohabitating with friends	52	12.8462	3.20162	.44398	11.9548	13.7375
renting or flat-mating	117	15.1111	4.65310	.43018	14.2591	15.9631
boarding	27	14.3333	4.37651	.84226	12.6020	16.0646
other	15	14.6000	4.67211	1.20633	12.0127	17.1873
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

From the distress scores of groups with various dwelling conditions, we can see that the groups who own house or cohabitate with friends, are less distressful in general than their boarding or renting counterparts.

After identifying that the variances of the groups are unequal, we used Tamhane test as a representative Post Hoc Test and found that the self-housing group is significantly less distressful than the tenant group (renting or flat-mating). Significant difference regarding the distress levels was also found between “cohabitating with friends” group and the tenant group.

(7) Role of immigrating to NZ and emotional distress

sumdepression	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	
					Lower Bound	Upper Bound
					studying	178
working	29	12.6552	2.64947	.49199	11.6474	13.6630
Visiting family or travel	64	13.3750	4.51628	.56454	12.2469	14.5031
other	23	12.6087	2.85624	.59557	11.3736	13.8438
Total	294	14.1190	4.23734	.24713	13.6327	14.6054

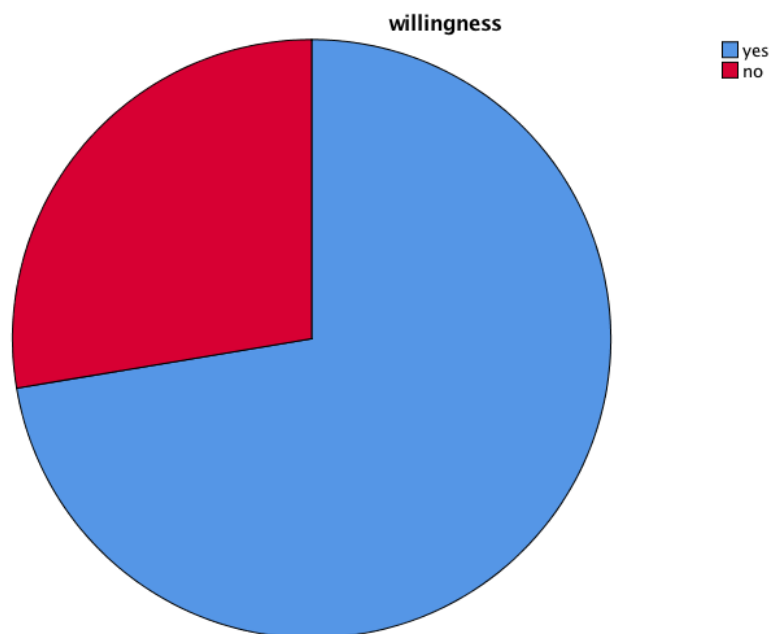
The worker participants have averagely the lowest level of emotional distress, whereas the students have the highest.

ANOVA revealed that for the Chinese immigrants of different roles, the between-group differences are significant ($p < 0.05$).

Post-hoc analysis shows that the student group and the worker group are significantly different ($p < 0.05$). The student group reported greater psychological pressure than any other groups. The difference between the other groups are insignificant.

6. Analysis on the public awareness of public health services

The last section of the survey is about the general public's opinions about public health services in New Zealand.



As is shown in the above table and pie chart, 72.4% of the Wellington-based Chinese demonstrated acceptance of psychological counselling and agreed that when in need they would consider seeing a counsellor. We should still pay attention to the other 27.6% (nearly one third), whose attitude toward psychological health and treatment is vague, or even in denial. There is still a long way for the Chinese public to be aware of and have a good understanding of psychological wellbeing and the related public services.

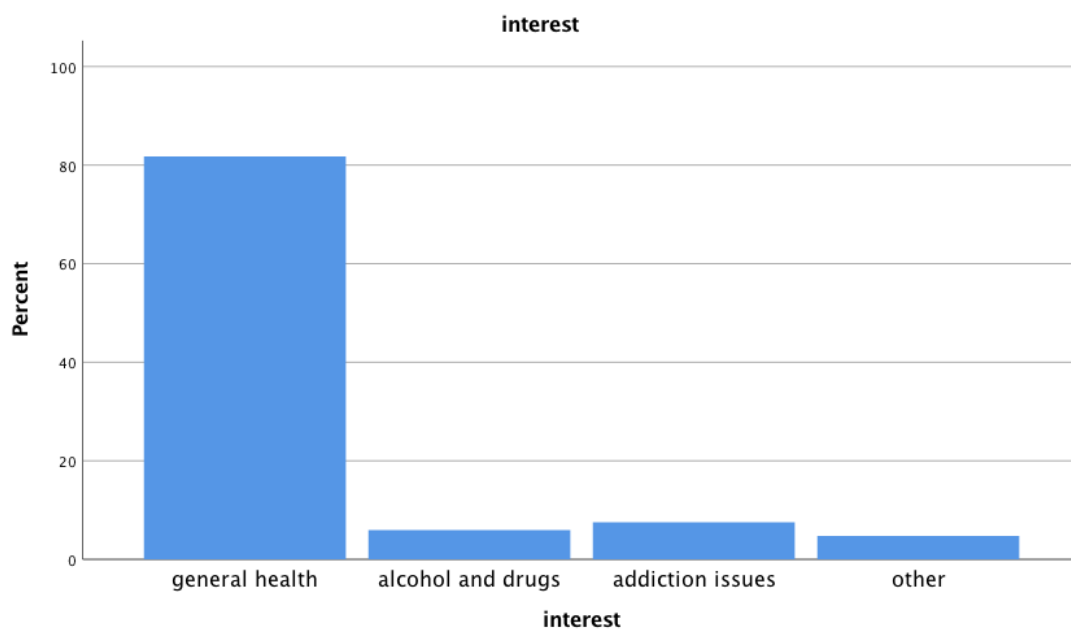
Familiarity with New Zealand public services

awareness

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	85	28.7	29.4	29.4
	no	204	68.9	70.6	100.0
	Total	289	97.6	100.0	
Missing	System	7	2.4		
Total		296	100.0		

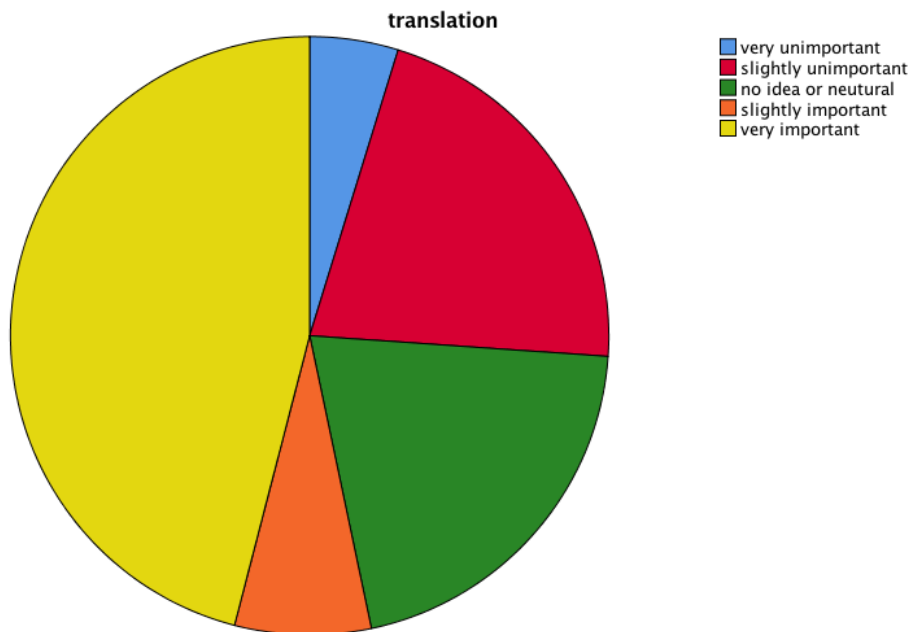
Only less than 1/3 of the respondents have a certain knowledge about New Zealand psychological health care system. The rest Chinese participants are not fully aware of how to find professional help in this regard.

With respect to the types of health care knowledge, most respondents would care about general health issues (81.7%) . Only around 6% aspire health information related to alcohol and drug prevention, as well as the topic addiction. Several participants mentioned the information need for child care information, as well as nutrition and personal care.



The necessity of translating the brochures/flyers into Chinese

translation				Valid	Cumulative
		Frequency	Percent	Percent	Percent
Valid	very unimportant	13	4.4	4.8	4.8
	slightly unimportant	58	19.6	21.3	26.1
	no idea or neutral	56	18.9	20.6	46.7
	slightly important	20	6.8	7.4	54.0
	very important	125	42.2	46.0	100.0
	Total	272	91.9	100.0	
	Missing	System	24	8.1	
Total	296	100.0			



As is shown in the above table and chart, merely about half (53.4%) of the participants believe that it is important for the health brochures or service manuals to be translated into Chinese. In contrast, approximately 25% denied the importance of doing so. This proportion might also be associated with a comparably higher English level of the Chinese population in Wellington.

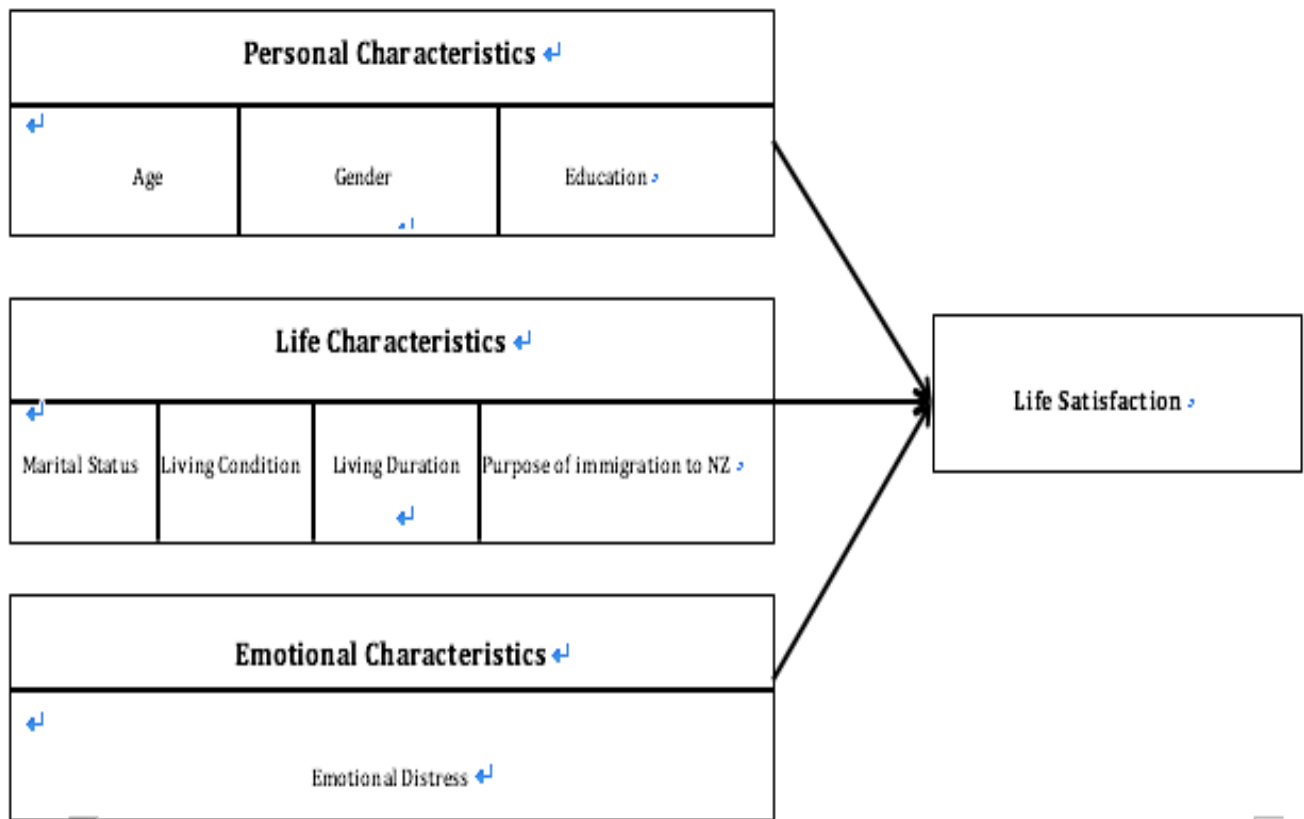
7. Advanced analysis: the life satisfaction model

Furthering the analysis of life satisfaction and emotional distress of the Wellington Chinese respondents, we would like to discover to a deeper level what the determinants of life satisfactions are for the Chinese immigrants to Wellington.

Based on the survey data available and referring to some existing models, we proposed a conceptual model that summarized three layers of determinants.

We will use regression analysis to find out what factors listed are associated with the levels of life satisfaction.

See the chart below for the conceptual model of life satisfaction, which are determined by three aspects of factors, i.e., personal characteristics such as age, life characteristics such as dwelling conditions, as well as emotional characteristics, namely emotional distress levels.



Following the simple conceptual model, we run regression analysis for the independent variables shown in the chart.

Correlations

	avgsatisfaction	sex	age	marital	duration	education	livingcondition	reason	sumdepression	
Pearson Correlation	avgsatisfaction	1.000	-.026	.320	.166	.301	.233	-.280	.153	-.347
	sex	-.026	1.000	-.094	-.034	-.101	-.033	.034	.031	.041
	age	.320	-.094	1.000	.337	.359	.013	-.304	.506	-.310
	marital	.166	-.034	.337	1.000	.299	-.038	-.335	.304	-.028
	duration	.301	-.101	.359	.299	1.000	.073	-.527	.203	-.164
	education	.233	-.033	.013	-.038	.073	1.000	-.062	.050	-.145
	livingcondition	-.280	.034	-.304	-.335	-.527	-.062	1.000	-.322	.150
	reason	.153	.031	.506	.304	.203	.050	-.322	1.000	-.187
	sumdepression	-.347	.041	-.310	-.028	-.164	-.145	.150	-.187	1.000
Sig. (1-tailed)	avgsatisfaction	.	.331	.000	.002	.000	.000	.000	.004	.000
	sex	.331	.	.054	.278	.042	.286	.280	.298	.244
	age	.000	.054	.	.000	.000	.415	.000	.000	.000
	marital	.002	.278	.000	.	.000	.256	.000	.000	.319
	duration	.000	.042	.000	.000	.	.105	.000	.000	.002
	education	.000	.286	.415	.256	.105	.	.144	.195	.006
	livingcondition	.000	.280	.000	.000	.000	.144	.	.000	.005
	reason	.004	.298	.000	.000	.000	.195	.000	.	.001
	sumdepression	.000	.244	.000	.319	.002	.006	.005	.001	.

We use the average score of life satisfaction as the dependent variable, regressing against personal-level, life-level and emotional-level independent variables.

The correlation matrix is shown in the above table.

The model showed a satisfactory explanatory power (Adjusted R Square =.231).

ANOVA indicated a valid model using three levels of variables as predictors of life satisfaction.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.502 ^a	.252	.231	1.17513267	.252	12.014	8	285	.000

a. Predictors: (Constant), sumdepression, marital, sex, education, duration, reason, livingcondition, age

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	132.722	8	16.590	12.014	.000 ^b
	Residual	393.567	285	1.381		
	Total	526.289	293			

a. Dependent Variable: avgsatisfaction

b. Predictors: (Constant), sumdepression, marital, sex, education, duration, reason, livingcondition, age

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.558	.737		4.825	.000		
	sex	.078	.142	.028	.545	.586	.976	1.025
	age	.349	.122	.187	2.862	.005	.613	1.632
	marital	.087	.100	.051	.878	.381	.793	1.261
	duration	.143	.075	.121	1.913	.057	.660	1.515
	education	.526	.147	.186	3.580	.000	.967	1.034
	livingcondition	-.141	.074	-.121	-1.905	.058	.654	1.529
	reason	-.097	.079	-.075	-1.218	.224	.688	1.453
	sumdepression	-.075	.017	-.238	-4.336	.000	.871	1.148

a. Dependent Variable: avgsatisfaction

The Coefficient table showed important findings as follows:

- 1) **Age is positively associated with the level of life satisfaction** ($p < 0.01$). The older the Chinese in Wellington, the happier they felt life would be.
- 2) **Living duration is positively associated with life satisfaction** ($p < 0.1$). The longer

people settled in Wellington, the happier they felt.

- 3) **Education levels are positively associated with life satisfaction**($p < 0.01$). The higher the academic degree they acquire, the happier they felt.
- 4) **Living conditions are also found to influence life satisfaction**($p < 0.1$). As we did not directly measure the household income, whether an immigrant owns a house, or rent/ flat-mate to live is an indicator of the household wealth. This finding is consistent with previous research that more affordable income (or simply more wealth) boost life satisfaction.
- 5) **Emotional distress level negatively affects life satisfaction** ($p < 0.001$). Psychological wellbeing is a strong predictor of life satisfaction, this highlights the importance of psychological health promotion.
- 6) After incorporating all the influencing factors into the model, we found that **gender, marital status and living purpose are not predictors of life satisfaction in Wellington.**

Key references:

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, 5, 164-172.

Kroenke, K., Spitzer, R.L., Williams, J.B. (2001). The PHQ-9: Validity of a brief depression severity measure, *Journal of General Internal Medicine* 16 (9), 606-613