

A statistical analysis on Facebook-based questionnaire survey data on homelessness perceptions in Hong Kong

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Abstract

Homelessness has long been a key social concern in societies as well as a rich notional theme in social sciences. The paper examines the homelessness concern in Hong Kong via both secondary data, e.g., Youtube videos and newspaper articles and a Facebook-based questionnaire survey. Analysis is conducted using Excel-based querying and statistical tests. The findings indicate that people with different profiles, notably on age and gender, hold different perceptions on the homelessness problem in Hong Kong. Nevertheless, the Facebook-based survey findings have low external validity. Thus, the findings should only be treated as valuable for stimulating further investigation on the homelessness topic. The paper has also pedagogical value by illustrating how to apply statistical tests on survey data to gain useful findings. The illustrative examples on statistical analysis is helpful for informing students in business studies and housing studies on how to conduct research using the quantitative research techniques as applied in this study.

Keywords: Homelessness; Facebook-based questionnaire survey; Statistical tests; Excel; Research methods

Introduction

This paper examines homelessness, which is a widely discussed topic in social sciences. The investigation is motivated by the writer's involvement in teaching subjects in housing studies as well as research methods for students in business studies and housing studies. At the same time, in Hong Kong, homelessness is a top concern in the city, albeit an under-researched one. Making use of literature review, a Facebook-based questionnaire survey and two statistical tests on the survey data, grounded in positivist research philosophy, this paper aims to produce some useful findings to inform homelessness research in Hong Kong. The paper also informs research students in social sciences on how to conduct statistical analysis on survey data. In this sense, the paper also has some pedagogical value.

On homelessness in general and the Hong Kong homelessness case

Homelessness has been described as “one of the most desolate human conditions where safety, personal hygiene, human dignity and basic human needs... are at stake” (Au and Ching, 2012). Discussion and news on homelessness come up in newspapers from time to time, e.g., France-Presse (2015), Tickle (2014), and Samuels and Davis (2014). According to ETHOS Typology on Homelessness and Housing Exclusion (FEANTSA, 2014), there are four categories of homelessness:

- (i) Rooflessness, e.g., sleeping rough
- (ii) Houselessness, e.g., sleep in a temporary shelter
- (iii) Living in insecure housing, e.g., sleep in a place with insecure tenancy or domestic violence
- (iv) Living in inadequate housing, e.g., in unfit housing

The FEANTSA’s way to describe homelessness is shared by Au and Ching (2013), who call it a “multi-leveled perspective” on homelessness. Balchin and Rhoden (2002), a textbook on Housing Policy, points out that homelessness can be attributed to social changes, e.g., “the break-up of the family” and “too many people leaving home prematurely”. Fundamentally for Balchin and Rhoden (2002), homelessness is about both demand and supply for housing. In the academic realm, articles on homelessness have been published in journals with diversity of research interests, e.g., *American Journal of Men’s Health* (Sage), *Antipode* (Wiley), *Evaluation and Program Planning* (Elsevier), *Journal of Humanistic Psychology* (Sage), *Child & Youth Services* (Routledge), *Cultural Studies ⇔ Critical Methodologies* (Sage), *Housing Studies* (Routledge), and *Journal of Housing and the Built Environment* (Sage), etc.. It is definitely an unacceptable human condition, bearing in mind that adequate housing has long been recognized by the United Nations as a basic human right (Au and Ching, 2013).

There is a broad range of research interests on the notional theme of homelessness. The following examples are indicative:

- Montgomery *et al.* (2013) examine homelessness prevention for mentally ill persons.
- Chamberlain and Johnson (2011) and Somerville (2013) examine the various pathways into adult homelessness. For Chamberlain and Johnson (2011), these pathways are “housing crisis”, “family breakdown”, “substance abuse”, “mental health”, and “youth to adult”.
- Lee and Price-Spratlen (2014) study the distribution of the homelessness phenomenon across American communities.

- Perry (2012) studies a 24-hour donut shop as an “urban hybrid space”¹ for homeless persons to reside in.
- He, O’Flaherty and Rosenbeck (2010) evaluate shared housing as a means to alleviate homelessness.

Another valuable source to learn the topic of homelessness is Youtube.com, which offers lively and brief videos on homelessness, see, for examples, Ronzig the Wizard (2011) on “What it’s like to be homeless”, Pelley (2011) on “Hard Times Generation: Families living in cars” and *USA Today* (2009) on “The new homeless”, etc..

In Hong Kong, homelessness is a severe social problem, see *Appendix I: Photos on homelessness in Hong Kong*, Lei (2015) and Callan (2008). For examples, Ngo (2015) proclaims in a *South China Morning Post* article that “A place to live is a poor child’s biggest worry” and Wong (2014) maintains that the society is “divided into ‘haves’ and ‘have-nots’ based on property”, fostering a strong sense of alienation in the society. Sleeping in public also taints the city’s image (Yeung, 2014). Meanwhile, there has been no law in Hong Kong to protect the rights of the homeless people, e.g., the reported cleanup operation on street sleepers in Sham Shui Po (Chan, 2012) and the regular harassment to the homeless people by police (About Homelessness, 2015); similarly, there is no laws specifically on street sleeping (Yeung, 2014). Like other countries, e.g., Japan (Hayashi, 2013) and Europe (Gosme, 2014), the homelessness problem in Hong Kong is aggravated by macro-economic trends and events, e.g., the Asian Financial Crisis in 1997 and the severe acute respiratory syndrome (SARS) epidemic (Au and Ching, 2013). In particular, long waiting time for public housing application, high rental fee low income and lost families are considered as the main reasons for street sleeping in Hong Kong (Yeung, 2014; Cen, 2011). It has also been suggested that had the housing affordability (and homelessness in a broad sense) problem in Hong Kong been less severe (by owning a home), the young people would have much less grievances to the society and the government. In this case, the Umbrella Movement, the pro-democracy protest mainly led by students, would not make up a substantial force so quickly (Toh, 2014). Clearly, the present homelessness problem in Hong Kong should be comprehended with these societal factors in mind. Meanwhile, homelessness remains under-researched in Hong Kong (Au and Ching, 2013). In this paper, additional information on homelessness in Hong Kong is provided via a Facebook-based survey conducted by the writer. It is discussed in the next section. All in all, homelessness as both a topic of social concern and a notional research theme is rich in content and widely discussed by people with diverse interests and perspectives from all over the world.

¹ “Urban hybrid spaces” are “spaces that serve dual roles as legitimate business establishment and homeless habitation or hangout” (Perry, 2012).

Findings from a Facebook-based questionnaire survey on homelessness perceptions in Hong Kong

A Facebook-based questionnaire survey on homelessness perceptions in Hong Kong has been carried out by the writer from December 25 to 28 in 2014. The survey tool used is provided by KwikSurveys.com free-of-charge. The respondents are mainly the writer's Facebook friends, who received invitation messages from the writer to participate in the survey. It is also possible that some the respondents were the writer's Facebook friends' friends. The research method of Facebook-based questionnaire survey was explained and evaluated by Ho (2014), thus not further clarified here. Nevertheless, two personal observations on this research method are made from the recent experience of its employment:

Observation 1: Invitation messages to Facebook friends have to be sent out in a number of initiatives as Facebook does not allow sending out of more than 15 to 25 messages at one go.

Observation 2: Some "Facebook friends" of the writer do not like to receive invitation messages to do questionnaire survey, especially on a politically sensitive topic such as the Umbrella Movement. So they unfriended the writer right away on receiving the invitation messages. For this survey on homelessness, this is not a problem.

Altogether, 124 Facebook friends have participated in the survey on homelessness. The basic statistics and information of the survey can be found in Appendix 2 to 4. Survey questions mainly cover the respondents' profiles and their perceptions on several aspects of homelessness in Hong Kong. The following are the major findings from the basic statistics of the survey and from further analysis using the Excel's data filtering function on the survey data exported from the Kwiksveys survey tool.

(i) Findings from basic survey statistics (re: Appendix 2 and 3) (Findings 1 to 6)

Finding 1: 104 respondents (83.9%) either slightly or strongly feel that safe, affordable, and stable housing is a basic human right (survey question 7). This indicates that this human right view on housing is the dominant one among the respondents.

Finding 2: the self-perceived upper social class makes up 4% (5 respondents) of the total respondents while 11.3% (14 respondents) have no ideas about their social class status (survey question 5). The figures are normal as the upper social class is a very small group of people in the society and the criteria to classify social class are not quite clear-cut.

Finding 3: 88 respondents (71%) either slightly or strongly feel that the present homelessness problem in Hong Kong can be effectively addressed via an appropriate housing policy (survey question 9). This indicates that the majority of the respondents think it important to work on housing policy

formulation and implementation to tackle the homelessness problem in Hong Kong.

Finding 4: 111 respondents (89.5%) either slightly or strongly feel that the homelessness problem in Hong Kong is caused by the low housing affordability problem in Hong Kong (survey question 8). It indicates that the problem of housing affordability² is widely perceived to be related to the homelessness problem.

Finding 5: 77 respondents (62.6%) either slightly or strongly feel that the homeless people have been badly treated by the Police, the Food and Environmental Hygiene and the Home Affairs Departments in Hong Kong (survey question 10). This perception of homeless people being mistreated appears to be shared by many respondents.

Finding 6: The idea that “most of the personal homelessness problems in Hong Kong are fundamentally caused by the homeless people themselves” is not widespread with 39.8% of the respondents not feeling this way while 43.1% slightly feeling so (survey question 12).

(ii) Additional findings based on interactive querying on survey statistics using MS Excel (re: Appendix 4) (Findings 7 to 13)

Finding 7: 32 male respondents (47% of all male respondents) strongly feel that safe, affordable, and stable housing is a basic human right; the corresponding figure for female respondents is 31 respondents (55.4% of all female respondents). There is a noticeable difference on feeling toward this idea between male and female respondents, with female respondents being slightly more supportive to this idea (survey questions 1 and 7).

Finding 8: 26 respondents who own their apartments (44.1% of this group of respondents) strongly feel that safe, affordable and stable housing is a basic human right, vs 20 respondents who rent apartments (55.6% of this group of respondents), having the same feeling. This indicates the status of owning an apartment has some influence on people’s feeling on this topic of affordable housing human right (survey questions 6 and 7).

Finding 9: 10 female respondents (17.9% of all female respondents) strongly feel that close relatives of homeless people have a duty to take care of these people as they are their close relatives, vs 10 male respondents (14.%) sharing the same feeling. Female respondents appear to be more caring to their relatives who are homeless than male respondents do (survey questions 1 and 11).

Finding 10: 2 respondents, with age group of 18-27 years old (22.2% of this group) do not feel that most of the personal homelessness problems in Hong Kong are fundamentally caused by the homeless people themselves, vs 10 respondents for the age group of 48-57 years old (71% of this group) who have the same view. This indicates that a substantially larger proportion of older

² The *housing affordability* problem in Hong Kong has been examined by Ho (2015).

people feel that personal homelessness problems are not caused by these people themselves when compared with younger people (survey questions 3 and 12).

Finding 11: 14 respondents who perceive themselves to belong to the lower social class (34%) own their apartments vs 4 respondents (80%) who perceive themselves to belong to upper social class, with apartment ownership. This indicates that most upper class people own their apartments while lower social class people do not (survey questions 5 and 6).

Finding 12: 13 respondents who perceive themselves to belong to the lower social class (31.7%) strongly feel that the homeless people have been badly treated by the Police, the Food and Environmental Hygiene, and Home Affairs Departments, vs 2 respondents from the self-perceived upper class group (40%). The difference in perception between these two social classes on this topic is not too much but remains noticeable (survey questions 5 and 10).

Finding 13: 4 respondents who own their apartments (6.8%) do not feel that the overall homelessness problem in Hong Kong will get worse in the near future, vs 2 respondents who rent their apartments (5.6%), sharing the same feeling. It indicates that those respondents who do not own properties are slightly more pessimistic about the city's homelessness trend in the near future (survey questions 6 and 13).

Very likely, readers will come up with other questions that can be answered with additional querying on the survey data. Indeed, it is the intention of the writer that the survey data query exercise be mainly conducted so as to illuminate a few crucial perceived aspects of homelessness in Hong Kong. The Excel-based query exercise is not intended to be comprehensive. The next section applies two statistical techniques, namely, the chi-square test and the multiple regression analysis (Morris, 2003; Lind *et al.*, 2001) to further analyze the survey data. The findings of the statistical exercises in the ensuing section are to be related to the findings presented in this section.

A statistical analysis on the Facebook-based questionnaire survey data

Quite a number of statistical tests can be carried out on the homelessness survey data that address several homelessness perception-related questions. Two statistical analysis techniques are provided here for illustration purpose. They are (i) the chi-square test and (ii) the multiple regression analysis. First of all, the chi-square test is a kind of nonparametric test (Lind *et al.*, 2001: chapter 15). Its purpose is to compare a set of observed frequencies to a set of expected frequencies for hypothesis testing³. For example, a chi-square test can be set up to further evaluate Finding 10 on the relationship between “age

³ Readers are referred to Lind *et al.* (2001: chapter 10) for an explanation of what is *hypothesis testing*.

groups” and “the feeling that most of the personal homelessness problems in Hong Kong are fundamentally caused by the homeless people themselves”. Based on Lind *et al.* (2001)’s steps for the chi-square test, the following specific information for the test is provided:

Step 1: “State the null hypothesis (H_0) and the alternative hypothesis (H_1)”:

H_0 : There is no difference between the age group (survey question 3) and the feeling on the personal homelessness problems in Hong Kong (survey question 12).

H_1 : There is a difference between the age group and the feeling on the personal homelessness problems in Hong Kong.

Step 2: “Select the level of significance”: The 0.05 level of significance is selected in this case.

Step 3: “Select the test statistic”: The chi-square distribution (χ^2) is chosen.

Step 4: “Formulate the decision rule”: To reject H_0 and accept H_1 , if the calculated chi-square value is greater than the critical value; if not, do not reject H_0 .

The *degree of freedom* is based on the formula of (row – 1) (column – 1) (Morris, 2003: 243). In this case, the *degree of freedom* is (3-1)(4-1) = 6. From table look-up on chi-square value (Morris, 2003: 488), the critical value of 0.05 (level of significance) at 6 *degree of freedom* is 12.592.

Step 5: “Compute the value of chi-square and make a decision”.

The computation is based on Table 2, which is a consolidated one from Table 1. The consolidation was made due to the very low frequency figures for rows 1, 4-6 in Table 1.

Table 1: Frequency figures obtained via querying on the survey data.

Age group	No idea	Do not feel this way	Slightly feel this way	Strongly feel this way
18-27	0	3	4	2
28-37	6	15	28	3
38-47	3	21	18	4
48-57	1	0	0	0
58-67	1	0	0	0
68 or above	0	0	0	0

Table 2: Consolidated frequency figures from Table 1.

Age group	No idea	Do not feel this way	Slightly feel this way	Strongly feel this way	Subtotal
18-27	0 (1)	3 (3.2)	4 (4.1)	2 (0.7)	9
28-37	6 (5.3)	15 (18.6)	28 (23.8)	3 (4.3)	52
38 or above	5 (4.8)	21 (17.2)	18 (22)	4 (4)	48
	11 (10.1%)	39 (35.8%)	50 (45.8%)	9 (8.3%)	109

In Table 2, the figures without brackets are observed frequencies while those in brackets are expected frequencies. The total number of frequencies is 109, which is smaller than the total number of respondents of 124. This is due to some blank answers on these questions in the survey. The calculated chi-square test value is 6.9 (see Appendix 5 for the calculation). Since the

calculated chi-square value at 6.9 for the survey data is smaller than the critical value of 12.592, the null hypothesis (H_0) is not rejected in this case. Specifically, that *there is no difference between the age group and the feeling on the personal homelessness problems in Hong Kong* (H_0) is not rejected in this case.

The second statistical analysis is called multiple regression analysis (Lind *et al.*, 2001: chapter 14), which examines correlation between a number of variables (i.e., a dependent variable (Y) and a number of independent variables (Xs). Correlation measures any departure of random variables from a mathematical condition of probabilistic independence (Wikipedia, 2015). Making use of multiple regression and correlation analysis, a multiple regression equation can be derived (Lind *et al.*, 2001). In our case, we make use of Excel to produce answers for b_1 , b_2 and b_3 for the following multiple regression equation [a is the y-intercept in the equation]:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3$$

Y (*the dependent variable*) is: "Do you feel that the close relatives of homeless people have a duty to take care of these people as they are their close relatives?" (survey question 11). The survey answers are now expressed as scores as follows:

Do not feel this way:	0
No idea:	1
Slightly feel this way:	2
Strongly feel this way:	3

X_1 (*an independent variable*) is: "What is your gender?" (survey question 1). Female is 0 and male is 1, in this case.

X_2 (*an independent variable*) is: "What is your age?" (survey question 3). The survey answers are expressed as figures as follows:

18 to 27:	22.5
28 to 37:	32.5
38 to 47:	42.5
48 to 57:	52.5
58 to 67:	62.5
68 or above:	72.5

X_3 (*an independent variable*) is: "Do you feel that safe, affordable, and stable housing is a basic human right?" (survey question 7). The survey answers are now expressed as scores as follows:

Do not feel this way:	0
No idea:	1

Slightly feel this way:	2
Strongly feel this way:	3

After doing the data conversion on the exported survey data to Excel (i.e., texts converted to scores), the worksheet looks like Appendix 6. Appendix 7 shows the multiple regression function in Excel while Appendix 8 presents the regression report generated by Excel's regression function. With the Excel report, the multiple regression formula can now be specified as follows:

$$\text{Care-taking duty of homeless persons' relatives} = 2.417 [\text{The y-intercept}] + 0.1147(\text{Gender}) + -0.03(\text{Age}) + 0.05(\text{Housing as human right})$$

The multiple regression formula and the Excel report statistics can be interpreted in the following ways:

Interpretation 1: Male respondents have slightly stronger feeling than female respondents that the close relatives of homeless people have a duty to take care of these people, as indicated by the b value of 0.114769593. However, with a large p-value⁴ at 0.571644089, there is no evidence that such a positive correlation exists at all.

Interpretation 2: Younger respondents have slightly stronger feeling than older respondents that the close relatives of homeless people have a duty to take care of these people, with the b value at -0.030362328. With a large P-value at 0.011814825, it is unlikely that no correlation exists between these two variables.

Interpretation 3: People who feel that safe, affordable, and stable housing is a basic human right also tend to feel that the close relatives of homeless people have a duty to take care of these people. However, such a positive correlation is weak, with the b value at 0.053070155; given the large P-value at 0.591680834, there is no evidence that such a positive correlation exists at all. The chi-square test and multiple regression analysis provide further information to facilitate the interpretation of the survey data, notably on Finding 9, which only deals with the single independent variable of gender (survey question 1). With the multiple regression analysis, two more independent variables, i.e., age (survey question 3) and housing as human right (survey question 7), are covered at the same time in one equation. The two statistical analysis exercises illustrate how statistical analysis techniques can be applied on survey data, with Excel (see also Ho, 2011) to produce additional findings.

⁴ Lind *et al.* (2001: 347-348) define the *p-value* as "the probability of observing a sample value as extreme as, or more extreme than, the value observed, given that the null hypothesis is true". To learn specifically how to interpret the p-values in the exercise involved here, refer to Buglear (2007: chapter 9).

Concluding remarks

The homelessness problem in Hong Kong has been widely recognized as a key and complex social issue. At the same time, the notional theme of homelessness is rich in ideas and perspectives. Nonetheless, the homelessness topic has still been under-studied. This article has examined the homelessness problem with a brief literature review. Its main empirical findings, relying on a Facebook-based questionnaire survey conducted by the writer, reveal some homelessness-related perceptions in Hong Kong. The Excel-based query and statistical analysis have been found useful to examine the Facebook-based survey data, resulting in the production of some findings on homelessness perceptions in the Hong Kong context. In general, the findings, representing a snapshot picture on homelessness perceptions in Hong Kong from a small group of survey respondents, are largely compatible with the viewpoints and findings reported in the homelessness literature. Overall, the data analysis exercises provided some useful findings on homelessness which serve to (i) stimulate further research on this important topic of homelessness and (ii) provide teaching materials on homelessness in the context of Hong Kong.

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Appendix

Appendix 1: Photos on homelessness in Hong Kong

Appendix 1a: Photograph 1 – A street sleeper in the Central Business District
(Source: from the writer, taken in 2014)



Appendix 1b: Photograph 2 – The habitat of a street sleeper next to the Umbrella Movement occupied site in Admiralty (Source: from the writer, taken in 2014)



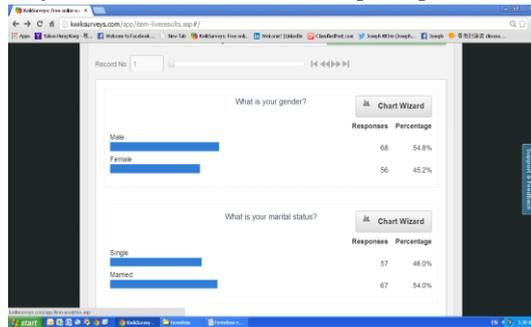
Appendix 1c: Photograph 3 – A homeless person sleeping in a McDonald Restaurant (Source: from the writer, taken in 2014)



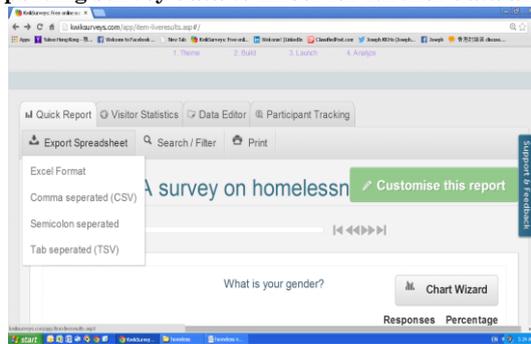
Appendix 2: The Facebook-based survey questions on homelessness perceptions and responses statistics

<i>Survey questions</i>	<i>Survey statistics</i>
Question 1: What is your gender?	Male: 68 (54.8%) Female: 56 (45.2%)
Question 2: What is your marital status?	Single: 57 (46.0%) Married: 67 (54.0%)
Question 3: What is your age?	18 to 27: 9 (7.3%) 28 to 37: 52 (41.9%) 38 to 47: 47 (37.9%) 48 to 57: 14 (11.3%) 58 to 67: 02(1.6%) 68 or above: 0 (0.0%)
Question 4: What is your education background?	Not yet a degree-holder: 21 (16.9%) Finished University Undergraduate Degree study: 80 (64.5%) Finished Master Degree study: 22 (17.7%) Finished Ph.D. Degree study (or equivalent): 1 (0.8%)
Question 5: How would you perceive your social class?	Lower class: 41 (33.1%) Middle class: 64 (51.6%) Upper class: 5 (4.0%) No idea: 14 (11.3%)
Question 6: Do you own your apartment or not?	Yes, I own my apartment: 59 (47.6%) No, I rent my apartment: 36 (29.0%) I do not own my apartment and do not need to pay rent: 29 (23.4%)
Question 7: Do you feel that safe, affordable, and stable housing is a basic human right?	Do not feel this way: 15 (12.1%) Slightly feel this way: 41 (33.1%) Strongly feel this way: 63 (50.8%) No idea: 5 (4.0%)
Question 8: Do you feel that the homelessness problem in Hong Kong is caused by the low housing affordability problem in Hong Kong?	No idea: 3 (2.4%) Do not feel this way: 10 (8.1%) Slightly feel this way: 46 (37.1%) Strongly feel this way: 65 (52.4%)
Question 9: Do you feel that the present homelessness problem in Hong Kong can be effectively addressed via an appropriate housing policy?	No idea: 7 (5.6%) Do not feel this way: 29 (23.4%) Slightly feel this way: 42 (33.9%) Strongly feel this way: 46 (37.1%)
Question 10: Do you feel that the homelessness people have been badly treated by the Police, the Food and Environmental Hygiene, and Home Affairs Departments?	No idea: 15 (12.2%) Do not feel this way: 31 (25.2%) Slightly feel this way: 46 (37.4%) Strongly feel this way: 31 (25.2%)
Question 11: Do you feel that the close relatives of homeless people have a duty to take care of these people as they are their close relatives?	No idea: 12 (9.7%) Do not feel this way: 39 (31.5%) Slightly feel this way: 53 (42.7%) Strongly feel this way: 20 (16.1%)
Question 12: Do you feel that most of the personal homelessness problems in Hong Kong are fundamentally caused by the homeless people themselves?	No idea: 11 (8.9%) Do not feel this way: 49 (39.8%) Slightly feel this way: 53 (43.1%) Strongly feel this way: 10 (8.1%)
Question 13: Do you feel that the overall homelessness problem in Hong Kong will get worse in the near future?	No idea: 5 (4.0%) Do not feel this way: 9 (7.3%) Slightly feel this way: 61 (49.2%) Strongly feel this way: 49 (39.5%)

Appendix 3: Survey statistics on homelessness perceptions shown onscreen



Appendix 4: Exporting survey data to Excel for further data analysis



Appendix 5: Calculation of the chi-square value with the survey data

Observed freq. (f_o)	Expected freq. (f_e)	$(f_o - f_e)^2 / f_e$
0	1	1.0
3	3.2	0.0
4	4.1	0.0
2	0.7	2.4
6	5.3	0.1
15	18.6	0.7
28	23.8	0.7
3	4.3	0.4
5	4.8	0.0
21	17.2	0.8
18	22	0.7
4	4	-
Total		6.9

Appendix 6: A worksheet with survey data converted for multiple regression analysis

	A	B	C	D
1	X1	X2	X3	Y
2	What is your gender?	What is your age?	Do you feel that safe, affordable, and stable housing is a basic human right?	Do you feel that the close relatives of homeless people have a duty to take care of these people as they are their close relatives?
3				
4	1	22.5	2	2
5	0	32.5	3	2
6	0	52.5	3	2
7	1	52.5	0	2
8	1	32.5	3	1
9	1	42.5	2	2
10	1	52.5	3	2
11	1	42.5	3	2
12	0	32.5	0	2
13	0	32.5	3	3

Appendix 7: Conducting multiple regression analysis with the data analysis-> regression function in Excel

Appendix 8: The multiple regression analysis report from Excel based on the survey data worksheet as exported from the online survey software

Regression Statistics	
Multiple R	0.231187651
R Square	0.05344773
Adjusted R Square	0.029783923
Standard Error	1.08223436
Observations	124

ANOVA				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>
Regression	3	7.936126	2.645375	2.25862773
Residual	120	140.5477	1.171231	
Total	123	148.4839		

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	2.417494853	0.503076	4.805424	4.51421E-06
Gender	0.114769593	0.202347	0.567191	0.571644089
Age	-0.030362328	0.011876	-2.55668	0.011814825
Housing as human right	0.053070155	0.098672	0.537844	0.591680834