ON THE METHOD: QUANTITATIVE REASONSING AND SOCIAL SCIENCE

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I. Developing a Quantitative Research Plan

Opening Statement

The *lassiez-faire* economy is generally considered to facilitate a material prosperity in the high speed on one hand, and contributed to a scope of social injustice from the structural flaws (Shin, K.H., Shin D.K., 2007). The modern administrative state began to involve remedying for a basic and decent standard of human condition. They are both regulators for the capitalists and collaborate with them for the common welfare and national prosperity. For example, the US government may be an underwriter to protect the *Du Pont* against *Kolon* by launching a criminal investigation petitioned by *Du Pont*, a US company. A strong army and other security agencies may serve a national defense and security on one hand, but also be side-functional to assist in aspects with their foreign based national enterprises and businesses. The classic state role, such as national defense and public peace, not obviously though, may have a new secondary use for their national interest. Of course, the government has an extent of other purposes such as the decent and quality of environment for the generations, workplace safety, public health, fair and clean public election, and so. In this ambit, the states may take an initiative to reduce a carbon emission and create a rule for statutory standard of workplace safety. The regulated community may be generally drawn from the production side. Nevertheless, the government also turned to assume a bitter responsibility to address the group of weak bargaining power other than the enterprises and businesses. For example, homelessness in the American community has been one crunching issue for the human standard of condition. A poverty reduction comes as a priority if to focus on the recent trend in the US. They also require mobilizing a lot of fiscal resources to suffice an extent of social welfare system. The tax policy was pecked about its effectiveness and efficiency in the global jurisdictions. The UN and intellectual community now generally agree on the new package of second or third generation human rights, which includes a minimum wage, humanly labor standard, right to decent housing, public health and education. This national and international terms of human rights generally concern a restructured concept of social justice from the past paradigm of liberal capitalism (DiNitto, D. M., 2010).

In this understanding, I have identified two salient problems on the social welfare administration in the countries. A housing, along with the food and clothing, is one of three basic conditions to determine the welfare of citizens and people (Bratt, R, Stone M., Hartman, C., 2006). Homelessness definitely would be a most ready problem we have kept over a period of public attention and concerned deeply to restore the shared community. The policy makers and researchers generally undertake a square of efforts to investigate, involve and cure, but we failed to see any remarked of progress or improvement. The issue of homelessness is viewed as a general of policy point shared largely by the global jurisdictions. Other problem, as less highlighted in terms of the decent human housing, may be said as particularized to a specific national condition or cultural sharing. The decades of Korean experience in the wake of globally economic restructuring and turbulence might incur a new cultural mode of housing subsistence. The *Koshiwon, Zsukbang,and Korean Inns(K-Inns)* are three representative paradigm of deprived class in maintaining their feeble standard of living arrangement (Korean Urban Research Institute, 2013). It could not be termed as homeless since they culturally recognize such poor quality of space as their home. Given an expansive definition of homelessness, it might be classed as such, but not to be seen as plausible. In any more general eye over the nations of cultural difference, it can be matched up finely, in the same concern and policy classification, with others, such as the *Igloo* for an Eskimo, African shelters and Mongolian *Gers.* The differences, however, would be well guessed since the three types are modernized, but poor, and practically from a worse economic status of person or household. The residents may be a layoff from the 1994 IMF financial crisis and for other personal misfortune in managing their personal and household economy (Shin, K.H., Shin D.K., 2007). This housing pattern, therefore, tends to stigmatize a recent rise of economic polarization in South Korea, high crime rate and suicide. I believe, as a corollary, that the problem well provokes the policy makers as a first priority within the social welfare agenda list.

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A Background of the Study

A background for this research project has been driven from the non-housing residences located in the Seoul city, which shows a deteriorated quality as improper for the residential use. In this research, the "non-housing residencies (NHR)" is denoted from the general definition of "housing," perhaps most helped out by the statutory one as defined in the Korean Housing Act or the National Census. Practically, the types of NHR would include a Vinyl House, *Zsukbang*, *Koshiwon*, *K-Inns*, and public space of business operations, such as a PC room, *Sauna, Mangabang, Dabang*) (2013; Reynolds, R. D., 2007). Nonetheless, the former three are most notorious to bring our attention as a social phenomenon or as a subject of public policy in Korea. For example, a most of Vinyl houses are used by family members, and the legal disentitlement of occupancy would necessitate a different nature of policy solution. The public business operations in the last category show significance in view of this research purpose, but the nature of occupancy or dwelling would not be clear crystal to blur our focus on decent housing. The three types are generally considered as most dominant for the residential use of stiffly growing one-person household, who are a new poverty class of Korean community. A physical pattern in use of the space would be afforded with one room and common space, which should be problematic from points of policy consideration, humanly standard to housing, public safety and health, any fostering condition for the crimes and misdemeanor. The populace exposed to these conditions seems to amount to 270,000 nationally and 150,000 around the Seoul city (Tae-ho Do, 2009). The policy makers in Korea have an awareness about this issue and share a concern in response with the remarked increase of this housing pattern. A recent example would be the fire safety system, and financial support for the deprived households. This new policy attention, of course, would be importantly related with the role of social welfare administration, and upgrades a national condition of human rights by realizing the stability in decent housing. Nevertheless, no systemic response was framed based on the empirical studies of NHR concerning its present status and tendency for the future.

The Purpose of the Study

The purpose of research has been driven to find the status of residents in the three types of NHR, *Zsukbang*, *Koshiwon*, and *K-Inns*, as well as the characteristic of space use and management (2013). Based on the understanding, we may elaborate on the policy suggestions in response with their housing problem. They include, firstly, the minimal requirements mandatorily to be provided for those worse dwellers. In this end, we suggest a point of consideration on the NHR in making the housing policy. The residences for common public use have to be regulated to ensure a humanly minimal standard, and we discuss the necessary or desirable policy options and alternatives. According to the desire and characteristic of dwellers, the findings would be discussed in any implications on the related field of public administration, including the social welfare, unemployment, and fiscal as well as public housing. Finally, our suggestion includes one paradigm project to demonstrate an improvement of non-housing condition, which involves a massive reform of the basic interchange on this issue.

The Research Questions/Hypotheses/Variables

In formulating the research questions, I have surveyed a scope of literature and national statistics in terms of the welfare and housing policy and their current status in South Korea (Creswell, J. W., 2009; Frankfort-Nachmias, C., & Nachmias, D., 2008). The literature has been abundant with the decent standard and role of government in dealing with the welfare of Korean public. Their focus seems elaborated on the new concept of human right, issues of urban planning, economic disparity and welfare policy on the marginalized group. Narrowing our concern, we can see an initiative or public programs on the new housing policy, *Happiness Shelter* (HS) and other similar nature of financial support for the degraded class of Korean society (Tae-ho Do, 2009). The HS was created over the past election campaign for President M.B. Lee in 2007-2013. Other public programs and contracts have generally been pursued on a continued basis over the successive governments, in which the government may make a lower rate of loans for the household stripped from the housing difficulties. This area of public policy in South Korea,

however, must be viewed as lacking or incomplete because the housing policy was narrowly focused on the statutory concept of "housing" (Tae-ho Do, 2009). Moreover, the safety standard in these types of housing has been neglected, in which the factors pursuant to the NHR were neither concerned nor investigated to provide a basis of adequate policy response. For this lacking, we could hardly find any plausible scheme or public program on the finance, loans and any tax benefit for this category of generally impoverished group. The theory and tenet created over the decades in Korea generally are that an economic polarization has been intensified to transform the society in a radical divide (Shin, K.H., Shin D.K., 2007). This generally leads to the hypothesis or assumption that the new poverty class manages a worst standard of housing, and even creates a background for the new cultural mode of NHR. This, in turn, has been argued to account for the increasing rate of public safety issues, such as fire and higher deaths from the deteriorated conditions, crime, and suicide in Seoul city, South Korea. It is generally alleged that the residents and lessors or owners of NHR are not an affordable class to offer and consume a public housing, which contributed to create a public issue on the standards and rules. A scope of criticism has been widely launched so that the housing policy is fairly traditional as conceptually slanting on the statutory paradigm (2009). This excludes the alternatives and due response for the NHR (2009).

Hypothesis 1*: The number of NHR has been sharply increased over the decade in Seoul city.*

Hypothesis 2: *The residents of NHR would be economically disprivileged, largely solo and aged, driven to this mode of shelter for economic reasons, and psychologically depraved against a bright future.*

Hypothesis 3*: The lessors or owners of NHR would not be active or encouraged to improve the housing conditions of NHR.*

Hypothesis 4: *The city government is now ineffective to respond with the problem of NHR from a lacking or insufficiency of the paradigm, system and law*

In response with the changing trend in view of the residential mode within Seoul city, the author has been inquisitive of an accurate profile, including its status and characteristics, as recently developed within the NHR. The research project was phased into several stages from the status and characteristic of NHR, current law and system pursuant to the national housing administration, comparative review with the foreign nations, such as Germany, England, and other western countries, architectural or constructional issue on the space design and use, and finally through the implications of research finding for the improvement and reform of the current national housing policy (2013). The mixed method was applied to finalize the project, which includes a public survey and in-depth interview with the residents within the sample. The investigation on the documents and record were undertaken particularly to respond with the second and third stages. Some skills and experts on the space design and use were employed to disclose the problem of worse space use in the mid of chapters.

In purpose of this assignment, however, I may only need to address the quantitative method about the public survey and the sample of NHR residents. A sampling was completed according to the veritable statistical formula, and ethical guideline was faithfully upheld through the months of survey period (Creswell, J. W., 2009). From the theory and hypothesis, I will derive three research questions; (i) How significant can we ascertain the increase of NHR in Seoul city (ii) Why did the NHR multiply in number? (iii) What characteristics can we find from the NHR in terms of the personal and household demography, motive, economic status, and distribution within the three types (iv) Are the current system and law adequate concerning the urban housing policy in Seoul City, or how can we improve or reform it?

The independent variable in this case is the NHR. The dependent variables would be (i) the personal and household demographic of NHR, (ii) motives of opting for this type of residence and their personal attributes (iii) the factors to choose any specific type of residence and their status (iv) economic condition (iii) prospect or plan of the NHR residents for the future housing (iv) characteristics within the three types of residence (vii) managerial aspect of lessors of the former two types and owners of K-Inns (viii) the intention of those to sell, improve, remodel.

The Theoretical Framework

QUANTITATIVE REASONING & SOCIAL SCIENCE

Reference

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II. Choice of Design: Recommendations and Rationale

A Brief on the Experimental and Quasi-Experimental Design

According to Frankfort-Nachmias, C., & Nachmias, D., one of paradigmatic research design would be an experimental design which has been widely used in the biological and physical sciences (2008). The classic experimental design is predicated on various concepts or elements, such as pretest and posttest, and most importantly among three variables, i.e., dependent, independent and control. As you expect, the design enables to find a correlation by using independent and dependent variables. The causal inference, given its crucial importance and utility to the scientific understanding of event, occurrences, and phenomenon, then, would be served by this very paradigm (2008). The control variables would operate to enrich a possible account of research findings and can lead to diverse implications on the discourse and application to a scope of alternatives. The experimental design may be developed in types (2008). The first type would be a controlled experimentation. The researchers would use a randomized sample, which is indispensable and effective to control for the internal validity. The external validity is considered generally weaker than other method where the design may not allow the researchers make any generalizations to non-tested populations. The second type would be the Solomon Four-Group Design (2008). This type is designed to measure directly the reactive effect of testing besides the generally same feature as the first type. In this type, the researchers often compare two experimental groups and two control groups. The third type is titled the Posttest-Only Control Group Design, a variation of both the classic design and the Solomon design, where a pretest was altogether discarded (2008). It may serve with a less cost and on more practical simplicity in view of research operation. The fourth type would be the Experimental Designs to Study Effects in Extended Time (2008). This type was required to deal with the long range effects that are spread out over time. It may finely be matched to address the typology of research where the dependent variable is an attitude. The final type is called a factorial design which develops two or more independent variables (2008). This design is pertinent when the researchers plan to gain more insight by studying multiple independent variables, so that the design is not simple and requires a large number of experimental group. It has a strength to considerably broaden the range of generalizability and more effective to respond with the external validity. In this type of design, the investigator may not control everything, but any wider version or account may be explored about the level or mode of effect and differences of effect squarely across the multiple independent variables.

The quasi-experimental design has a characteristic where the researchers cannot manipulate a test subject since it is generally inherent as gender, race, ethnicity and residents or households about the income dynamics in the long term studies (2008). Most of social scientists perhaps may be entangled with this phase of concern, who often employ and benefit from this type of research design. Hence, here do we find no pretest and posttest paradigm unlike the controlled experimental design, which is most determinative to excavate a cause and effect relations between the variables. Often this facet may be practically related with a dimension between the natural and social sciences. This means that the internal and external validity could not be completely ensured in the research of social science, which more essentially depends on the wisdom and creativity of researchers (2008; Creswell, J. W., 2009). However, it has a strength that the design may include more variables to prove their thesis, and conduct a cross-sectional comparison or study, which gives its other name. The internal and external validity, in this method, therefore, may be akin to the concept, “proximate cause for the tort damage” in the legal theory. There are other points of precaution, for example, maturation involving the panel studies, and a panel conditioning may partly cure that weakness (2008). Although a pretest may not be feasible in strict sense, the planned variation designs may lead to similar effect, which depends on the wisdom of researchers and typology of the issues. One of other typical characteristic for this design arises that the contrasted group often would not be randomly selected or impossible for some cases. This also is one factor to vitiate the strengths in terms of the internal and external validity. This brings an extent of research practice to utilize the already established statistics rather than raising a test and manipulation.

The NHR Research : Recommendations & Rationale

The research goal for the NHR project was driven to disclose the present status of residents in a deteriorated housing condition in Seoul City (SC), its implications for the socio-economic trend, and feasible solution to improve it with a more responsive public policy, system and law. As I have classed, we can identify three most prevalent modes of NHR, *Zsukbang*, *Koshiwon,* and *K-Inns,* which are generally sensed a product of depolarization from the income disparity or poverty in SC (Kiyoung, K., 2014; Korean Urban Research Institute, 2013). The independent variables in this study would be those three types of worse residence, and dependent variables will span considerably wider in response with the research questions. In this consideration, I have derived a number of dependent variables in five superior sections The five superior sections include (i) the residential section, (ii) social welfare and public aid, (iii) economic (iv) health condition, and (v) demographic characteristic. Within each section, I have developed a cohort of dependent variables to be considered valuable to prove the hypothesis and answer the research questions. For example, the residential information of past and present, availability of alternative residence, the way to obtain a current residence, inner facilities of current residence, personal satisfaction and some others were set to illuminate the first section. In the second and fourth section, I simply surveyed two dependent variables, which, for the first, are his or her recognition on the housing welfare programs, experience thereof, need, reason to maintain out of the programs and their desire from the public aid programs. For the second, I have had intended to contemplate on a chronic disease and disability from the research samples. For the third and fifth sections, we probably find a most of common survey variables on that section. For example, age, sex, married status, educational background and etc. were selected as dependent variables for the fifth, and employment status, average monthly income, expense, savings, financial default and national programs to reconstruct were entered as dependent variables for the fourth section. In totality, the number of dependent variables amounted to 28, which are distributed within each of five sections (2014). The following figure shows a grand summary on the sample size for three stages of research operation, to say, face-to-face interview survey, in-depth interview, and physical examination of NHR.

(Figure) Grand Summary for SC NHR Project

Research Method	Research Subject	Sample Size			
		Zsukbang,	***Koshiwon***	***K-Inns,***	**Total**
Face-to-Face Intervie	**Households of NHR**	**100**	**200**	**100**	**400**
In-depth Interview	**Resident of NHR**	**10**	**10**	**10**	**30**
	Lessor or Owner of NHR	**6**	**7**	**6**	**19**
Physical Examinatio	**NHR**	**2**	**4**	**3**	**3**

The research design I applied to this project may be properly viewed as quasi-experimental or cross-sectional one, which is most popular in the disciplines of social science (Frankfort-Nachmias, C., & Nachmias, D., 2008; Kiyoung, K., 2014). As framed, the independent variables could not be manipulated from a pretest and posttest typology as traditional with the experimental design. The intrinsic and extrinsic factors would be conceived in spectrum to locate a reality between the independent and dependent variables and to construct any meaningful relation of research findings with the values, hypotheses and eventually answers or suggestions for the research questions. Hence my focus on the three characteristic mode of NHR may not be perfect, although it is largely determinative in view of prevalence and social attention currently in Seoul and South Korea. The internal validity may shrink if one argues that other mode of residences must be studied because of its influence. Despite a persuasiveness of

this argument in the hypothetical assumption or odds, it is practically slim to tarnish the research design any significant way. That is principally because those are salient to occupy the social issue of deteriorated residential condition and poverty, and also because the definition can well be adaptive to make an effective coverage. In any case, this kind of argument may stand meaning that the research largely involve a social construction of understanding, and no definite causal inference could be perfected as compared with the ways of natural or behavioral research. External factors might also be brought to challenge the external validity of research, to say, generizability of research outcome for the cause and effect relations basically between the NHR and economic poverty (2014). Hence, the creativity of researchers would be required to frame more persuasively by including other factors in relevance and influence. For example, his educational background, the intent and willingness of a lesser or owner (LO) of NHR to remodel or repair, personal motive to reside in NHR and other factors may be introduced to approximate a most perfect account for the causal relations at extent possible. In some cases, a rich solo may wish to reside in small one man space, and chose to reside in Z or K. In other cases, the LO's reluctance to remodel or repair may cause to prevent a decent standard of housing. This aspect would certainly be less powerful to explain these modes of residential problem than the economic poverty. Nonetheless, this wider frame could increase power of general persuasion by illuminating a most proximate picture about the truths. The research project is not longitudinal in time element, so that their can we see no reason to employ a time-series design or panel form of cross-sectional research.

An experimental or quasi-experimental design generally shares the same or similar ingredients in terms of the causal inference as well as components of a research design. A covariation, nonspuriousness, and time order are considered essential to establish the causal inference while a comparison, manipulation, control and its procedures as well as the generizability would be noted to compose the pillar of research articles (2014). These elements generally are prone to determine a persuasion and extent of influence from the increased generizability. We can find a covariation in assumption between three types of NHR and other dependent variables, which will be ultimately tested through the research operation. Given the research goal on the deteriorated residential condition and adequate policy response, my research frame penetrates the core of variables highly relevant with an effective and efficient policy making, which means as correlated and nonspurious. Time order may be partly related since the tendency toward these types of NHR had been accelerated around the late 1990's and early millennium when the IMF crisis and economic polarization has impacted to produce a large of poverty class in Korea (Shin, K.H., Shin D.K., 2007). Nevertheless, time order would not be major in this case, although dealt in secondary concern as one component of dependent factors. This is because the research goal was principally driven to various causes, present status, human and social condition of worse dwellers as well as to suggest any most effective policy response, say, reform on the housing law and improvement of the system and public administration. As I have briefed, the independent variables possess a property-disposition characteristic, which disables a manipulations and randomization. Three types of NHR are given absolutely like the race, gender and ethnicity. Although a cognitive threshold may be possible, it generally poses no public question, "what is Z or K and K-Inns." We can identify easily from their shingles, size, public registry, most decisively in the official classification already established, which is perhaps in the same level as with the blacks or females. A randomization is generally no attribute in the quasi-experimental design, which needs to be made distinct from a statistical strength of verification (Frankfort-Nachmias, C., & Nachmias, D., 2008). In assumption, the research subjects are not variable from one to another since they are same from a property-disposition. In this case, the researchers need not pay an attention, for example, to make up a fair distribution among the different sexes or races. NHR is denominative and designating while the large housing policy makers have to research all the mode of residences in the fair distribution of samples among poor and magnificent ones. This account on the general discourse of research method might depend on the scale and criterion which means, in some sense, as variable since a property could lie in the scale of generizability. In the NHR research, no manipulation is necessary, and randomization seems less important given a same disposition from the class characteristic of dwellers. Nonetheless, seven districts were chosen for the interview survey which encompasses a principal region for these dwellers. Within each district, we

considered the number of populace to decide the sample size. A comparison was planned, but the results are expected to yield any no significant differences, which might compel a different policy dose beyond the SC leverage. The internal validity was ensured to apply a same content of survey questionnaires and controlled in proportionality with the dealings and analysis. We have discussed a research plan with the housing and economic, social experts as well as social workers in the end to produce any most relevant external factors in several occasions during the early two weeks, June, 2014. There could we be unavailable of reliability source, such as Cronbach's alpha or MANCOVA, but the procedure of control for the internal and external validity has been complete from any feasible alternatives (Reynolds, R. D., 2007).

A Brief Analysis on the Choice of Design

I have developed four hypotheses, which are considered to relate with the research questions and eventually implication or suggestion for the reform on law, system and institution (Kiyoung, K., 2014). The hypothesis 1*: The number of NHR has been sharply increased over the decade in Seoul city."* has been derived from the scope of studies which argue on the economic crisis and polarization. A null hypothesis generally tends to decrease the merit of study, but not void the research project itself. This hypothesis does not necessitate several types of quasi-experimental design, such as the planned variation design, panel and time series design, nor control-series design. In the planned variation design, we expose individuals to stimuli that have been systemically varied in order to assess their causal effects (Frankfort-Nachmias, C., & Nachmias, D., 2008). We receive the NHR and individual residents as are, and merely in the time period during the research operation. Hence, the method and panels on time series design would not be a good choice to deal with. In some ambit, the more effective research design may enrich an understanding from diverse factors and spectrum of concerns. That would be for the future research, which might require a more time and effort. We may assume if the NHR in other cities may be set to deepen a comparison. The control series design tends to have same problem partly because they share a same attribute from the indecent condition of residences, and because it requires an extensive scheme on research operation (2008). Therefore, we may safely view that the research design may serve any better by employing a plain contrasted group one. Basically, the established data or statistics available from the government and public sources largely suffice our need on the hypo-1, and we must be sufficient with the frame of three modes as a contrasted group. This logic and working attribute of NHR research generally would govern other hypotheses in similar ways. For example, the survey questionnaires may be delivered plainly without a stimulating strand, and based on the poplar fashion to address this kind of public issues. The planned variation or panel on time series design needs not be exploited in this condition, and the difference of three other hypotheses merely underlies that the information would be generated from the interview survey of NHR residents as well as lesser or owner. For example, the interview survey on the hypo-4 "*The city government is now ineffective to respond with the problem of NHR from a lacking or insufficiency of the paradigm, system and law"* would be evaluated in the five scale of ratings, "(a) very infective (b) ineffective (c) normal (d) effective (e) very effective."

The research questions for the NHR issue have been developed in four folds, "(i) How significant can we ascertain the increase of NHR in Seoul city (ii) Why did the NHR multiply in number (iii) What characteristics can we find from the NHR in terms of the personal and household demography, motive, economic status, and distribution within the three types (iv) Are the current system and law adequate concerning the urban housing policy in Seoul City, or how can we improve or reform it?" (Kiyoung, K., 2014; Creswell, J. W., 2009). While the part of quantitative reasoning within the complete phase of this research project basically relies on the existing data and statistics as well as interview survey, a longitudinal approach generally does not make a sense given that the problem and issue would not be affected by the time elements. Time order in comparison and evaluation may be thought, but that requires other quality of research questions. To say, we may need to compare a first-time policy application in later years, but this is not a concern in this research project. As viewed above, the control series design has to be deliberated in the

same manner about the hypotheses (Frankfort-Nachmias, C., & Nachmias, D., 2008). The research project may be viewed as pre-experimental or one-shot case studies (2008). But this view would not be precise since the survey method is experimental in nature. As the NHR research for SC may involve a specific region and largely is static, it may be argued that it should be received as one-shot case study. This perspective also seems not be complete from the traditional classification since the research findings would be finally related with policy suggestions. It also provides a new knowledge and findings from the public survey and constructed to understand the holistic picture of the NHR in SC. I have set three independent variables and a scope of dependent variables, which were assigned within each of five sections. As you consider, the previous account concerning the hypotheses and research questions would pertain leading to my choice of research design. One note is that, as stated, it includes a useful comparison among the three types of NHR. In this case, we may find some nature of factorial designs where researchers might gain more insight by studying the effect of two or more independent variables simultaneously (2008). Therefore, the research design may possibly turn on a hybrid one as mixed with the factorial design although it is adequately classed as quasi-experimental.

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III. Level of Measurement and Quality of Data

Overview

In terms of the research method, levels of measurement could be classed to include four types, to specify, nominal, ordinal, interval, and ratio level (Frankfort-Nachmias, C., & Nachmias, D., 2008). By beginning to apply levels of measurement, the abstract nature of social phenomenon turns to be isomorphic within the coherent structure or numeric correlatives, desirably some meaningful relations from a scale of coefficient. Isomorphism is a concept to relate with the structure of measurement where the researchers are responsible to develop a similarity or identity of structure. We also need to note that the social scientists frequently measure the indicators of concept rather than the concepts themselves. As we know, concepts, such as democracy, motivation, hostility, and power are complex to be measured directly by symbols since the ideas would not be observed directly (2008; Reynolds, R. D., 2007). Therefore, the scientists take a process to select the empirical, observable phenomenon or behaviors, such as election holding for the concept of democracy. Of course, the concept of democracy cannot so simply measured, rather complicated or multifaceted to require a development of multiple factors to be measured. This may be determined with the examination of theory, literature review and reference to the experts, which could well affect the internal and external validity. We need to make it distinct between the validity of research design and that of measurement as we will brief later.

We may consider the quality of data, which are produced on each level of measurement and if they can be transformed into other level of data. In sum, the data from a higher level of measurement can be converted into the lower levels, but not vice versa. Let us compare the sample data from two levels.

(Data 1)

	4. English	**5. Math**	**Ratio : no of ss/total (100)**
Public school	**High : 23** **Middle : 45** **Low : 32**	**High : 20** **Middle : 36** **Low : 44**	**E : 23 % M: 20%** **E: 45% M : 36 %** **E: 32 % M : 44%**
Mission school	**High : 30** **Middle : 45** **Low : 25**	**High : 28** **Middle : 43** **Low : 29**	**E: 30% M: 28%** **E: 45% M: 43%** **E: 25% M: 29%**
Foreign School	**High : 20** **Middle : 35** **Low : 45**	**High : 40** **Middle : 45** **Low : 15**	**E: 20% M: 40%** **E: 35% M: 45%** **E: 45% M: 25%**

- **Sample Student : 100 for each type of school/total : 300**
- **Range of Grade : 100-70**
- **High : 100-91/Middle : 90-81/Low: 80-71**

(Data 2 ; excerpted from the appendix A)

Gender	**Abortion Attitude**
1	**2**
2	**1**
2	**2**
1	**1**

The data-1 above displays a ratio measurement for the student performance on English and math test. The public school, mission school and foreign school are independent variables to be assigned by nominal measurement. The number, 1, 2, 3, designated respectively three types of schools in one nation, but no other information is provided besides nominating the variables or indicators. The scores of English and math are nominated by number 4, 5, and indicators to measure the intellectual achievement of basic education in each of three types of schools. The interval level of measurement was employed to assign proper numerals or numbers to reveal the ordinal rank among the groups and interval were fixed at ten points in scores for the separate groups or indicators. In this data, you find 100 sample students drawn from each three type, and total number of student amounted to 300. This enables to provide the information on ratio measurement which has an attribute, a natural zero. If the total number of student or natural zero was not available, the data may only work as an interval measurement. When the data do not include a fixed interval, the measurement should be ordinal, and never transferred to the interval or ratio level. The data may shrink to be merely nominal if without the classification and rank of student performance. Therefore, we can know the rule that the higher level of measurement can be converted into the lower level one, but not vice versa. In the data-2, you can identify a lowest level of measurement, namely nominal one. For the gender, number 1 designates a male, and number 2 for female respondent. Number 1 and 2 are used to nominate a pro-choice and anti-choice respectively from the group of respondents. It cannot be transformed into any of higher level of measurement, which disables to convert into the ordinal, interval or ratio level of measurement.

A Validity within the Research Design and Measurement

Validity in research operation may be discussed in two phases, to say, research design and measurement (2008). In contemplating a research design, researchers explore a most plausible design to address their research needs and environment. This nature of work involves a scope of variants which include the nature of problem, hypotheses, variables and research questions, and feasibility of resources. In some cases, the researchers may be compelled to reduce a scope of investigation, merely because of lacked funding. Nevertheless, the researchers are generally required to frame a scientifically verifiable quality of research, which expects on the extent of internal and external validity. Hence, they strive to

exert their wisdom and creativity to develop the most plausible research design, which is vital so as to be persuasive and of scientific impact. Intrinsic and extrinsic factors are relevant to be evaluated and can be incorporated to deal with. The research design needs to possess the ability to approximate a most plausible cause and effect relations in the social science. The causal inference is an inherent attribute commonly referred to the scientists although the extent may differ between two major fields of science. A validity in the research design, therefore, would be foundational for a specific research project and the kind of threshold issue that needs to be explored earlier stage of research. The validity of research design is concerned "Do I design the research what I think most effective to address the hypotheses, research questions or variables?" On the while, a validity in the measurement may be reflexive of this question "Am I measuring what I intend to measure?" (2008).

In nature, the measurement in the social science is indirect that the designed measurement procedure might be a best alternative, but never perfect. This provokes an issue of measurement validity and error. As the questionnaires, for example, might outgrow the nature of variables, the validity may be questioned. As the indicators to be measured are drawn from the social construction, it may be imperfect requiring the researchers to strive on any best selection, match-up, and framing with their intended variables, and more ultimately their hypotheses or research questions. For example, the voter turnout may be a best selection to prove the variable, "political alienation," yet we still see it dubious about an idealistic measurement, which concerns the measurement validity (2008). The measurement validity can be viewed in three classes, which cover the content validity, empirical validity, and construct validity. The content validity has two dimension, say, face validity and sampling validity (2008). The content validity questions if the measurement procedure and instrument correctly be related with the variables researchers try to test. For example, the researchers may intend to test the satisfaction of departmental students within the college. They would develop sections of questionnaire and try to frame best language to reflect a phenomenon, the inner mind or assessment of students on a scope of college offerings or service. They, then, need to evaluate the face validity between the variables and measurement. The sampling is primarily concerned of some meaningful representation of sampled population in understanding the whole of group to be investigated (2008). In view of empirical validity, the researchers explore the relation and extent of correlatives of his measurement with the external criterion. A most popular concept to deal with the empirical validity would be a predictive validity, which operates to validate on the basis of external criterion and validity coefficient (2008). For example, the researchers may exercise a predictive validity from the survey result of whole college, and have some ideas about or confirm the empirical validity of his measurement. The construct validity is some most sophisticated process to effectuate the measurement procedure and instruments devised to respond with the concepts or theoretical assumptions the researchers are employing. From the insightful comment from Cronbach, L. J, an early proponent of construct validity, we are inculcated with the ultimate dimension the researchers keep constantly minded in the measurement work, say, the concepts and interpretation of tested performance (2008). This highlights an important nature of proxy or conversion from the artificial nature of research work toward the precise social phenomenon and meaning. There would be a less formal way to establish the construct validity as of its nature. For example, Miton Rokeach's well-known research on dogmatism employed the known-groups technique (2008). Cronbach and Meehl illuminated to resolve the construct validity in four steps of process; " First, a scientist suggests the proposition that an instrument measures a certain property; second, he or she inserts the proposition into a theory regarding property; third, in working through the theory, the investigator predicts which properties should be related to the instrument and which should exhibit no relation to the instrument; finally, he or she collects data that will empirically confirm or reject the predicted relations" (2008). There are other way of approach from Campbell and Fiske, known as convergent-discriminant conception of validity or the multitrait-multi-method matrix (2008). This method uses a different instrument to explore the correlative coefficient to test a predicted relation.

Some Points of Comparison

As we learned, the internal validity of research design triggers a self-perfection as a piece of research article within the structure of that specific work. Therefore, it is needed to rule out other factors as rival explanations of the observed association between the variables. Therefore, the concept is concerned between the variables and of factors to possibly intervene. This is in contrast with the content validity or empirical validity where the researchers focused on the measurement aspect once the design about the variables and factors were complete to set out. The construct validity on the measurement phase may be considered to matter with the variables or factors. Nevertheless, the theoretical assumption or concept is principally intertwined with increasing the construct validity. Most importantly, the construct validity as well as content validity stems from the measurement of indicators developed to respond with the variables, which enables to distinguish from the research design. This does not mean that the two phases could or should be insulated completely. The researchers study a theory, tenet and concept to develop the hypotheses, research questions and variables (Creswell, J. W., 2009). For the content and construct validity, they may reexamine to increase the persuasion of their measurement frame. The empirical validity may be made more distinct from those of research design since the researchers, in this end, try evaluating their whole of measurement plan for prediction and some extent of presage for the credit of instruments. As described, internal and external validity in the research design bear no relations with the measurement instruments. The external validity requires that the research findings are preferably generizable to large populations and applied to different social or political settings. In order to increase the external validity, the sample to be tested needs to be representative of the research subject within the statistical test and implications. The researchers also need to ensure a reactive arrangement to reduce a fallacy from the varying experimental contingencies or post-research changes and so on. In this case, the validity of measurement may reveal a same concern or nature of work in some aspect. However, the external validity in research design may center on the generizability of research findings, not a valid measurement. Therefore, the measurement validity may be more conceptually related with the internal validity, and contended more intensely from the statistical verification or arithmetic precision. Still, the two phases could go forward and backward to complement for the holistic soundness of research design and validated measurement.

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IV. The NHR Research and Measurement

An Introductory Statement

In terms of the research method, levels of measurement could be classed to include four types, to specify, nominal, ordinal, interval, and ratio level. By beginning to apply levels of measurement, the abstract nature of social phenomenon turns to be isomorphic within the coherent structure or numeric correlatives, desirably some meaningful relations from a scale of coefficient (Kiyoung, K., 2014-3).

The nominal level is most basic and lowest in level. It has formal properties, which are valid with equivalence and exclusive as well as mutually exclusive. At the ordinal level, the social scientists attempt to measure typical relations, such as greater, higher, more desired beyond the classification (2014-3). They simply use a symbol, such as "<" to denote a relations, or assign numerals to explicate. In an interval level, the researchers produce or utilize the information on exact distance between each of observations, which is constant within the structure of measurement. The interval level has the properties of uniqueness, symmetry, communication, substitution, and association that the researchers can utilize to increase an explicatory dimension and benefit from a convenience to construct and convey research findings. The ratio level is fairly similar with the interval level where the rules by which numbers are assigned are the same. One difference is that variables have absolute and fixed natural zero points (2014-3).

Validity in research operation may be discussed in two phases, research design and measurement. While the validity of research design is concerned "Do I design the research what I think most effective to address the research questions? The validity in the measurement may be reflexive of this question "Am I measuring what I intend to measure?" (Frankfort-Nachmias, C., & Nachmias, D., 2008).

In nature, the measurement in the social science is indirect that the designed measurement procedure might be a best alternative, but never perfect. This provokes an issue of measurement validity and error. The measurement validity can be viewed in three classes, which cover the content validity, empirical validity, and construct validity. The content validity has two dimension, say, face validity and sampling validity (2008). The content validity questions if the measurement procedure and instrument correctly to be related with the variables researchers try to test. In view of empirical validity, the researchers explore the relation and extent of correlatives of his measurement with the external criterion. Construct validity is most sophisticated process to effectuate the measurement procedure and instruments devised to respond with the concepts or theoretical assumptions the researchers are employing (2013).

The NHR Research and Levels of Measurement

In the NHR research, established statistics from the government and public sources will be much employed to base the major characteristic of three type NHRs. This provides a static quality of information, which will be complemented with the survey results of sample NHR residents. As the public policy on NHRs and dehumanized dwelling condition may presume on the objective and subjective conditions, the evidence of which are drawn from such dual sources. The external validity of research design is relatively less vulnerable nor challenged since the data and information are prone to be exhaustive over available sources. The objective statistics were set in span which include the periodic track record on the NHRs in SC, statistical surmise to measure the number of NHR residents, data on *Zsukbang* **(**Z), *Koshiwon* **(**K), *K-Inns* within the Seoul City (SC), and so on (Kiyoung, K., 2014-2). The subjective data were collected in dual phase between the interview survey and in-depth interviews of selected resident. In mixture, we can obtain the data and information, marriage status, age characteristics, percentage of solo, percentage of aged solo, and so on (Kiyoung, K., 2014-1, 2). In measurement levels, the research project perhaps would be considered that all four levels are applied while the nominal level may be most important. That is because the data and information generally were static and

from the existing statistics. The central concerns are how these three types suffer from the deteriorated condition of NHRs, and what differences could be attributed to the respective three types. That would be a basis for the policy formulation of NHR residents. For example, the demographic information may reveal a high percentage of unemployment status which the policy response must be addressed in collaboration with the economic-related departments in the government. Aged people may account for a share of NHR residents, which necessitates a revision of welfare paradigm in nation (2014-1, 2). Therefore, the method to define the group or variable and nominate them in the measurement scheme would be dominant in dealing with the data collection and measurement. Furthermore, the three types are not the same in classification and trend, which perhaps requires an adjustment to generate the most feasible and effective alternative. The nominal measurement on the three types, hence, would be seen pivotal throughout the research operation. For example, K would sharply increased in recent years, and intensified in rate from 2009 through 2010. In 2004, K type residence amounted at 62, 975, but the number would turn to be found at 138, 805 in 2011 (Korean Urban Research Institute, 2013). This trend seems not constant nor changed for the future, but it implies that the government faces a distinct challenge in terms of the housing or NHR policy because K residence is principally planned for the students or examinees of national exams. In contrast, the residents of Z remain in stalemate in number from the past years. This does not mean that the vulnerable economic class in SC had reduced nor that the past residents would move to other quality residences (Shin, K.H., Shin D.K., 2007). The tendency of reduction is correlated with the rezoning plan of government for the worse or dangerous housings. The residents expelled from Z had to manage their meager and depraved dwelling condition in the adjacent facilities or street shelters. My rule to nominate Z in this research excluded this class of deteriorated housing, which allows to reflect the importance of nominal measurement.

The interval and ratio measurement would be employed in some cases, but should be viewed not starker because of the reason stated above. The ordinal level of measurement is most frequent since the data is realistic and fact-revealing. It would provide the number order among the three types of NHR, for example, 138, 806 for Z, 2, 977, for Z, and 2,847 for K-Inns. The data enable to ascribe, 1, 2, 3 to designate the order of residents number, but could be gotten no further. For example, any cogent frame of interval could not be attributed as of its nature. If we are perfect to define the three residences and can set absolute zero for each unit of measurement, the ratio level of measurement can be performed. If we need a ratio information from the total number of housing in SC, that would not be calibrated since the data have no information about it. The researchers, nonetheless, can provide a ratio information on the basis of whole number of NHRs. In this case, the property of absolute zero to characterize a ratio level measurement can be found since we may have no households for K-Inns naturally, for example. Although any cogent frame of interval was to be planned by researchers, we may see it is classed as the interval level of measurement since the fixed interval is on the number of each head. The information on interval may be used although highly rare in the form of information. The interview survey, a part of quantitative method in this whole research project, may use the fixed interval to measure for the five ranks of economic status, for example, which has artificial zero for the poorest response and no ratio indication among 0 (poorest), 1 (poor), 2 (middle), 3 (rich), 4 (very rich). This measurement is nominal since each symbol, number in this case, nominates the social phenomenon, such as poorest or middle (Frankfort-Nachmias, C., & Nachmias, D., 2008). The measurement also contains an ordinal information from the highest, say, very rich through poorest. It was structured in the fixed interval by number 1. This needs to be distinguished for the residents number of each five ranks collected from the interview survey, which is viewed as the highest level of measurement, say, a ratio measurement.

The Measurement and Validity

The interview survey will be conducted by the sampling method, the selection of which is random and shaped to be statistically valid in size and distribution. In the next step, the Kronbach's alpha and other feasible frame of legacy, such as regression on the bivariate analysis and to

validate the reliability of data, will be tested via the SPSS program (2008). The sample size would be 100 for Z, 200 for K, and 100 for K-Inns. The questionnaires include; (i) housing conditions, (ii) welfare benefit and public service, (iii) economic activities, (iv) health condition, (v) data on the respondent, (vi) household members and households. The result of interview survey provides a descriptive understanding of present conditions as corresponds with the respective type of NHRs. The survey result, of course, would not disclose the whole of NHR populace accurately. This requires a more work to provide the approximated reality of whole populace to respond with the needs on much important points selectively. Otherwise, the information and data merely were on the result of sample survey. The approximated reality of whole populace could be calculated by multiplying a weighted number in scale, which figures from a ratio between the whole number of each NHR and sample size (Reynolds, R. D., 2007; Bennet, J.O., Briggs, W.L., 2007). In my specific frame, the weighted number should be as follows.

(Figure 1 : WNS for the Whole Households of NHR in SC)

Category	Z	K	K-Inns	Total
Approximated number of households	2,977	138,805	2,847	144,629
Sample Size	100	200	100	400
WNS	29.77	694.03	28.47	-

- WNS = AH/SS

(Figure 2: WNS for the Whole Residents of NHR in SC)

Category	Z	K	K-Inns	Total
Approximated number of Residents	3,009	144,367	3,008	150.474
Sample Size	100	200	100	400
WNS	30.99	721.8	30.18	

- WNS=AR/SS

As we learned, the central assumption on measurement in the social science underlies, first, a kind of imperfection rooted between the phenomenon and symbol or number used to measure. This would be an impeccable reality since it arises inherently for the empirical scholars. The second assumption is the extent of isomorphism which means “similarity or identity of structure” where we consider the validity of measurement structure between the concepts of being measured and the numerical system (2008). This aspect is critical, though not exhaustive in details, to contemplate on the three types of measurement validity. The content validity enables to cover all the attributes of the concept we are trying to measure, which deals with the propriety of measurement instrument. In this dimension, we need to consider two kinds of validity, face validity and sampling validity. Face validity requires a most reasonable frame of measurement instrument (MI) which is based on subjective evaluation. As I have stated, the unit of analysis and points of emphasis to structure the MI will be extensive in the end to include all the attributes about the big sections of inquiry. For example, the concept of economic status will be measured with the span of attributes, income level, unemployment, willingness to work, and so on (Creswell, J. W., 2009; 2008). The measurement validity was tested statistically and the concept of WNS was used to most closely approximate the reality of whole populace. In terms of empirical validity, the researchers prefer to validate any meaningful relationship between the MI and measurement outcome. In some cases, they may yield a correlation coefficient to test an empirical validity, and compare with other external measures in assessing the results they expect to obtain. In the latter, we call it a predictive validity and the modern computer program can do provide a much help to phase this aspect of research operation. For the construct validity, the researchers need to study the concepts and most plausible criterion to measure. In order to perform the construct validity, the instrument must

display coherence between the measurement and general theoretical framework (2008). In my research plan, we measure an unemployment and age which are generally considered to factor a public insecurity and high crime rates. As one important research goal is to suggest any most effective public policy on the NHRs with respect to public goodness, the measurement on these two variables can serve the construct validity.

A Reliability, Strengths and Limitations of MI

A Reliability refers to the extent to which the measuring instrument contains variable errors, which is related with the characteristics of MI than three areas of measurement validity. In this case, the result of measurement may vary across the time of observations and be inconsistent to question if the MI is reliable. The factors to distort a consistency may arise from respondent's momentary distraction, ambiguous instructions, and technical difficulties in survey operations (Frankfort-Nachmias, C., & Nachmias, D., 2008). In nature, the measurement of social phenomenon is more vulnerable in terms of the reliability than that of natural science research. The reliability of measurement varies on a scale from O to 1. O means that the measurement displays nothing but error, and I means the measurement displays no variance error at all. In reporting or ensuring the reliability, three methods are generally in practice, which include test-retest validity, parallel-Forms technique, split-half method (2008). In my research plan, the first method will be applied to evaluate the reliability of measurement instrument. The MI would have a strength that the inconsistencies between two observations are insignificant, which is principally because it measures a number of objective things or phenomenon. Given the affordable condition for the interview process, the measurement is highly reliable (Creswell, J. W., 2009). One limitation may arise that the interviewees in some scope are aged or mentally less sound, which brings a level of care to investigate. I also have stressed the strengths of MI in terms of measurement validity. Nonetheless, the limitations are never absent. For example, the construct validity may be questioned given a narrow scope of housing policy and especially in terms of NHRs. We can find no significant research work on NHRs, which makes it difficult to exercise more meaningfully on the construct validity. The content validity may not be perfect if we need more subjective profile of data and information for the residents. This requires a mixed method by conducting another phase of in-depth interviews for the selected few.

The NHR Research, and the Issue of Scale and Test

According to Frankfort, scale is defined as a measuring instrument to rank the level of difficulty, intensity, and limitation imposed by nominal or ordinal data (Frankfort-Nachmias, C., & Nachmias, D., 2008). Idealistically, it has to be designed to represent the complexities inherent in human behavior in a more reliable way. A scale is keenly aligned with a test in the social science, which often is implemented to create assessments, experiments, and examinations of the study (Faltas, I., 2014). A test is useful to interact with the intuitive judgments and to convert into understandable feel of phenomenon to be researched (2014). In the index construction, the researchers ask, "what are we attempting to measure?" Hence they study the concepts, and examine the relevance and adequacy of conversion into a number and symbolic expression. They further deliberate on the use of measure to test the hypothesis, as well as strengths and limitations on the data from the sources and survey outcomes to support their scientific investigation. They tend to engage in cross-sectional dealing in research design, and the indicators to measure would not be shortened. They may need to combine the already established statistical data with the survey results. This context can be illustrated in my research plan, which requires a span of extended ways to measure. We can derive two points in stress about the index construction. First, the source data, in some cases, need to be adjusted in response with the time elapse. As seen above, the weighting process can also create a new base for quality data in approximating the survey result for the entire population. We are required to aggregate the values assigned to the items to measure, which may be performed on the basis of simple or weighted aggregation. In other case, the researchers may need to select the source data, compare them, and shift to create a new base. Second, the validity and reliability have to be explored to design a

most reasonable composite measure. Hence the Lickert scale in part, which characterizes the five scale system in interview survey comes into use. The Guttman scaling is also employed to test the scale items and factors, which provides a basis to establish the validity (Frankfort-Nachmias, C., & Nachmias, D., 2008). Then the completion of this process can produce a most valid measurement instrument which is the ultimate purpose of scaling work. A test is more operational in sense and practice as the definition suggests. The Likert scale is generally prevailing, and that expectedly is not exception in my case. A test is generally not against our intuitive judgments, but still effective to vibrate the research work as one of understandable feel of phenomenon. For example, the educational level is highest in the residents of K among the three types, which was zoned in its nominal title to afford the rooms or facilities for the students or examinees of national exam. For the Z and K-Inns, we expect that the residents are more aged than K, which would lead to the most worse data on health condition. The turnout had not disappointed our intuitive judgment. Nonetheless, the figure or charts created on the basis of survey outcome and filled with a specific number enhanced the research work as palpable and comprehensible. The following figure shows a quantitative result on the educational level of NHR residents.

(Figure 3) Educational Background for the NHR Residents

Category	Z		K		K-Inns (1)		K-Inns (2)*	
	Freq.	Per.	Freq.	Per.	Freq.	Per.	Freq.	Per.
PS	16	16.0	8	4.0	5	8.5	4	10.0
GPS	22	22.0	7	3.5	3	5.0	14	35.0
GMS	27	27.0	18	9.0	14	23.3	11	27.5
GHS	25	25.0	47	23.5	29	48.3	11	27.5
CLl	9	9.0	119	59.5	9	14.9	-	-
M	1	1.0	1	0.5	-	-	-	-
Total	100	100.0	200	100.0	60	100.0	40	100.0

- PS : entered the primary school without a diploma or below
- GPS : graduate of primary school
- GMS : graduate of middle school
- GHS : graduate of high school
- CL : college level or above
- M : Miscellaneous
- K-Inns (2) are worse in condition than (1).

Further on the Validity, Reliability and Population

Reliability, in definition, means the consistency of measurement as considered in two folds. The instrument itself may be questioned if a measuring instrument exhibits the intolerable extent of variable error and it may be compared with the previous measurement instruments to explore the tendency of response or its reliability. A reliability in my case concerns uniquely the first question given that no previous research empirically has been undertaken or identified in the field of NHRs. In order to ensure the reliability, the research team implemented two phases of interview survey which was conducted twice in time interval of one month. The survey results in both times show no significant variance, and performed a validity and reliability check from the statistical analysis. Frequencies, standard deviation, confidence interval and other ways of computerized process were executed, such as Cronbach's alpha, regression analysis, correlative coefficient and so (Frankfort-Nachmias, C., & Nachmias, D., 2008; Miller, D.C., Salkind N.J., 2002). A reliability generally turns out to be verifiable, and the scale items could be tested to reduce into the item set of most discriminative power.

The survey instruments were structured to test a wide of relevant information, which can testify on and form the basis empirically

necessary in shaping a more responsive NHR policy. The scale items were developed by implementing a due process often exercised to concern an index construction. First, I have compiled a possible scale items which are evaluated as pivoted with the NHR problems. The independent variables in this study would be those three types of worse residence, and dependent variables will span considerably wider in response with the research questions. In this consideration, I have derived a number of dependent variables in five superior sections The five superior sections include (i) the residential section, (ii) social welfare and public aid, (iii) economic (iv) health condition, and (v) demographic characteristic (Kiyoung, K, 2014-1). Within each section, 28 possible scale items, or indicators to be measured (sub-variables in other sense), were developed, which will later turn to be proven as acceptable both in terms of the validity and reliability. In progressing on the possible scale items toward final ones, I have introduced four factors to compute the discriminative power of possible scale items, and will conduct to verify its validity and reliability. That way of approach would be based on the process of factor analysis from the Guttman scaling (Frankfort-Nachmias, C., & Nachmias, D., 2008). A factor loading was implemented and the four factors in this case center on the dissatisfaction or dehumanized condition of NHRs, which are composed of (i) government support or engagement (ii) social culture (iii) owner or lessor and neighborly quality (iv) familial condition. The coefficient of reproductability is an important concept to deal with the Guttman scaling, which measures the degree of conformity of the scale to what would be a perfectly unidimensional and cumulative scale (2008). Some of scale items were tested by the five scale of ratings, a commonly used form called the Likert scale. In this case, the information would be generated directly from the interview survey of NHR residents as well as lessors or owners. For example, I may measure and compute the collected sum of values to measure the effectiveness of city government on the NHR problems. The values will be assigned 1, 2, 3, 4, 5 for each five scale of ratings, “(a) very infective (b) ineffective (c) normal (d) effective (e) very effective.” (Bennet, J.O., Briggs, W.L., 2007).

Some Thought between CRT and NRTs

Criterion-referenced tests are intended to measure the elements of test subject already developed with the concern and discriminatory process of selection. A notable example would be the driver’s license exam, which measures the key rules and driving skill compiled from the experts and based on consensus (Website, 2014). The professional exams and many other public exams may be administered on this basis of testing format. NRTs are designed to sort and rank the test subject, which often would be reported in the sum of values and grouping or ranking. NRTs are more symbolic, artificial and of mechanic nature to neutralize the test outcomes. Both types of test obviously have strengths and limitations whether they could most realistically and cohesively reproduce the phenomenon intended to measure. In my research plan, most of test operation involves a criterion referenced work where frequencies are dominant as a survey result. Each criterion or scale items as selected through the process above described were measured about the sample population, 400 at total and distributed as 100, 200, 100 respectively in proportion with the entire population from the three types. In some part, the norm referenced test was implemented to rank the level of difficulty, intensity, and limitation imposed by nominal or ordinal data. The population tested in this project could be viewed in two classes, a sample population and entire population within each type of NHRs. As figure 1, 2 discloses, the sample population is 100 for Z, 200 for K, 100 for K-Inns, and the entire population would be 2,977, 138,805, and 2,847 respectively. Sampling is based on the data of 25 provincial districts in SC, and share of NHRs in each district was taken account of in the end to determine the most fair and unbiased sample size.

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An Introductory Thought

Often in the research of social science are we less probable to administer a test to measure the differences between the pretest and posttest status or consequence. That is mostly because the causal inference would be drawn on the basis of normal humans or perhaps universal kind of human minds and attitudes if in the same status (Reynolds, R. D., 2007). The reasonable person standard in the tort or contract law may exemplify this basic way to approach. It is assumed that the human agents and its intellectual element are universal which gives a standard about fault or mental element to shape the tort liability. Generally we can expect that normal humans are aware that a high speed driving may increase a high chance of traffic accident. Given his disrespect with that standard of care, he is liable for tort damages to compensate a traffic victim where no other intervening factors or circumstances would be found to argue. For example, the standard of care required for the medical practice may differ from countries to another, and the road condition from a severe combat with the enemy may legalize a high speeding for exoneration. These would be an intervening factors or circumstances that the court consider in finding a civil negligence or breach of due care. In concept, however, the reasonable person standard is still effective since the court would weigh how a reasonable person would respond at the totality of circumstances or within the given standard of medical practice in different nations. As the humanity and society are inalienable, and provided that the humanity are homogeneous from various reasons, the researchers or intelligent workers generally prefer or rely on the assumption of same quality among the subjects, research subject or policy subjects notwithstanding. The kind of post-modern diversity or legal pluralism may be a possible candidate to break up this kind of general assumption.

Some Concepts of the Social Science Research

In this structure of thought, the social scientists generally begin to write his thesis, which might be pre-experimental in terms of research design, or exploit the already established data or statistics information generally available from the government and public authorities. As a corollary, the quasi-experimental or cross-sectional designs are usual ways to research the social issues or problems (Creswell, J. W., 2009; Frankfort-Nachmias, C., & Nachmias, D., 2008). A test setting, however, would not be irrelevant in some sectors of research. In this case, the researchers or statisticians in the source institution may need to work on index construction in the end to create the data at first time or convert the existing data into a meaningful message. The index construction can begin: “What are we attempting to measure? And “How are we going to use the measure?” (2008). For example, the researchers need to select a source data, compare them, and shift to create a new base. They are required to aggregate the values assigned to the items to measure, which may be performed on the basis of simple or weighted aggregation. As stated, the attitudes or minds of research subject may be measured. For example, the research may require investigating the consumer’s behavior that may be measured by delivering the survey questionnaire and rating scores based on the survey outcomes. In this case, the researchers construct attitude indexes from the most positive through the opposite, perhaps on popular five ratings, (i) strongly prefer, (ii) prefer, (iii) neither prefer nor dislike, (iv) dislike, (v) strongly dislike. Therefore, the social scientists may employ a test administration to measure the attitudes and minds of research subject. A marketing research or measure for the attitudes of new policy and its impact, as well as class evaluation for the teacher’s performance are simply a routine example to depart from the universality of human traits. In this aspect, the researchers would work on sampling and scaling for any most meaningful rating. He or she begins to compile a series of scaling items, and administers test, perhaps on the kind of Likert scale or Guttman type of scaling (2008). They assign values for each unit of rating, and based on the returned response, would compute a total score. They administer all the items and can determine the discriminative power (DP) of items. One famous research in this regard is illustrated in the work of Wayne Kickner on 24-item scale to measure the attitudes toward employment of senior citizens (2008). In this method, DP value can be computed for each of possible items, which requires to select the highest DP values. Those are considered to reflect the best discriminative power of item which enables the measure, eventually research quality, most salient, appealing and consequential. Therefore, this process is also keenly related with the validity and reliability of research. It may phase a different sequence, but works perhaps in same intent and effect for the content or construct validity in measurement. The reliability also can be tested in much the same manner which increases the validity of measurement. One prevailing method to test a reliability is called split-reliability test (2008). We also need to note that the modern research-aid computer software, notably the SPSS program, would benefit the social scientists so much to verify statistically meaningful design and measurement of research. The Cronbach’s alpha, regression analysis, chi-square, and other legacies of statistic achievement were compressed into the software to offer a benefit automatically. For example, the coefficient of reproductability may be calculated within the Gutmann scaling, and factor analysis can ground on the selection of scale items (2008). This may be facilitated by use of SPSS program.

An Example on Scales and Tests

One article selected to address the week topic is titled “the Effects of Beauty Service Quality on the Marketing Outcomes, authored by Lee (Lee, Y. M., 2009). The research purpose in this article is foundational to explore and discuss the service components and quality (SCQ), relationship quality of service, and switching cost (SC), service loyalty as well as service involvement for better quality within the beauty and skin management (SM) industry in South Korea (2009). According to the statistics, the beauty shop and SM have increased in number by 14 percents in ten years (1995-2005), which amounted to 120,000. The market size in the industry and related businesses had steadily expanded to reach 4.8 billion US dollars. The employees of beauty shop and related business also marked a sharp increase by 34 percents in those ten years. As the departments on the studies of beauty shop and its management are not popular and pioneering in character, the research to found its basic framework is not only necessary but also urgent. In this context, the author intends on the three structural elements to create the basis and quality of beauty shop studies as one branch of management science. From the literature review, she derives a scope of concepts related with the service components and quality (SCQ), such as technological elements, facilities, worker’s manner, professional skills, and so. The concept of relationship quality (RQ) was developed as mediational between the SCQ and SC (2009). This is the concept to measure the quality of service in terms of client’s side, the recipient of service delivery. She set forth two items, which includes client’s satisfaction and trust. She employed a survey method in two weeks, May 2008, and sample size was 800 for the beauty shop and another 800 for the skin management businesses (2009). The survey response was not bad that 634 and 777 were returned respectively (2009). Seven and eleven responses were unfaithful to derogate the intended measure to be discarded, and the analysis was conducted on the remaining numbers. The data were compiled to register in

the SPSS program and Amos 16.0 was used to analyze. Frequency analysis was conducted, and reliability test was taken to assess a consistency of measured item. This process can enable to test the content and construct validity of measurement. In the process, the scaling items need to display an extent of discriminative power to demonstrate a salience and meaning of measure (2009). The confirmatory factor analysis was conducted in this end and covering each item where a covariance structure analysis was used. It finally produces factor loadings to display a relationship between the relevant factors and candidate items. In doing so, this process generally operates to check and confirm the validity of design and measurement by testing a fitness of items or variables. By employing the construct reliability and average variance extracted method, validity on the correlation coefficient was confirmed. A research operation undertaken in this article shows that index construction and scaling process are important as well as a threshold issue to demonstrate the scientific quality of research. By taking a necessary check-up with the aid of technology, the researchers can be confident on the validity and reliability of research. The scaling result could be applied to the entire population for the future research , i.e., national clients of BS and SM. The frame and structure, in formality, can be applied to other populations concerning the market research of consumer behaviorism.

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IV. Social Science, the Parameter and Sample Design

The experimental or quasi-experimental design often involves a test unless the data or evidence can be collected from existing sources and they themselves fulfill the necessary empirical basis to convey his scientific message. The test and sampling process reflects on the distinct role or responsibility as a researcher (Creswell, J. W., 2009). The creativity is one of central values in public education, hence, we stress the need of creative thinking or creative reading. That emphasis is any more relevant with the researchers or as a scholar practioner given a comparative view where the undergraduate students are required to be more knowledge-based or built on the broad academic experience on many subjects. Then the role or contribution of researchers can be seen to lie in the empirical work or creation of new knowledge and viewpoints. In this frame, the researchers need to centralize on the data or evidence, and more saliently, the test and sampling strategy take place at the core of responsibility (2009). The data or evidence are often empirical, and the population parameter are considered to be ultimate destination of researchers. It means an empirical truths the researchers are interested to elaborate on. The national census is typical as population parameter, which may bring us the kind of mapping work or Malthusian perfection of demography. The Google service to locate one cornershop in remote countries can be seen to work within the kind of PP frame. Provided if the content of knowledge is saturated, for example, from Google service, national sensus, 19th world map and so, where the role of researchers stands. The subjects or knowledge consumers are complicated and hybrid in nature, sophisticated in some classes, so that they are not content with the fact or existing knowledge (Reynolds, R. D., 2007). The fact or knowledge may be same in some apprehension, but the knowledge may be al little more applied in sense. They may be inquisitive of new viewpoint and elements created from the subject condition and objective environment necessitates a researcher's involvement. For example, Foucalt, in his work "Archaelogy of knowledge" critiqued a falsity of knowledge developed and compiled over the centuries. Creation of knowledge or discovery of new fact, in any case, is the process and value where the researchers are located (2007). This goal faced by the researchers requires a new basis of data or evidence in some cases which compels him to undertake a test or sampling experiment. Of course, the use of already established data or evidence may serve to create a new knowledge for other cases. In extreme cases, the sharing with the common circle of intelligence, via such as citation work, can play a role to substitute as evidence for his allegation or argument. In this case, the intellectual workers may be the kind of sample to testify on the allegation or inquiries. Given one sample unit feasible as a matter of sample theory, sampling or the kind of sampling idea is also present in other cases, such as the work of Freud on the psycho-sexual theory or that of Erickson on the psycho-social one and the head of FED on the Senate hearing about the national economy. The kind of idea may be analogous with the courtroom witness about the population and pp. He or she may be questioned what would be a standard of conduct if you were to be in duty in sailing for Je-ju Isalnd as a captain of Sewol ferry, a tragic name in the last sea tragedy in South Korea? Sample population in this case may be a skilled professional of ship operation, and the witness would be one sample to be surveyed. The authorship from continental rationalists or one shot case studies may be viewed in this analogy which is testified with one sample. It might be challenged, in some sense, as pre-experimental work from the intuitions of empiricist (Frankfort-Nachmias, C., & Nachmias, D., 2008). Hence, they may be bred of a curiosity to test the kind of works, and pre-experimental may stand as is or corroborated and critiqued by subsequent empirical work. They would in other cases be a source of theory and tenet to further on the empirical studies (Reynolds, R. D., 2007). The Buddist studies in some of major public universities in US are devoted to the testimony of Buddha for scientific understanding. The Confucianism would not go other way in this aspect. This diversity in intellectual tradition often arose from the humanity and social science as distinguished from the natural science. In terms of value, it is not safe to say that the more samples being drawn, the findings are more would convincing. For example, the…s testimony in the Senate hearing or professional witness in Sewol ferry would never less effective to collect the needed evidence than many samples on the status or diagnose of national economy or standard of conduct in the sinking ferry. This context of understanding can lead to open diversity in methods and make us reflexive as a theory generator, which is not irrelevant, as seen later, since the sample experimentation is never perfect, and strives to mirror the pp(2007). It might be viewed as humanity strands, but the result of explorative process in Senate or court certainly turns into a rule or basis of public action, a nature of social science.

At the salience of empirical work in the social science, nonetheless, lies in the sampling experiment as prelude for the pp (Frankfort-Nachmias, C., & Nachmias, D., 2008). That is a crystalization of modern value embedded in the professional researchers. I have implied above on the role of sample research beyond the already established data or evidence. That could be plainly demonstrated in your experience on on-line library, which displays the data or figures used to develop his theme of article. We also condemn the practice of plagiarism on one hand, and the law also protects the data or evidence collected on their own labor, kept secretly by the enterprises, and used for the economic benefit. One other reason that the researchers are driven to employ a sampling design may arise from practical difficulties, such as cost, time and feasible resources. It requires an enormous dollar expense, personnel, and time as we are illustrated with the national census and U of Michigan research center case. As we related the sample experiment with the PP, the kinds of concept, sample frame, sample population and statistic (sample values) come into consideration (2008). The modern statistic has helped to confirm or support the convincing degree of sample research. The standard deviation, standard error and confidence interval provides the statistical understanding of sample research with the PP. Often the population is finite which bases the survey sampling. The sampling frame comprised of a complete listing of sampling units where the research has to ensure of high degree of correspondence between a sampling frame and sampling population (2008). According to Leslie Kish, the researchers need to be cautioned of three pitfalls, say, incomplete frames, clusters of elements, and blank foreign elements (2008). For example, the election poll in the 1935 between Roosevelt and Landon failed to predict the election outcome, which related with the oversight of clusters of elements or incomplete frames. The poor would be systemically excluded as inherent from the sampling frame. The response rate also deserves the attention and care of researcher since low response rate can bias to survey results. The well-to-do group in 1935 presidential election would more readily respond while the poor would be missing (2008).

Sample designs need to be contemplated which cover, in larger class, probability and nonprobability sampling. Within the probability sampling, we can identify three sorts, which are convenience samples, purposive samples, and quota samples (2008). Accurate measurements of the PP can be achieved only with probability samples. Probability sample designs include many, but four sorts are considered to be most commonly used by the social scientists, which are sample random samples, systematic samples, stratified samples, and cluster samples. In the designs, the sample size can be calculated so as to be verified on the basis of statistical science. Recall on the kind of concepts, standard

deviation, confidence interval, and so (2008). The probability sampling design contributed so much to construct the new area of disciplines perhaps in the 18 and 19th century, sociology, science based economics, suffrage right and modern political science. As we consider this week theme in the illustration of election poll, it is interesting to contrast the controlled communist election with the liberal frame of free election. As we occasioned in the news scene about the showcase of uniform hales or move in the large public place of North Korea or other communist nations, they are the kind of unit to share the same. They rule based on the Marx-Leninism, paradoxically alleged to be science-based, and the election often would turn out around 90percents for pro-communists and other puppet number of opposing votes. It allows a think point to be reflexive of the subjective and objective strands in the theory construction or ways to deal with the social science research. As once visited, the reasonable person standard centers on the modern law frame, and still respected as a matter of judicial assumption. I also made an analogy with one sample research above. The problem might be that the kind of one man standard, perhaps an idealistic imagery of communist worker or morality, realistically Il-Sung Kim, Mao or Stalin, is imposed politically and economically beyond the judicial sphere and its logic on deliberation. The continental states on the earth except for the Anglo-Saxons have the kind of rationalist tradition in which the Marxism would perhaps be most extreme in the spectrum. The sampling approach would be minimal then in these cases, and it can be juxtaposed if we often assume diversity of samples on the phenomenon, event and occurrences. Although liberal citizens disagree on the kind of communist frame, the kind of generalization had long been pursued on the concept of "reasonable person" or "homo sapience" where the kind of one sampling unit might be operative as mentioned. Hence, only the law, medicine and religious studies can be possible before the modern century. In this case, we also see one interesting point between the jury trial and inquisitive system of law. It is British American tradition that the jury trial is necessary to ensure a democratic rule or judiciary. There would perhaps be none from the law of continental states although Korea recently adopted a partial reform for the jury system. In this case, the jury may be seen as the kind of samples, multiple and must-drawn on the equal basis and without any bias in selection. The jury often safeguards from any bias of one man perception although critiqued occasionally. In this exchange, the jury is focused on the determination of fact and the judge exercised an authority on the question of law. The concept of knowledge is delicate as mixed with dual elements, the kind of normal dimension, notably law in our case, and facts. I regret if the explanation is desultory or in fair extent of analogy, but it hopefully may inspire our subject on the primer of theory, research method, or sampling strategy. As stated, the non-sampling errors can be present, most notoriously from the high non-response rate.

The work to be explored from the sampling concern is the article "Recidivism among spousal abusers: Predictions and program evaluation (Hendrics, B., Werner, T., Shipway, L., Turinetti, G. J., 2006)." The analyses in this report are based on 200 offenders from Marathon County who were charged with domestic abuse. There was no basis to relate the sample size with the sample population. If the researchers intend on causal inference on the national scale, the sampling is not adequate if to focus on one county from the State. If the researchers embraced a small scale, and expect subsequent researches of same frame, the sample size may be acceptable. There is no explicit mention on this point, but the researchers, later in part, hinted to call upon the need of research on the effectiveness of LSI-R (2008). In any case, we do not find any explicit statement about the probability sampling so that we can class as non-probability sampling. In my view, the convenience samples or purposive samples seem to be implemented in this research work. As the public record, such as from the court and Children's Service Society, facilitates to compile the list of sampling units, the researchers can decide to rely on them unless any compelling reason otherwise is present to begin at the bottom. The cost factor may contribute to the researchers decision. The purposive sample might occur in this case provided if the samples are typical of domestic violence. In this case, the non-response rate might be irrelevant since the test or investigation was pursued internally within the institutional setting, such as SAFE and R&R, and within the stage of probation (2008). However, the authors clarified on a few individuals, who moved, were seen very briefly, absconded, or had their probation revoked. This kind of excuse may be same with the non-response rate in nature, but no details of information lacks. Sample units, interchangeably clients in this article fall within two different conditions: 125 clients (62.5% of the sample) had been convicted of abuse and were on probation, another 75 (37.5%) entered the program under a deferred entry of judgment (2008). This appears that the researchers exercised a quota sample design. However, it would be convenience samples provided that the sample population and the share of two different conditions within it could not be traced. The sample frame seems not strong as the researchers conceded. For example, the long term resident seems to be unique in characteristics so that this property needs to be employed in sampling strategy. For example, the samples can be drawn in proportionality and quota basis between the long term and short term residents. The researchers explained that five voluntary self-referrals were excluded because of their unique characteristics (2008). Nevertheless, no mention about its effect on bias was clearly made serving to diminish the value of sample design. The statement on the homogeneity of population and the rural nature of sampling region would increase the strengths which conditions the persuasion of his empirical work. It also seems to meet a due expectation of readership so that the researchers introduced the inflows of south east Asian immigrants in this region, perhaps impliedly on the period of residence. The indiscriminate manner between the convicted and deferred entry judgment was also kindly adverted. Overall, it does not seem to suffer from incomplete frames or clusters of elements in the maxim of Leslie Kish, in which the researchers finely deliberated on most typical sampling design in the kind of research problem. The blank foreign elements may militate, such as race, ethnicity or period of residency. Therefore, the research work needs to be received on the condition that the researchers explicitly or impliedly suggested. As on the ambition of researchers, the subsequent research may elevate its outcome for the larger scale of understanding on the recidivism and the power of LSI-R to forecast a repetition. For example, studies on other rural areas may follow across the nation. Black recidivists may be taken to investigate, and so. The mapping of knowledge on this problem may get completed from this prospect.

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VI. The Sampling Strategy and NHR Research Plan

An Introductory Statement

A sample design need to be contemplated which covers, in the larger class, probability and nonprobability sampling. Within the probability sampling, we can identify three sorts, which are convenience samples, purposive samples, and quota samples (Kiyoung, K. , 2014). Any accurate measurement of the population parameter (PP) can be achieved only with the probability sample. Probability sample design includes many, but four sorts are considered to be most commonly used by the social scientists, which are sample random samples, systematic samples, stratified samples, and cluster samples (2014). In the design, the sample size can be calculated so as to be verified on the basis of statistical science. In this respect, we need to recall on the kind of concepts, say, standard deviation, confidence interval, and so (2014). We have some issues here about the sample strategy. In the cluster sampling, the researchers implement one type of probability sample that involves selecting grouping of units then selecting sampling units from those clusters (Faltas, I., 2014). In the probability sample, we use representative sampling to ensure that a variable's value found is drawn from a given population without differing parameters and nonprobability sample is a method in which there is no way of specifying the probability of a units inclusion in the sample. In my research plan, the simple random and stratified sampling will be implemented where the population is first divided into homogeneous strata, followed by sampling conducted within each" stratum and the collaborators assign an equal probability of being selected to each of the sampling units of the population.

A Sample Frame within the Research Plan

As a matter of research design, NHRs have three types, Z, K, K-Inns where the resident and household within each type of NHRs would be independent variables. They also comprise a sampling population from which we contemplate on the sample frame or sample design. As the cost and resources are limited, the investigation was conducted on the sample units, and we consider the probability samplings would make the frame more scientifically convincing or comprehensible with a due condition of random and unbiased selection, and later tested on the kind of statistical indicators, such as confidence interval or standard error. For the sample units of Z were conjectured in proportionality with the sample population (Korean Urban Research Institute, 2013). The whole number of Z residents was 3,099 in 2011, and 3.2 percent was selected for interview survey.

(Figure 1) Data to Show the Sample Strategy on Z type

Category	N/R	PN	N/SU	AN/SU
YD	554	16.2	18	20
ND	767	24.2	25	25
YS	873	28.0	28	30
JR	529	21.5	17	15
DD	376	10.1	12	10
Total	3,099	100.0	100	100

- **Z, K, and K-Inns refers to three types of NHR respectively**
- **N/R : Number of Residences**
- **PN : Percents**
- **N/SU : Number of Sample Units**
- **AN/SU : Adjusted Number of Sample Units**

- **Two initial, such as JR, refers to the name of district/Three initials below, such as YDD, represents parish or chunk.**

K is known as most dominant form of solo residence within the three types. In the end of 2010, the number of K residences was 4,897, K residents being totaled at 140,000. The facilities, interior, and rental fee would range in span. Most are small rooms partitioned in a mosaic of internal space may range around ten square foots and 100 US dollars per month, and some rooms are affordable with a shower room and toilet for 500, US dollars. The characteristics of residents are in types, i.e., waged workers, college students, day workers, and temporary residents from the government support. K residents are most diverse in characteristics so that sampling strategy is most pressing to reduce a bias and maintain an equal representation from a sort of sample population. The district, rental fees and level of provisions or affordability need to be considered. Hence, stratified or cluster samples can be developed principally on the basis of four types of K distribution in the region, and one type will be added to represent the region of poorest class. Provided if the researchers want to verify a scientific profile by the statistic analysis, the sampling can be classed as stratified one. As said, the residents can share a common propensity as a resident of dehumanized dwelling condition. In details, typically on the K residents, we also view from the differences of group on several characteristics. As known, stratified sampling primarily is to ensure of adequate representation from the different sample population and increase the level of accuracy when estimating parameters. We generally recognize two types in stratified sampling, a proportionate stratified sample and disproportionate stratified sample (Frankfort-Nachmias, C., & Nachmias, D., 2008). We plan to apply the disproportionate stratified sample since the characteristic of samples are highly divergent and non-patterned. Further in this aspect, the idea of cluster samples will likely be employed to respond with the hypotheses. Most of four hypotheses will survive a test which would likely not be a null hypothesis in the event. In the sampling design, we will select two most impressive districts which are patterned strongly across the characteristics, and several chunks within each district will be investigated. Finally, the sample size was set at 200, and it explains 0.1 percents from the sample population.

(Figure 2) Data to show Sample Strategy on K Type

Category		Region Covered		N/SU
Type 1	Univ. Street	SD	DHD/YHD/CCD	20
		MP	NKS/SKD/SSD	20
Type 2	K Town	KA	DHD/SLD	20
		DJ	NRJ	20
Type 3	Com. Area	KN	SSD/YSD/NHD	20
		JR	YDP/SPD/KSD/KCD	20
Type 4	Resd. Area	KS	HKD/BHD	20
		DD	SSD/YDD/JKD/JAD	20
Type 5	Ghetto (Cluster of the Poor)	YD	YDP/YDP 1-6	20
		YS	KWD/NYD/DJD	20
Total				200

K-Inns were dealt to reflect the size of residents, sample population, and implemented the stratified samples in the end to yield a proportionate stratified samples. Six districts were equally assigned the number of sample units in proportion with the number of long term customers. However, from the experience of past studies, a considerable number of owners of K-Inns are unwilling to cooperate, hence, the access to the residents will seem hindered. One other trouble is to draw an agreement of interview time because the attitudes or living style of the Inns customers could be unlikely to be routine. Our initial plan, then, will need to be adjusted which requires to add additional districts and lower the number of sample units already assigned. Finally, it is expected that the interview survey will include 8 districts and 5-20 sample units for

each district. It is estimated to be 3.6 % of sample population, the long-term customers, say, residents of K-Inns, which would be numbered at 2,800 within the SC.

(Figure 3) Data to show the Sample Strategy on K-Inns

Category	N/R	PN	N/SU	N/ASU
KB	178	17.3	20	-
KS	115	11.2	10	10
KW	117	11.4	10	5
DD	219	21.3	20	15
YD	160	15.6	20	20
YS	111	10.8	10	10
JU	128	12.5	10	10
JR	97			20
KT	91			10
Total	1,216	100.0	100	100

On the Sample Size Analysis

As instructed, the sample size analysis enables a fine and concise frame which explores statistical power, such as alpha and effect size. Statistical power or simply said as power, is generally referred as probability to be correct between a real treatment effect and the outcome of sample research (Laureate Education Inc., 2014). As the sampling researcher ultimately desires to most closely approximate the reality, as called population parameter, they tempt to measure the proximity of sample outcome in precision and accuracy. Often the standard practice requires 80 percents in the statistical test (2014). This means that the null hypothesis would be correctly rejected 80 times from 100 repeating times of sample test. Alpha would be a same idea with the kind of confidence interval, and indicates the probability of correctness by percent number. Alpha often would be set at .05, which means there is 5 percent chance that the sample findings would be wrong (2014). Two terms are within the discretion of researchers, but largely conventional in some aspect, who consider the sampling strategy with various factors, such as research funding and expense, time, the nature of research problem, external conditions on sampling, and many practical variants. Effect size would not be predetermined from the conventions or standard practice and unlike the two terms. It gives an indication of how large an effect is or how strong a relationship is. It is calculated by hand, and Cohen's $\mathcal{d}$, square of the correlation coefficients, $\mathcal{R}^2$(from a multiple regression, and square of $\mathcal{w}$; (measure of effect size for analysis of variance) (2014). There is no definite parameter to decide the best effect size between large and strong, and generally depends on the nature of research or preference of researchers. Therefore, it might be a good practice to explore a number of $\mathcal{d}$s, and determine sample sizes accordingly. In the psychological studies, the small to medium effect size is conventional (2014).

The Sample Size Analysis and NHR Research Plan

In my research plan, the study examines 3 different conditions or types of NHR and their effect on the discontent, anxiety, socio-economic problems, such as degraded human subsistence or relationship with the socio-economic status (Shin, K.H., Shin D.K., 2007). In the relevant literature on this type of research, the average $\mathcal{R}^2$ found in studies was .06 which was the estimated effect size. I am pursuing to ensure alpha .05 and power .80.

Under this condition, I was led to go to the table labeled "Analysis of Variance" which is used to compare more than two groups ((Laureate Education Inc., 2014). I was advised to find K located in the far left column labeled K, and to find the indicator of estimated effect

size in the second left column labeled 1-β. Finally I can read a recommended sample size, 52 for each three types of NHR. As the sample size was determined to be 100, 200, and 100 for each type in my plan, it is largely expected to make a full-scale effect very powerfully and to be highly valid in measuring our phenomenon.

The sampling size for the studies of NHRs needs to be checked since the determination is an essential component of study. We need to ensure that we have enough people to answer our questions with any level of confidence. There are several attributes in the strategy of sample size (i) a larger effect size decreases the required number of participants (ii) larger sample sizes are best for enhancing the ability to detect effects and relationship (iii) sample size calculations are not difficult to do (2014). Some caution taps, for example, concerning the care to select sensitive measure with the established reliability and validity, reasonableness of size and cost effectiveness, and explicitness of source information on the conventional level of sample size for the specific field of study. In the above, we have explored, concerning the NHR research, sample population, its estimated size, the ways to draw samples, type of sampling, and finally did calculation on the sample size. That is considered practically most precise to the PP, and cost effective given the feasible resources and time. The sample size is relatively larger, and the reliability as well as validity seems to be statistically verified from the conventional practice on the kind of Housing or NHR research.

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Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved from http://store.vitalsource.com/.

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Shin, K.H., Shin D.K. (2007). Polarization on the Income Distribution, its Characteristic and Impact on the Socio-economic Status. *The Journal on the Korean Economy*, No. 13 (1). pp. 1-23. Seoul. SK.

VI. One Dataset and the Univariate Analysis on Distribution

The Introductory Statement

The dataset assigned for the week issue includes a large number of cases and variables, which was numbered 1,500 and 34 respectively. The dataset were prepared to deal with the research problem of sexual attitudes or related public opinion on the basis of socio-economic, religious and other variants of sample population. For example, the kind of question would be posited to be solved, “how much do the religiously pious people support a premarital sex or death penalty for the vicious sexual perpetrators?” Since the data is extensive in sample population and fairly exhaustive in the sorts of variables, it could be used to raise an empirical challenge for the existing knowledge and assumptions. Based on the data, the hypothesis can be tested leading to a null or alternative one, which provokes to ground the basis of research. The research questions can be discussed thereafter with the implications from the data, as well as researcher’s perception, belief, conscience, or personal knowledge. The empirical data is placed at the center of research operation, and the modern statistics assist with in-depth understanding of its characteristic. Notably, the computer software program, called SPSS, enables one stop solution about many queries of data characteristic resided within the collected data, in which the researchers are interested (Frankfort-Nachmias, C., & Nachmias, D., 2008; Green, S.B., Salkind, N.J., 2014). The univariate distribution is a beginning point of level in terms of the statistical analysis, which simply concerns a frequency distribution of variables, measures of central tendency, and measures of dispersion (2008). The main class of statistical understanding can fall within two classes, say, descriptive statistics and inferential statistics. We consider the univariate analysis pertains to the descriptive statistics in which the researchers summarize and organize the data in the effective and meaningful way, but no decisions or inferences by interpreting data patterns (2008). With the aid of SPSS, the univariate distribution can be visualized to appeal to the audience, which are in sorts of graphics, line, bar or pie chart and so on. In the univariate analysis of distribution, we are dealing with concepts, such as mean, mode, median, standard deviation, range, minimum, and maximum. The first three enables the researchers to explore the central tendency of data, while the latter three indicates the dispersion of values in relation with the variables (2008). The standard variation also works to measure the dispersion of data, but based on the mean of variants. Given its generalization of statistical service, we also need to note there are some delicacies in use for a different service among the concepts. For example, the mean or arithmetic mean as distinguished from the median is most frequently used to measure central tendency, but the decision makers of social welfare may prefer the mode to enact a law or create the public system. Of course, the researchers would get better grasped with the mean if they want to compare the average income of college graduates with that of high school graduates. The dispersion will be helpful to comprehend the traits of data beyond the central tendency, and the last three would project the basic or more realistic picture of data itself. The standard deviation is the kind of applied concept, which has various advantages over other measure of dispersion (2008). Basically, it is more stable from sample to sample, and possesses other mathematical properties that could be applied in the advanced statistical work. The mathematical expression of SD should be

$$s^2 = \sum_{i=1}^{n} \frac{(x_i - \bar{x})^2}{n-1}$$

$$s = \sqrt{s^2}$$

- **S square means a variance and s means a standard deviation**

A Brief on the SPSS Performance

QUANTITATIVE REASONING & SOCIAL SCIENCE

Included are the syntax and output files to be calculated on the assigned work. The line chart was also included to graphically show the univariate distribution. We are asked to select one scale variable, called a quantitative variable in some sense, and one nominal variable, called a qualitative or categorical variable interchangeably, to exercise on the SPSS program (Green, S.B., Salkind, N.J., 2014). Often the scale variable would be more adequate or submissive to the statistical analysis, and, of course, on the work of univariate distribution. The dataset assigned contains a large of scale variable than nominal variable. In the nominal variable, the mean has no conveyable idea generally, but mode or median may be complementary to disclose the distribution pattern of sample population. In my case, I have selected the race of sample population as nominal variable and total family income as scale variable. As seen in the attached, the central tendency and dispersion were calculated to feature. According to them, the total family income shows a skewed curve to cluster around 10.90 to 12. Most families are economically affordable to earn more than 25,000 dollars. This implies the participants are largely wealthier to maturate in expressing their opinions on the sexual crimes or related issues. The mean would have some implications mathematically, while the mode and median might be more pressing to relate the economic condition of families and difficult social issues of which the researchers pursue to inquire. The standard deviation, as shown above and for some hypothetical value of abstract case, leads to its extent of deviation from the mean score. 2.351 in this case, therefore, means that one abstract case can probably be distanced from the mean, 10.90, by the gap 2.351. A more individual and tangible basis of measurement on deviation from the mean would be calculated, which is referred to as Z score. The standard deviation is important which enables many of inferential statistics analysis, for example, the confidence interval of experiment, and so. The range, minimum, and maximum plainly displays the dispersion not based on the mean score, which often corresponds with the scale of researchers. In this case, the researchers set 12 scales of value from 1 to 12. The range, then, would be 11, which is the subtraction of 12 by 1. I suppose the range may be more facile to have an idea if 12 were to be shown. That is not the case in the system of SPSS. The survey did not result in any no frequency for each of scale, which leads to 11 in the event. Against the nominal variable later, this variable would have missing cases, which numbers at 159. 99 responses were due to refusal to answer from the participants, and 60 expressed they did not know. In the nominal variable for race inquiry, we have no missing cases. The participants were firm on the question, and had not been reluctant to disclose his racial identity. We will naturally have no DK unlike the scale variables since they generally know the racial identity. In the nominal variable, a mean score generally may be meaningless, while the median and mode in this case inculcate the characteristics of participants. While the mean score is most frequently used by social scientists, it is equally true that the mode and median in many cases are practically more pressing to understand the dataset. In this case, we can notice that the participants are dominantly white, which bears a significant implication about the research questions between the personal attribute and sexual crime or related problems. As three values were assigned respectively by 1, 2, 3, the minimum is 1 and maximum is 3, which yields a range, 2. As the mode indicates 1, we can conclude that the sample population has a dominant meaning on the whites, which follows by a small rate of frequencies, 216 and 103, respectively for the blacks and others. The researchers may transform to combine both races, which would be in contrast with the white. The mean score is 1.28, which reflects some share of non-whites in the whole cases. The standard deviation is 0.583, which is relatively small as in the above case and in consideration of scales. That is partly because the mode is radical to be skewed toward 1. As shown in the graphic, both variables are distributed not to resemble the normal curve, which is bell-type.

Reference

Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved from http://store.vitalsource.com/.

Green, S.B., Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh : analyzing and understanding data*, Boston. MA:Pearson.

(Attached 1: Output file)

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Frequencies

Notes

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```

Statistics

TOTAL FAMILY INCOME

N	Valid	1341
	Missing	159
Mean		10.90
Median		12.00
Mode		12
Std. Deviation		2.351
Range		11

Minimum	1
Maximum	12

TOTAL FAMILY INCOME

		Frequency	Percent	Valid Percent	Cumulative Percent
	LT $1000	25	1.7	1.9	1.9
	$1000 TO 2999	12	.8	.9	2.8
	$3000 TO 3999	11	.7	.8	3.6
	$4000 TO 4999	8	.5	.6	4.2
	$5000 TO 5999	15	1.0	1.1	5.3
	$6000 TO 6999	20	1.3	1.5	6.8
Valid	$7000 TO 7999	17	1.1	1.3	8.1
	$8000 TO 9999	17	1.1	1.3	9.3
	$10000 - 14999	88	5.9	6.6	15.9
	$15000 - 19999	89	5.9	6.6	22.5
	$20000 - 24999	92	6.1	6.9	29.4
	$25000 OR MORE	947	63.1	70.6	100.0
	Total	1341	89.4	100.0	
	REFUSED	99	6.6		
Missing	DK	60	4.0		
	Total	159	10.6		
Total		1500	100.0		

```
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Frequencies

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=RACE /STATISTICS=STDDEV RANGE MINIMUM MAXIMUM MEAN MEDIAN MODE /ORDER=ANALYSIS.
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Statistics

RACE OF RESPONDENT

N	Valid	1500
	Missing	0
Mean		1.28
Median		1.00
Mode		1
Std. Deviation		.583
Range		2
Minimum		1
Maximum		3

RACE OF RESPONDENT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	WHITE	1181	78.7	78.7	78.7
	BLACK	216	14.4	14.4	93.1
	OTHER	103	6.9	6.9	100.0
	Total	1500	100.0	100.0	

GRAPH

/LINE(SIMPLE)=COUNT BY RACE.

Graph

Notes

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Comments	

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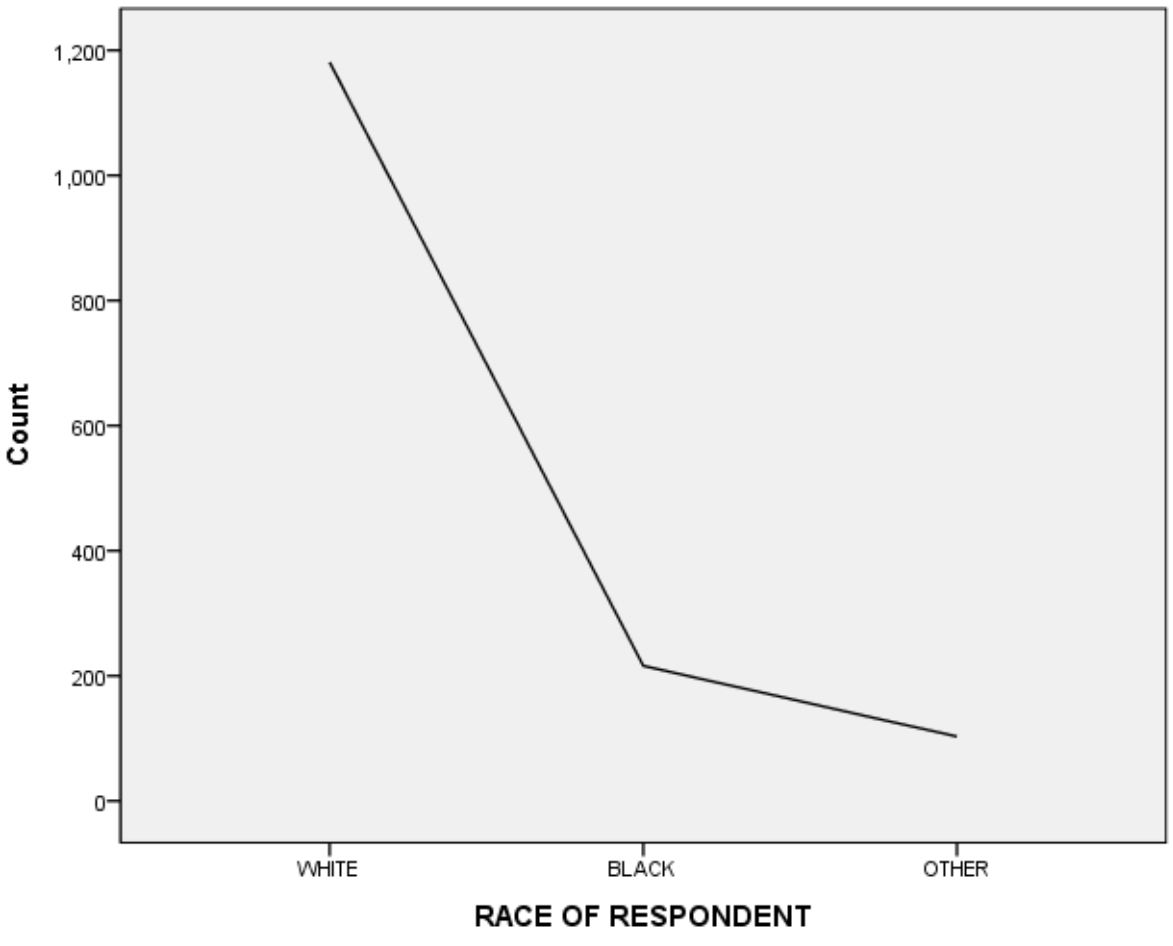


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GRAPH
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```

Graph

Notes

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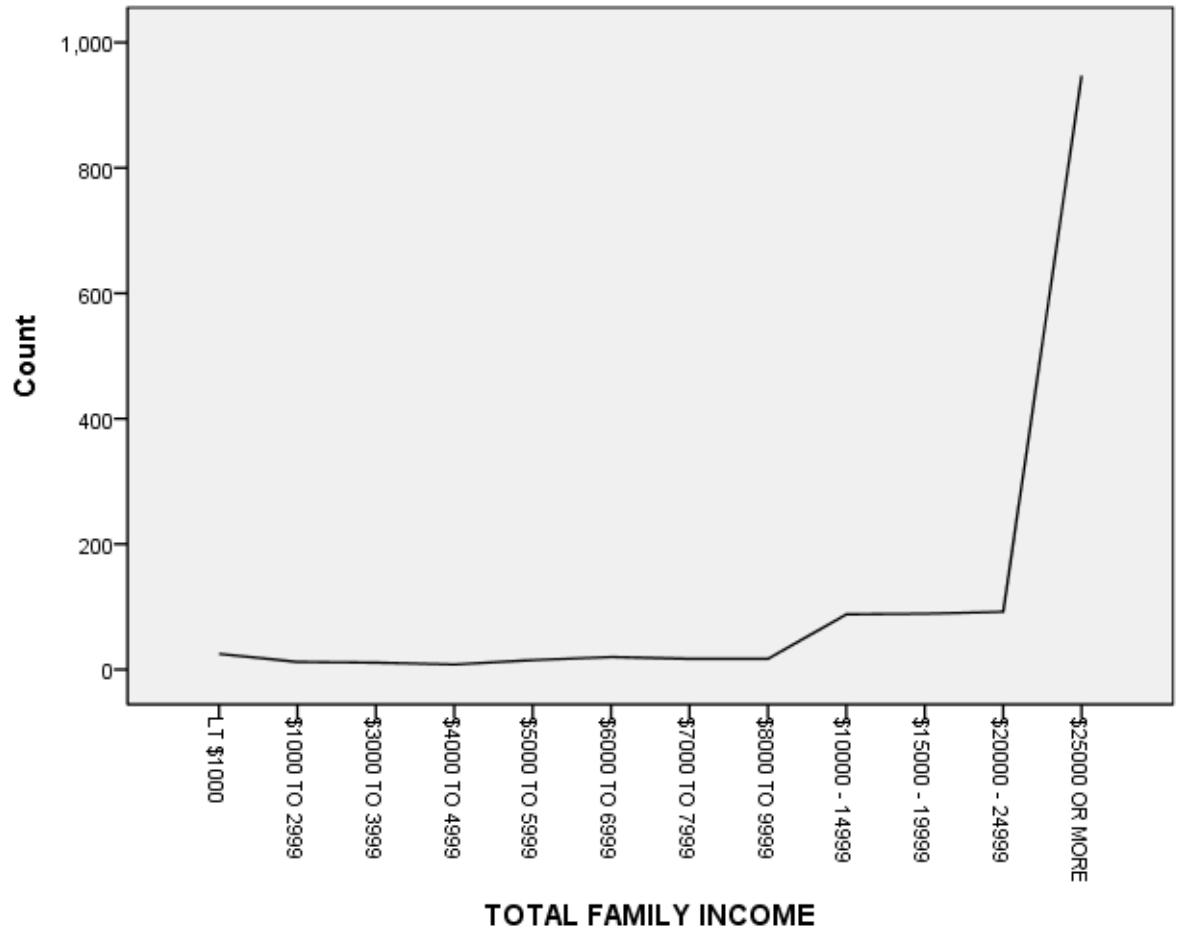


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DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet4.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet5.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet6.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet7.
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(Attached 2: Syntax file)

```
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VII. Independent Samples T-Test with SPSS Program

Overview

The quantitative researchers within the social science would utilize the data or evidence to make a causal inference, and would address the research problem or preferably social problem based on the finding. The data set available for the week topic would perhaps be generated from much work, time, and money spending, which are precious empirical observations for the research work. One threshold issue for them would be to test a level of significance where some match of variables would be statistically guaranteed to merit a research hypothesis. Since the causal inference takes a top place of concern, the research hypothesis needs to have some statistical implications to be researched. In order to meet this need, the researchers develop a null hypothesis, often expressed as equated between the independent and dependent variables. The researchers need to reject this null hypothesis so as to advance investigating his or her research hypothesis. The theory would offer a basis for creation of research hypothesis where we were exemplified with the Durkheim's suicide theory (Frankfort-Nachmias, C., & Nachmias, D., 2008). The researchers may posit his point of inquiry if a single person would more likely commit a suicide in the US. He may explore some samples of whole national data on suicide, perhaps sample population in this case. He would sort between the single or married persons who committed a suicide in one specific year, but still would be unresolved if the single suicide samples are as small as 30 persons. He initially set 20 v. 20 for a null hypothesis from specific samples, and obtained 30 cases favorably for his research hypothesis and, of course, unfavorably against the null hypothesis. In fact, the null hypothesis in this case would frame, "The suicide cases would be equal between the single and married person." The research hypothesis is related with the view of Durkheim, "The single person would more likely commit a suicide than married one." He must be glad to see the sample result since the null hypothesis turns to be false within his samples, but he actually could or should not be glad. The problem is that his result was produced from the samples, small in this case typically, but not from the sample population, the whole of nationals who committed a suicide in that year. This implies that he might not be qualified in any scientific conviction to pursue his research hypothesis. Consider if he saw it nugatory to proceed without any prudence or pre-work on statistical analysis of samples. Then, the consequence would be serious that the research outcome was misdirected in terms of PP, and may abuse the governmental spending, though inspired by it (2008). The wrong not to reject a null hypothesis, which should have been rejected, generally brings a worse interplay between the policy makers and researchers. This is called a type II error (2008). However, the wrong to reject a null hypothesis, which should have been accepted, also is ineffective to better research since he abandons a statistically significant research hypothesis. This is called a type 1 error (2008).

Level of Significance

The next point is how we determine the level of significance within the independent and dependent variables, and in terms of causal inference. As mentioned, we develop a null hypothesis to be tested, which is an inversed one from the research hypothesis (2008). The truth here is that we suffer from the limitations resided within the sample research. If we could obtain a pp, we would be perfect, speaking least, in terms of data and empirical evidence, to argue on the research problem, hypothesis, and questions. The problem is that we take only one dose from sample population, which must be recoursed to relate with the sample population in the whole. The sample population might be infinite or definite in character where we generally assume a central tendency of bell type given a larger number of sample population. As in the suicide case above, we may have access to the actual distribution of sample population, which is definite in character. In the classification, the researcher can perform a paradigmatic and non-paradigmatic test where the latter requires neither normality condition nor interval level of measurement (2008).

In the testing, the concept of critical region is important, which often is expressed as α depending on the choice of researcher and brings the two ways of method, i.e., one-tailed and two-tailed tests. If the sample result in relation with the null hypothesis is larger than an equated math and falls within the critical region varying with the α, then it means that the null hypothesis rightly could be rejected. The α region would be compared with a *p*-value, an actual number from the data, which might be:

- $p \leq 0.01$: very strong presumption against null hypothesis
- $0.01 < p \leq 0.05$: strong presumption against null hypothesis
- $0.05 < p \leq 0.1$: low presumption against null hypothesis
- $p > 0.1$: no presumption against the null hypothesis

The critical region, often expressed as α is a key concept, and often set on the conventional practice in between 0.01 and 0.05. The test on p-value, as in the case of R. Fisher, can be used as the basis of rejecting or endorsing the specified hypothesis statistically (2008). The confidence interval is a measure of reliability of an estimate, which is not related with two or more variables and needs to be distinguished from the level of significance on the basis of hypothesis testing. Any greater level of variance means less precise estimates of the parameter, and larger confidence intervals. Often the 95% confidence level is typically stated for quantitative research.

A Weekly Dataset and Statistical Analysis

From the dataset, I developed a research hypothesis, "The females generally favor a capital punishment." It was posited since they would more likely be conservative." I need to test this hypothesis so as to further on my research progress about the relationship between the gender and their conservative belief. Therefore, I developed a null hypothesis in equated form, which would be tested on the basis of SPPS statistical analysis. It would be "The male and female would be equal in percents between them who oppose and who favor the capital punishment." The independent variables are the sex of sample population and dependent variables would be an attitude on the capital punishment for the worse sexual crimes or so. The statistical assumptions were gone as above described, and the kind of infinite sample population would be presumed given if we have no large scale data on this issue from the national census. We also assume that the normal distribution curve would be present which is a bell type. An independent-samples *t* test was conducted to evaluate the hypothesis that the females generally favor a capital punishment as opposed to males. The test was significant, t (669) = - 3.052, p = .00. when equal variances assumed, and t (414)= - 3.548 when equal variances are not assumed. But the results were counter to the research hypothesis. The cases for Favor of CAPPUN (M=1.49, SD =.50), on average, are more in males than females, and the cases for Oppose of CAPPUN (M = 1.63, SD = .484) are more than in females males. The 96 % confidence interval for the difference in means was not so wide, ranging from - .225 to - .64. The eta square index indicated that 1% of the variance of the CAPPUN variable was accounted for by whether the participant was assigned to the male or female group.

- Note : Eta-squared enables to evaluate the effect size by describing the ratio of variance explained in the dependent variable by a predictor while controlling for other predictors. It has some weakness statistically so that each additional variable will automatically increase the value of η^2, and it measures the variance explained of the sample, not the population. This means that that it will always overestimate the effect size, but the larger sample size can reduce the bias. Its mathematical expression would be

$$\eta^2 = \frac{SS_{\text{Treatment}}}{SS_{\text{Total}}}.$$

Reference

Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved from http://store.vitalsource.com/.

Green, S.B., Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh : analyzing and understanding data*, Boston. MA:Pearson.

(Attached 1: Output file)

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T-Test

Notes

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Group Statistics

	FAVOR OR OPPOSE DEATH PENALTY FOR MURDER	N	Mean	Std. Deviation	Std. Error Mean
RESPONDENTS SEX	FAVOR	462	1.49	.500	.023
	OPPOSE	209	1.63	.484	.033

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
RESPONDENTS SEX	Equal variances assumed	32.849	.000	-3.502	669	.000	-.145	.041	-.226	-.064
	Equal variances not assumed			-3.548	414.454	.000	-.145	.041	-.225	-.064

(Attached 2: Syntax file)

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VIII. One Way ANOVA and Example

A General Summary

The analysis of variance, called ANOVA in abbreviation, is most popularly used to test the null and research hypothesis by means of F-distribution, which is tabulated thorough the comparison of between group distribution and within group one as well as based on the difference in the sum of means and group means. In short, F-distribution attached in the Appendix has been produced through a comparison of distribution from the groups tested and respective group, and may be expressed in math as "between group variance/within group variance" (Frankfort-Nachmias, C., & Nachmias, D., 2008). If the within group variance is much greater, it is generally true that comparing of means between groups would be less meaningful (Web Site: StatSoft Electronic Textbook: ANOVA/MANOVA, 2014). One way ANOVA generally will be used to test the level of significance from the statistical analysis when we would compare one dependent variable and two or more sample groups (Frankfort-Nachmias, C., & Nachmias, D., 2008). For example, we may inquire of any level of statistical significance between the household income and consumption of food. The household income, in this case, would be an independent variable and we may class three levels, for example, low income, middle, and high income groups. As we have three groups, we are able to perform a post hoc analysis given the null hypothesis were to be rejected or for any other purpose. Imagine another example where the researchers are conducting a research on the weight of females in age range of 20's and among South Korea, China and Japan. Then, the independent variable, in this case, would be females in age range of 20's, while the dependent variable being a weight. We have three groups to enable an ANOVA analysis, which would be three countries. If dependent variables are two or more, we generally use MANOVA than ANOVA, in which we compare the means in a statistical way and assumptions. This performance, of course, can be done using SPSS program and by clicking on the Analyze tab. As known, the independent variable generally is a nominal level of measurement and the dependent variable is an interval level to classify the test setting. In the MANOVA, we can see an important characteristic that the multiple dependent variables are tested simultaneously in one test setting, which is not available in ANOVA. The MANOVA has been designed so that the dependent variable is vector variable. If we want to use ANOVA and conduct several times for different dependent variables, it is practically costly and could increase the possibility of type I error. In the t-test, we generally compare two groups, and ANOVA, as called F-test, allows three groups including one independent variable, which would be moved into the factor box in the SPPS screen.

A Report on the Exemplary Dataset

In ANOVA test, it is statistically assumed (i) the dependent variable is normally distributed for each of the populations as defined by the different levels of the factors: (ii) the variances of the dependent variable are the same for all populations (iii) the cases represent random samples from the populations and the scores of the test variable are independent of each other (Green, S.B., Salkind, N.J., 2014). If these assumptions are violated, SPSS users have to use Browne-Forsythe or Welch statistic available within One Way ANOVA in Compare Means (2014). From the data set, I have selected "family income level" as independent variable and "number of children" as dependent variable. We will know that the groups in the independent variable are larger as accorded with their income level. My research hypothesis would be, "the higher income family would have a large number of children than low income family." This research hypothesis would be perhaps because they are well to do and economically affordable to breed their children." As in the conventional practice, we are able to generate a null hypothesis in some equated form to be tested in one way ANOVA with SPSS, "the number of children is equal for the income family." I performed one way ANOVA on the SPSS program, and it generates the result attached separately to this brief. From several of post hoc tests, I chose the Tukey and Dunnett's C-test which leads me to show the multiple comparisons as displayed in the output file. They produced a homogeneous subset allowing to read the data and relationship of variables or groups for the purpose of more specific statistical analysis. The output file shows that the level of significance indicates

a strong presumption against null hypothesis. As seen, the p-value is .00, which is smaller than the already set α value. You can also acquire information on the 95% confidence interval for the scores of each income level under the section "Estimated Marginal Means." For example, we would be confident that the family ranged in the income level from 8,000 to 9,000 would have 2.941 children in the mean, and we would be confident in the 95 % probability that such family will have the number of children between 2.158 and 3.725. As we learn, the ANOVA frame is based on the kind of ideas, such as between and within groups variance, the sum of squares, and degree of freedom (Web Site: StatSoft Electronic Textbook: ANOVA/MANOVA, 2014). You can identify such numbers in this case in the section titled "Analysis of Variance" or "ANOVA" in short. In this case, degree of freedom, which indicates the case number as expressed by "n-1" was shown for two classes (between and within), 11 and 1327 respectively. Because the overall F test was significant, follow-up tests were conducted to evaluate groupwise differences among the means. As said, there are several methods of post hoc tests, which would be typed in two major classifications, say, "equal variances assumed" and "equal variances not assumed" (Green, S.B., Salkind, N.J. (2014). For example, Tukey or R-E-G-W-Q would be a first type and Dunnett's C test works on the latter field. I have performed both tests, and you are now available more specifically between the groups of different income level concerning the level of significance and 95 % confidence interval under the subsection of multiple comparisons. The Dunnett's C-test can be one alternative source of information when the homogeneity of variance in Tukey is nonsignificant. We can find that there would exist no significant relationship among the different income level groups in both tests. You can see, however, two incidents as starred * in the Tukey test, which means a significance for one specific relation, i.e., a group in the range "10,000-14,999" and other, "25,000 or more." In that result, we see that the mean difference (I-J) is .650 and p-value is .021<0.05. To return, we consider if the null hypothesis should be rejected or accepted. It should be rejected and the research hypothesis is viable to be furthered based on the statistical analysis. It, nonetheless, allows that a scope of alternative explanations could be possible for the relations between the total family income level and number of children.

Some of Pivotal Math for the ANOVA

- The definitional equation of sample variance is $s^2 = \frac{1}{n-1}\sum(y_i - \bar{y})^2$

- In one-way, or single-factor ANOVA, statistical significance is tested for by comparing the F test statistic

$$F = \frac{\text{variance between treatments}}{\text{variance within treatments}}$$

$$F = \frac{MS_{\text{Treatments}}}{MS_{\text{Error}}} = \frac{SS_{\text{Treatments}}/(I-1)}{SS_{\text{Error}}/(n_T - I)}$$

Reference

Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved from http://store.vitalsource.com/.

Green, S.B., Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh : analyzing and understanding data*, Boston. MA:Pearson.

Laureate Education Inc. (2014). "Analysis of Variance (ANOVA)" featuring Jennifer Ann Morrow (23:35).

Web Site: StatSoft Electronic Textbook: ANOVA/MANOVA. Retrieved July. 30, 2014 from http://www.statsoft.com/textbook/anova-manova/.

IX. A Brief on the Example Regression Analysis

In conducting a linear regression analysis or correlation coefficient, we are available of two alternative sets of assumptions to enable our statistical test (Green, S.B., Salkind, N.J., 2014). Generally the fixed-effect model assumptions are more popular, particularly for the experimental studies. For the random effect model, we have to assume that the variables are multivariately normally distributed which is necessary to forge a linear type of relation. For the fixed-effect model assumptions, we have to underlie three hypothetical truths (i) the independent variable is normally distributed in the population for each combination of levels of the independent variables. This needs to be presumed since the statistical analysis relies on the concept of means, variance, z-score, standard deviation and confidence interval as well as between the samples and sample population. This basis of understanding and statistical theory also require the second assumption, (ii) the population variances of the dependent variable are the same for all combination of levels of independent variables. Finally it needs to be assumed that the cases represent a random sample from the population and the scores are independent each other from one individual to the next (2014). This is required to ensure an accurate *p* value produced from the F test of regression analysis.

I have selected four variables in which three of them are independent and one other, homosexual sex relations, is the dependent variable: (i) H/O-How Often R Attends Religious Services (ii) F/B-Feelings about the Bible (iii) Age of Respondent (iv) H/S-Homosexual Sex Relations. I posited that the three variables can represent a conservative personality for each case, and militates against the dependent variables. In the test purpose, therefore, I calculated a z-score through the ztostar, which represents the extent of conservatism from the sum of three variables. This will be used to illuminate the overall regression, and relationship of three variables with the dependent variables. The correlation coefficient has positive or negative regression which you can identify from the plus or minus value of Pearson product or other similar indicators. The research hypothesis in this regression analysis would be “there would be some significant relationship between the conservative personality and view on the homosexual sex relations.” We can frame inversely to turn it into a null hypothesis, “there would be no significant relationship between the conservative personality and view on the homosexual sex relations.”

(Table I)

Variables in the Multiple Regression Example

Variable	**Definition**
● **HOW OFTEN R ATTENDS RELIGIOUS SERVICES** ● **FEELINGS ABOUT THE BIBLE** ● **AGE OF RESPONDENT**	● **A Measure on How Many Times R Attend Religious Services (0: Never, 1: Lt once a Year,….4: Once a Month,….8: More than A Week)** ● **A Measure on Respect of Bible (1: Word of God 2: Inspired Word, 3: Book of Fables, 4: Other)** ● **Age of Respondent**
● **HOMOSEXUAL SEX RELATIONS**	● **A Measure on the View of Homosexual Relations (1: Always Wrong, 2 : Almost Always Wrong, 3:Sometimes Wrong, 4: Not Wrong at All, 5: Other)**

The bivariate and partial correlations are shown in the attachment. The output from the partial Correlations procedure gives the means and

standard deviations, and the partial correlations between the conservative-prone variables in each life domains, holding constant homosexual sex relations. Each cell in the correlations table presents the correlation coefficient, the *p* value (labeled Siginificance), and the degrees of freedom (*df*) for the significance test. For example, the bivariate correlation between the F/O and H/O is relatively high, r (465) = -.463, p < .001. The correlation between these scales drops only modestly when controlling for H/S, that is, partial r (465) = -.330, p <.001.

Correlation coefficients were computed among the four variables, which was eventually will be three independent variables and one dependent variable in terms of linear regression analysis. By controlling the type 1 error across the 6 correlations, a *p* value of less than .01 (.05/6 = roughly .01) was required for significance. In other words, correlation is significant at the .01 level on the 2-tailed test. The results of the correlational analyses presented in the Table II shows that 5 out of 6 correlations were statistically significant and greater than or equal to .129. The correlations of feeling of bible with the age of respondent measures tended to be lower and not significant. In general, the results suggest that they have both positive and negative correlations depending on the match of four variables except for between the age and feelings of bible.

Partial correlation coefficients were then computed among the conservative variables for specific life domain, holding constant the homosexual sex relations. A P value of less than .15 (.05/3 = roughly .15) was required for significance using the Bonferroni approach to control for type I error across the three partial correlations. The partial correlations are reported in the second half of Table II. Two of three partial correlations were significant and moderately large in magnitude. One of the significant partial correlations assessed the correlation between the two religious strands, while the other evaluated the correlation between the age and two religious trends. From the statistical analysis and results as briefed, we can reject the null hypothesis on the overall basis of correlation. The results of partial correlations tend to support the hypothesis that the H/S considerably underlies the personality between conservatives and liberalists and in specific life domains.

(Table II)

Correlations among the Four Variables (N=1495)

Conservative/Liberal scale	**H/O**	**F/B**	**Age**	**H/S**
H/O	**1**			
F/B	**-.400****	**1**		
Age	**.129****	**-.056**	**1**	
H/S	**-.435****	**.465****	**-.138****	**1**
	Partial Correlation controlling for H/S			
H/O		**-. 330****	**.117****	
F/B			**.023**	

A linear regression analysis was conducted to evaluate the prediction of homosexual attitude from three indicators of variable about the conservative beliefs (Frankfort-Nachmias, C., & Nachmias, D., 2008; Laureate Education Inc. (2014). The scatter plot for above four variables, as shown in the output file, indicates that the three independent variables and one dependent variable are linearly related such that as overall conservative scale increases the homosexual attitude decreases. The regression equation for predicting the homosexual attitude index is,

"Predicted homosexual attitudes = -.014 and overall conservative index + 2.869"

The 95% confidence interval for the slope, - .021 to -.007 does not contain the value of zero, and therefore homosexual attitude of respondents is significantly related with the overall conservative index. As hypothesized the conservative-prone groups tended to have a view to see homosexual relations wrong. Accuracy in predicting a homosexual index was moderate. The correlation between the conservative index and homosexual index was .183. Approximately16% of the variance of homosexual group was accounted for by its linear relationship with conservative index.

Reference

Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved Aug. 8. from http://store.vitalsource.com/.

Green, S.B., Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh : analyzing and understanding data*, Boston. MA:Pearson.

Laureate Education Inc. (2014). “Correlation and Introduction to Regression” featuring Jennifer Ann Morrow (23:31).

ATTACHMENT

(1.Syntax file)

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DATASET ACTIVATE DataSet1.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT EXPECTED ROW COLUMN TOTAL
  /COUNT ROUND CELL.
      DATASET ACTIVATE DataSet1.
USE ALL.
COMPUTE filter_$=(race = 1 or race = 2).
VARIABLE LABELS filter_$ 'race = 1 or race = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
USE ALL.
COMPUTE filter_$=(race = 1 or race = 3).
VARIABLE LABELS filter_$ 'race = 1 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
```

```
    /STATISTICS=CHISQ PHI
    /CELLS=COUNT EXPECTED ROW
    /COUNT ROUND CELL.
USE ALL.
COMPUTE filter_$=(race = 2 or race = 3).
VARIABLE LABELS filter_$ 'race = 2 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE
```

(1.Outpfile)

```
GET
  FILE='C:\Users\user\Desktop\gss04student_corrrected.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		15-AUG-2014 20:05:46
Comments		
Input	Data	C:\Users\user\Desktop\gss04student_corrrected.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.

Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1496	99.7%	4	0.3%	1500	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	81.1	521.3	536.2	39.4	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	BLACK	Count	30	115	67	3	215
		Expected Count	14.8	95.1	97.9	7.2	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%
	OTHER	Count	10	50	41	2	103
		Expected Count	7.1	45.6	46.9	3.4	103.0
		% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
Total		Count	103	662	681	50	1496
		Expected Count	103.0	662.0	681.0	50.0	1496.0

	% within RACE OF RESPONDENT	6.9%	44.3%	45.5%	3.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.386[a]	6	.000
Likelihood Ratio	41.685	6	.000
Linear-by-Linear Association	26.296	1	.000
N of Valid Cases	1496		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 3.44.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.170	.000
	Cramer's V	.120	.000
N of Valid Cases		1496	

```
USE ALL.
COMPUTE filter_$=(race = 1 or race = 2).
VARIABLE LABELS filter_$ 'race = 1 or race = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		15-AUG-2014 20:09:45
Comments		
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	Filter	race = 1 or race = 2 (FILTER)
	Weight	<none>

Missing Value Handling	Split File	<none>
	N of Rows in Working Data File	1397
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
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	Elapsed Time	00:00:00.03
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1393	99.7%	4	0.3%	1397	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	78.6	517.5	541.2	40.6	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	BLACK	Count	30	115	67	3	215
		Expected Count	14.4	94.5	98.8	7.4	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%
Total		Count	93	612	640	48	1393

	Expected Count	93.0	612.0	640.0	48.0	1393.0
	% within RACE OF RESPONDENT	6.7%	43.9%	45.9%	3.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40.642[a]	3	.000
Likelihood Ratio	38.508	3	.000
Linear-by-Linear Association	38.552	1	.000
N of Valid Cases	1393		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.41.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.171	.000
	Cramer's V	.171	.000
N of Valid Cases		1393	

```
USE ALL.
COMPUTE filter_$=(race = 1 or race = 3).
VARIABLE LABELS filter_$ 'race = 1 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

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	N of Rows in Working Data File	1284
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1281	99.8%	3	0.2%	1284	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	67.1	503.0	564.6	43.2	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	OTHER	Count	10	50	41	2	103
		Expected Count	5.9	44.0	49.4	3.8	103.0

Total	% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
	Count	73	547	614	47	1281
	Expected Count	73.0	547.0	614.0	47.0	1281.0
	% within RACE OF RESPONDENT	5.7%	42.7%	47.9%	3.7%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.510[a]	3	.089
Likelihood Ratio	6.230	3	.101
Linear-by-Linear Association	6.220	1	.013
N of Valid Cases	1281		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.78.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.071	.089
	Cramer's V	.071	.089
N of Valid Cases		1281	

```
USE ALL.
COMPUTE filter_$=(race = 2 or race = 3).
VARIABLE LABELS filter_$ 'race = 2 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
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Crosstabs

Notes

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Comments	

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	Split File	<none>
	N of Rows in Working Data File	319
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	318	99.7%	1	0.3%	319	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	BLACK	Count	30	115	67	3	215
		Expected Count	27.0	111.6	73.0	3.4	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%

	OTHER	Count	10	50	41	2	103
		Expected Count	13.0	53.4	35.0	1.6	103.0
		% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
Total		Count	40	165	108	5	318
		Expected Count	40.0	165.0	108.0	5.0	318.0
		% within RACE OF RESPONDENT	12.6%	51.9%	34.0%	1.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.990[a]	3	.393
Likelihood Ratio	2.995	3	.392
Linear-by-Linear Association	2.898	1	.089
N of Valid Cases	318		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.62.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.097	.393
	Cramer's V	.097	.393
N of Valid Cases		318	

IX. A Chi-Square with SPSS

Introduction

The chi-square test is a nonparadigmatic test which is designed to statistically determine the relationship between the variables. Therefore, it can be used generally among the variables independent each other rather than the frame on independent and dependent variables. It would not be definite, however, that variables are perfectly independent within the data or survey result. On the researcher's contemplation, the variables might be bleakly related in view of the effect relations, though not causal. In this case, the independent and dependent variables can be tested by conducting the Chi-square design (Frankfort-Nachmias, C., & Nachmias, D., 2008). The concept would be between the observed frequencies and expected ones where the latter can be yielded from the theory, other background information, and so (Laureate Education Inc., 2014). Of course, the observations have to be independent to measure the values of each variable. The chi-squared distribution for statistics can be expressed in math;

- Chi-squared distribution $\sum_{i=1}^{k}\left(\frac{X_i-\mu_i}{\sigma_i}\right)^2$
- Nnoncentral chi-squared distribution $\sum_{i=1}^{k}\left(\frac{X_i}{\sigma_i}\right)^2$

A Brief of Chi-Square Test on the Data

In the Chi-square or a two way contingency table analysis, we underlie two assumptions to develop a statistical analysis (Green, S.B., Salkind, N.J., 2014). First, the observations for the two way contingency table analysis are independent each other. The values and scales within each variable are measured independently which prevents the likelihood of inaccurate results. Second, the two way contingency table analysis yields the test statistic that is approximately distributed as a chi-square when the sample size is relatively larger. However, there is no definite answer to the question of what sample size is large enough since the test is contingent. The size of expected cell frequencies often are more important than total sample size, and the researcher's good practice, who have two rows and two columns, can be assured if the expected cell frequencies are greater than or equal to 5 (2014). The validity of results may be challenged for large tables and if more than 20% of the cells have expected frequencies than are less than 5 (2014).

The variables in my case are races of respondent with three levels and subjective feelings of socio economic class with four levels. The former variable is independent one and the latter is dependent variable. Table 1 shows the variables and definition in this experiment. The research hypothesis posited to test for the Chi-square analysis would be "The races of respondents have a significant relationship with their subjective feeling of socio-economic class?" In an inversed thesis, we can develop a null hypothesis "The races of respondent have no significant relationship with their subjective feeling of socio-economic class."

The output is shown in the file attached to this brief. SPSS reports the results of a number of significant tests, including the often reported the Pearson chi-square test statistic. In this example, the Pearson χ^2 is 43.386, p = .00. The likelihood ratio test is also reported in the output file, χ^2 (6, N = 1496) = 41. 685. p = .00. It tests the same hypothesis as the Pearson chi-square, has similar properties, and is an alternative to the Pearson. The remaining reported chi-square statistic, the chi-square for a linear-by-linear association, is an inappropriate for

analyzing tables with qualitative variables. If the Chi-square test has more than 1 degree of freedom, it is an omnibus test, which elevates the significance of an overall hypothesis containing multiple subhypotheses. These multiple subhypotheses can then be tested by using follow-up tests.

A two way contingency table analysis was conducted to evaluate whether any more dominant race, whites, black, and Asian in order, would feel subjectively that they belong, in descending order, through upper class, middle, working and lower class. The two variables were the race of respondents with three levels and subjective feeling with four levels. Race and subjective feeling on his or her socio-economic status were found to be significantly related. Pearson χ^2 (6, N = 1496) = 43.39, p = .00 < .05. The proportions of white for each subjective class were .04, .42, .49, .05 respectively while that of black were .01, .54, .31, and .14 respectively. The Other race indication shows in proportion .02, .40, .48, and .10 respectively. On the basis of this result, we can reject the null hypothesis that no significant relationship between the respondents' race and their subjective feeling of socio-economic class would exist.

Follow-up pairwise comparisons were conducted to evaluate the difference depending on each pair of levels within the independent variable. Table 2 shows the results of these analyses. The Holm's sequential Bonferroni method was used to control for Type 1 error at the .05 level across all three comparisons. The only pairwise difference that was significant was between the white and black. The probability of respondent to feel that they are lower class is 2.8 times more likely when the respondent was black as opposed to the white (.14/.05).

Table 1

Variables in Chi-Square Example

Variables	**Definition**
White **Black** **Other**	**These are independent variables which were measured in the nominal level. 1 = white, 2 =black, 3 = other**
Lower class **Working class** **Middle class** **Upper class**	**Each four level of class means that the respondents subjectively feel as falls within that category in terms of their socio-economic class. They were measured in nominal level and assigned the values of 1, 2, 3, 4, for each level.**

Table 2

Results for the Pairwise Comparisons Using Holm's Sequential Bonferroni Method

Comparison	**Pearson chi-square**	**p-value (Alpha)**	**Craemer's V**
White v. Black	**40.642**	**.000 (.017)**	**.171**
White v. Other	**6.510**	**.089 (.025)**	**.071**
Black v. Other	**2.990**	**.393 (.050)**	**.097**

Reference

Frankfort-Nachmias, C., & Nachmias, D. (2008). In *Research methods in the social sciences.* Retrieved Aug. 8. from http://store.vitalsource.com/.

Green, S.B., Salkind, N.J. (2014). *Using SPSS for Windows and Macintosh : analyzing and understanding data*, Boston. MA:Pearson.

Laureate Education Inc. (2014). “"Nonparametric Statistics: The Chi-Square Test” featuring Jennifer Ann Morrow (18:53).

ATTACHMENT

(1. Syntax file)

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CROSSTABS

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  /FORMAT=AVALUE TABLES

  /STATISTICS=CHISQ

  /CELLS=COUNT EXPECTED ROW COLUMN TOTAL

/COUNT ROUND CELL.

    DATASET ACTIVATE DataSet1.

    USE ALL.

    COMPUTE filter_$=(race = 1 or race = 2).

    VARIABLE LABELS filter_$ 'race = 1 or race = 2 (FILTER)'.

    VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

    FORMATS filter_$ (f1.0).

    FILTER BY filter_$.

    EXECUTE.

    CROSSTABS

      /TABLES=RACE BY CLASS

      /FORMAT=AVALUE TABLES

      /STATISTICS=CHISQ PHI

      /CELLS=COUNT EXPECTED ROW

    /COUNT ROUND CELL.

USE ALL.

COMPUTE filter_$=(race = 1 or race = 3).

VARIABLE LABELS filter_$ 'race = 1 or race = 3 (FILTER)'.

VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.

FORMATS filter_$ (f1.0).

FILTER BY filter_$.

EXECUTE.

CROSSTABS
```

```
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
USE ALL.
COMPUTE filter_$=(race = 2 or race = 3).
VARIABLE LABELS filter_$ 'race = 2 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
```

(2. Output file)

```
GET
  FILE='C:\Users\user\Desktop\gss04student_corrrected.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		15-AUG-2014 20:05:46
Comments		
Input	Data	C:\Users\user\Desktop\gss04student_corrrected.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1500
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

Syntax	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table. CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.01
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1496	99.7%	4	0.3%	1500	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	81.1	521.3	536.2	39.4	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	BLACK	Count	30	115	67	3	215
		Expected Count	14.8	95.1	97.9	7.2	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%
	OTHER	Count	10	50	41	2	103
		Expected Count	7.1	45.6	46.9	3.4	103.0
		% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
Total		Count	103	662	681	50	1496

	Expected Count	103.0	662.0	681.0	50.0	1496.0
	% within RACE OF RESPONDENT	6.9%	44.3%	45.5%	3.3%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	43.386[a]	6	.000
Likelihood Ratio	41.685	6	.000
Linear-by-Linear Association	26.296	1	.000
N of Valid Cases	1496		

a. 1 cells (8.3%) have expected count less than 5. The minimum expected count is 3.44.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.170	.000
	Cramer's V	.120	.000
N of Valid Cases		1496	

```
USE ALL.
COMPUTE filter_$=(race = 1 or race = 2).
VARIABLE LABELS filter_$ 'race = 1 or race = 2 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		15-AUG-2014 20:09:45
Comments		
Input	Data	C:\Users\user\Desktop\gss04student_corrrected.sav
	Active Dataset	DataSet1
	Filter	race = 1 or race = 2 (FILTER)

	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1397
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.03
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	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1393	99.7%	4	0.3%	1397	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	78.6	517.5	541.2	40.6	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	BLACK	Count	30	115	67	3	215
		Expected Count	14.4	94.5	98.8	7.4	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%

Total	Count	93	612	640	48	1393
	Expected Count	93.0	612.0	640.0	48.0	1393.0
	% within RACE OF RESPONDENT	6.7%	43.9%	45.9%	3.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40.642[a]	3	.000
Likelihood Ratio	38.508	3	.000
Linear-by-Linear Association	38.552	1	.000
N of Valid Cases	1393		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 7.41.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.171	.000
	Cramer's V	.171	.000
N of Valid Cases		1393	

```
USE ALL.
COMPUTE filter_$=(race = 1 or race = 3).
VARIABLE LABELS filter_$ 'race = 1 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		15-AUG-2014 20:11:37
Comments		
Input	Data	C:\Users\user\Desktop\gss04student_corrrected.sav
	Active Dataset	DataSet1

Missing Value Handling	Filter	race = 1 or race = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	1284
	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	1281	99.8%	3	0.2%	1284	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	WHITE	Count	63	497	573	45	1178
		Expected Count	67.1	503.0	564.6	43.2	1178.0
		% within RACE OF RESPONDENT	5.3%	42.2%	48.6%	3.8%	100.0%
	OTHER	Count	10	50	41	2	103
		Expected Count	5.9	44.0	49.4	3.8	103.0

Total	% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
	Count	73	547	614	47	1281
	Expected Count	73.0	547.0	614.0	47.0	1281.0
	% within RACE OF RESPONDENT	5.7%	42.7%	47.9%	3.7%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.510[a]	3	.089
Likelihood Ratio	6.230	3	.101
Linear-by-Linear Association	6.220	1	.013
N of Valid Cases	1281		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.78.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.071	.089
	Cramer's V	.071	.089
N of Valid Cases		1281	

```
USE ALL.
COMPUTE filter_$=(race = 2 or race = 3).
VARIABLE LABELS filter_$ 'race = 2 or race = 3 (FILTER)'.
VALUE LABELS filter_$ 0 'Not Selected' 1 'Selected'.
FORMATS filter_$ (f1.0).
FILTER BY filter_$.
EXECUTE.
CROSSTABS
  /TABLES=RACE BY CLASS
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ PHI
  /CELLS=COUNT EXPECTED ROW
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created	15-AUG-2014 20:12:42
Comments	

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	Filter	race = 2 or race = 3 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	319
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=RACE BY CLASS /FORMAT=AVALUE TABLES /STATISTICS=CHISQ PHI /CELLS=COUNT EXPECTED ROW /COUNT ROUND CELL.
Resources	Processor Time	00:00:00.03
	Elapsed Time	00:00:00.03
	Dimensions Requested	2
	Cells Available	174734

[DataSet1] C:\Users\user\Desktop\gss04student_corrrected.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION	318	99.7%	1	0.3%	319	100.0%

RACE OF RESPONDENT * SUBJECTIVE CLASS IDENTIFICATION Crosstabulation

			SUBJECTIVE CLASS IDENTIFICATION				Total
			LOWER CLASS	WORKING CLASS	MIDDLE CLASS	UPPER CLASS	
RACE OF RESPONDENT	BLACK	Count	30	115	67	3	215
		Expected Count	27.0	111.6	73.0	3.4	215.0
		% within RACE OF RESPONDENT	14.0%	53.5%	31.2%	1.4%	100.0%

	OTHER	Count	10	50	41	2	103
		Expected Count	13.0	53.4	35.0	1.6	103.0
		% within RACE OF RESPONDENT	9.7%	48.5%	39.8%	1.9%	100.0%
Total		Count	40	165	108	5	318
		Expected Count	40.0	165.0	108.0	5.0	318.0
		% within RACE OF RESPONDENT	12.6%	51.9%	34.0%	1.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.990[a]	3	.393
Likelihood Ratio	2.995	3	.392
Linear-by-Linear Association	2.898	1	.089
N of Valid Cases	318		

a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.62.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.097	.393
	Cramer's V	.097	.393
N of Valid Cases		318	

X. A Tentative Research Plan: Quantitative Studies

Opening Statement

In this research project, new pattern of worse housing in Seoul city, South Korea will be examined in terms of its trend, socio-economic characteristic, and more responsive housing policy to address the challenges. A decent housing is an issue of interdisciplinary concern, urban geography, human right to decent housing, social stratification, economic polarization and so. The quantitative studies (Actually mixed one to be abbreviated for the purpose of final project at Walden) on new development of worse type Non-Housing Residences (NHR) in Seoul City (SC), South Korea, three as denoted below, will aid the concerned people and policy makers in government.

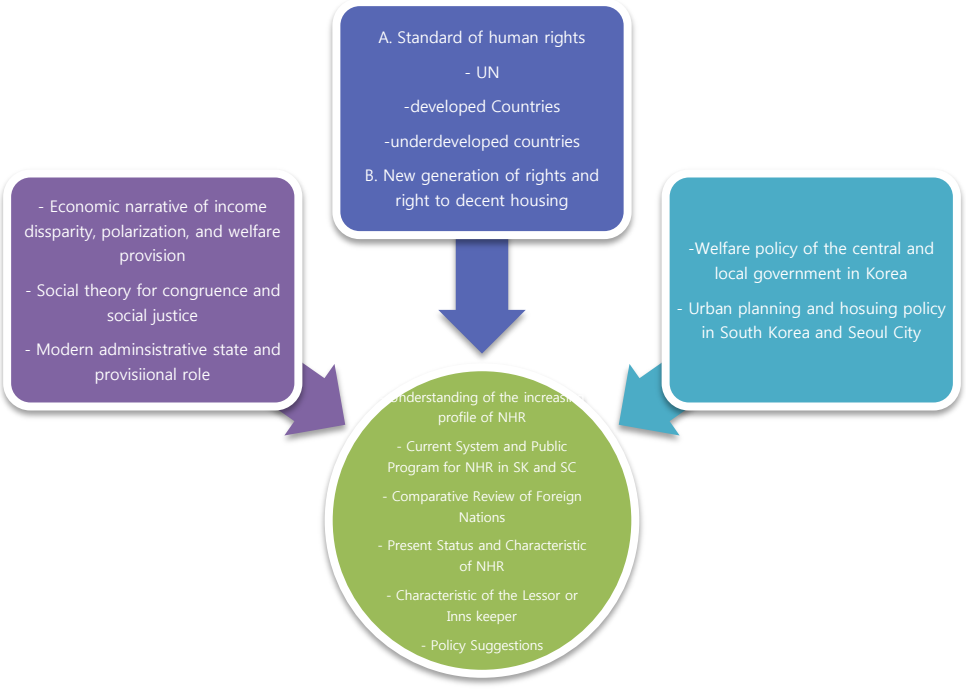
A Background of the Study

Summary of the Literature/Theoretical Framework

The *lassiez-faire* economy is generally considered to facilitate a material prosperity in the high speed on one hand, and contributed to a scope of social injustice from the structural flaws (Shin, K.H., Shin D.K., 2007). The modern administrative state began to involve remedying for a basic and decent standard of human condition. They are both regulators for the capitalists and collaborate with them for the common welfare and national prosperity. The regulated community may be generally drawn from the production side. Nevertheless, the government also turned to assume a bitter responsibility to address the group of weak bargaining power other than the enterprises and businesses. For example, homelessness in the American community has been one crunching issue for the human standard of condition. A poverty reduction comes as a priority if to focus on the recent trend in the US. They also require mobilizing a lot of fiscal resources to suffice an extent of social welfare system. The tax policy was pecked about its effectiveness and efficiency in the global jurisdictions. The UN and intellectual community now generally agree on the new package of second or third generation human rights, which includes a minimum wage, humanly labor standard, right to decent housing, public health and education (Universal Declaration of Human Rights, 2014). This national and international terms of human rights generally concern a restructured concept of social justice from the past paradigm of liberal capitalism (DiNitto, D. M., 2010).The literature shows that several levels of public program for residential improvement and financial support of worse condition residents had been enforced. We also confirm a law, public program and system which works to address the challenges of NHR problems in South Korea. However, the current institution and system mainly rely on the two statutes “Construction Act” and “Fire Safety Act.” This means that the minimum human standard of housing was outside the scope of due contemplation (The Korean Housing Act, 2014).

This requires that basic standard needs to be created, most effective alternative being evaluated for NHR improvement project, and establish a connection with the existing NHR plan of government. The literature or public document from the US, UK and Japan provides an acceptable standard of NHR policy and residential modality for the poverty class (The Japanese Housing Act, 2004). For example, the hotels afforded with the single room occupancy for the inflows of urban workforce, in the effect of 1970 gentrification, was responded with new zoning program where they had been mostly remodeled for the middle class residence. We also see a helpful standard of comparative evaluation or lesson from the UK and Japan, for example, Housing Act 2004, which instituted a Permit system on the houses in multiple occupation (2004).

(Graphic)



Gaps in Prior Research

As stated, the literature has been abundant with the decent standard and role of government in dealing with the welfare of Korean public. For example, the literature on legal theory acknowledged new concept of right to housing, which nevertheless lacks details depending on national particulars or policy resources Some public programs and contracts, not exactly a source of literature, have generally been pursued on a continued basis over the successive governments, in which the government may make a lower rate of loans for the household stripped from the housing difficulties. This area of public policy in South Korea, however, must be viewed as lacking or incomplete because the housing policy was narrowly focused on the statutory concept of "housing" (Tae-ho Do, 2009). Moreover, the safety standard in these types of housing has been neglected, in which the factors pursuant to the NHR were neither concerned nor investigated to provide a basis of adequate policy response. For this lacking, we could hardly find any plausible scheme or public program on the finance, loans and any tax benefit for this category of generally impoverished group. The theory and tenet created over the decades generally are that an economic polarization has been intensified to transform the society in a radical divide (Shin, K.H., Shin D.K., 2007). This generally leads to the understanding that a reality and policy response for these poor groups are necessary, but with no specific solution. From the literature and similar sources extant, we find a gap that failed to deal with the alternatives and due response for the NHR (Tae-ho Do, 2009).

In my research plan, the lessors or owners (LO) of three type NHRs often earn a considerable income profit from his business. Among the three, *Zsukbang* would be reported of least income, but the operation expense also is smallest to balance. They generally tend to be defensive against the investment for affordable room condition. *Koshiwon* and *K-Inns* seem to be more active about the investment and improvement of business facilities, which perhaps would be correspond with the higher income profit than *Zsukbang*. The logical fallacies from the literature generally arise from the Korean sources, most of which argues "more government or charity support would serve an improvement of three type NHRs for better dwelling condition." That argument is based on the premise that the LOs would faithfully respond with the support and increase the investment accordingly. This argument is pivotal in this area of research, which eventually intends to suggest the more effective NHR policy. The logical fallacies would be serious to provoke an extended investigation and evidence-based argument. Plainly, the investment support can well discourage the LOs, who would not volunteer to invest. This requires a distinctive approach and system from the charity or normal support where most critical repair or remodeling is necessary for safety and extreme deterioration. The logical fallacies also could arise from the misunderstanding of charity support, which is dispensed for the support of poor resident, not for the purpose directly on the improvement investment. This makes it dubious if the LOs would be willing to turn such support for repair or remodeling.

Importance of Present Study

A background for this research project has been driven from the non-housing residences located in the Seoul city, which shows a deteriorated quality as improper for the residential use. In this research, the "non-housing residencies (NHR)" is denoted from the general definition of "housing," perhaps most helped out by the statutory one as defined in the Korean Housing Act or the National Census. Practically, the types of NHR would include a Vinyl House, *Zsukbang (Z), Koshiwon (K)*, *K-Inns*, and public space of business operations, such as a PC room, *Sauna*, *Mangabang*, *Dabang*) (Korean Urban Research Institute, 2013; Reynolds, R. D., 2007). Nonetheless, the former three are most notorious to bring our attention as a social phenomenon or as a subject of public policy in Korea. For example, a most of Vinyl houses are used by family members, and the legal disentitlement of occupancy would necessitate a different nature of policy solution. The public business operations in the last category show significance in view of this research purpose, but the nature of occupancy or dwelling would not be clear crystal to blur our focus on decent housing. The three types are generally considered as most dominant for the residential use of stiffly growing one-person household, who are a new poverty class of Korean community. A physical pattern in use of the space would be afforded with one room and common space, which should be problematic from points of policy consideration, humanly standard to housing, public safety and health, any fostering condition for the crimes and misdemeanor. The populace exposed to these conditions seems to amount to 270,000 nationally and 150,000 around the Seoul city (Tae-ho Do, 2009). The policy makers in Korea have an awareness about this issue and share a concern in response with the remarked increase of this housing pattern. A recent example would be the fire safety system, and financial support for the deprived households. This new policy attention, of course, would be importantly related with the role of social welfare administration, and upgrades a national condition of human rights by realizing the stability in decent housing. Nevertheless, no systemic response was framed based on the empirical studies of NHR concerning its present status and tendency for the future.

The purpose of research has been driven to find the status of residents in the three types of NHR, say, *Zsukbang*, *Koshiwon*, and *K-Inns*, as well as the characteristic of space use and management (Korean Urban Research Institute, 2013). Based on the understanding, we may elaborate on the policy suggestions in response with their housing problem. They include, firstly, the minimal requirements mandatorily to be provided for those worse dwellers. In this end, we suggest a point of consideration on the NHR in making the housing policy. The residences for common public use have to be regulated to ensure a humanly minimal standard, and we discuss the necessary or desirable policy options and alternatives. According to the desire and characteristic of dwellers, the findings would be discussed in any implications on the related field of public administration, including the social welfare, unemployment, and fiscal as well as public housing. Finally, our suggestion includes one paradigm project to demonstrate an improvement of non-housing condition, which involves a massive reform of the basic interchange on this issue.

Problem Statement

In this understanding, I have identified two salient problems on the social welfare administration in the countries. A housing, along with the food and clothing, is one of three basic conditions to determine the welfare of citizens and people (Bratt, R, Stone M., Hartman, C., 2006). Homelessness definitely would be a most ready problem we have kept over a period of public attention and concerned deeply to restore the shared community. The policy makers and researchers generally undertake a square of efforts to investigate, involve and cure, but we failed to see any remarked of progress or improvement. The issue of homelessness is viewed as a general of policy point shared largely by the global jurisdictions. Other problem, as less highlighted in terms of the decent human housing, may be said as particularized to a specific national condition or cultural sharing. The decades of Korean experience in the wake of globally economic restructuring and turbulence might incur a new cultural mode of housing subsistence. The *Koshiwon, Zsukbang,and Korean Inns(K-Inns)* are three representative paradigm of deprived

class in maintaining their feeble standard of living arrangement (Korean Urban Research Institute, 2013). It could not be termed as homeless since they culturally recognize such poor quality of space as their home. Given an expansive definition of homelessness, it might be classed as such, but not to be seen as plausible. In any more general eye over the nations of cultural difference, it can be matched up finely, in the same concern and policy classification, with others, such as the *Igloo* for an Eskimo, African shelters and Mongolian *Gers.* The differences, however, would be well guessed since the three types are modernized, but poor, and practically from a worse economic status of person or household. The residents may be a layoff from the 1994 IMF financial crisis and for other personal misfortune in managing their personal and household economy (Shin, K.H., Shin D.K., 2007). This housing pattern, therefore, tends to stigmatize a recent rise of economic polarization in South Korea, high crime rate and suicide. I believe, as a corollary, that the problem well provokes the policy makers as a first priority within the social welfare agenda list.

The Purpose of Statement, Research questions and Hypotheses

Research Design

In response with the changing trend in view of the residential mode within Seoul city, the author has been inquisitive of an accurate profile, including its status and characteristics, as recently developed within the NHR. The research project was phased into several stages from the status and characteristic of NHR, current law and system pursuant to the national housing administration, comparative review with the foreign nations, such as Germany, England, and other western countries, architectural or constructional issue on the space design and use, and finally through the implications of research finding for the improvement and reform of the current national housing policy (Korean Urban Research Institute, 2013). The mixed method was applied to finalize the project, which includes a public survey and in-depth interview with the residents within the sample. The investigation on the documents and record were undertaken particularly to respond with the second and third stages. Some skills and experts on the space design and use were employed to disclose the problem of worse space use in the mid of chapters.

In purpose of this assignment, however, I may only need to address the quantitative method about the public survey and the sample of NHR residents. A sampling was completed according to the veritable statistical formula, and ethical guideline was faithfully upheld through the months of survey period (Creswell, J. W., 2009).

The Theories, Research Questions, Hypotheses and Variables

In formulating the research questions, I have surveyed a scope of literature and national statistics in terms of the welfare and housing policy and their current status in South Korea (Creswell, J. W., 2009; Frankfort-Nachmias, C., & Nachmias, D., 2008). The literature has been abundant with the decent standard and role of government in dealing with the welfare of Korean public. Their focus seems elaborated on the new concept of human right, issues of urban planning, economic disparity and welfare policy on the marginalized group. Narrowing our concern, we can see an initiative or public programs on the new housing policy, *Happiness Shelter* (HS) and other similar nature of financial support for the degraded class of Korean society (Tae-ho Do, 2009). The HS was created over the past election campaign for President M.B. Lee in 2007-2013 (The Korean Housing Act, 2014). Other public programs and contracts have generally been pursued on a continued basis over the successive governments, in which the government may make a lower rate of loans for the household stripped from the housing difficulties. The creative reading of these sources generally suggest that the standard or requirement for normal housing policy would not serve effectively for the marginalized condition of NHRs. They also advise that non-intervention of government is highly problematic. Their general guideline would be (i) the three countries manage a dual of policy response to deal with the general housing policy and that of NHRs independently (ii) the NHR policy is highly dependent on the practical variants and particulars of locality (iii) the NHR policy is not separated from the welfare policy of

poor class, and combined to sustain a minimum standard of human rights. From these theories, we can develop four hypotheses.

Hypothesis 1*: The number of NHR has been sharply increased over the decade in Seoul city.*

Hypothesis 2: *The residents of NHR would be economically disprivileged, largely solo and aged, driven to this mode of shelter for economic reasons, and psychologically depraved against a bright future.*

Hypothesis 3*: The lessors or owners of NHR would not be active or encouraged to improve the housing conditions of NHR.*

Hypothesis 4: *The city government is now ineffective to respond with the problem of NHR from a lacking or insufficiency of the paradigm, system and law*

From the theory and hypothesis, I will derive four research questions; (i) How significant can we ascertain the increase of NHR in Seoul city (ii) Why did the NHR multiply in number? (iii) What characteristics can we find from the NHR in terms of the personal and household demography, motive, economic status, and distribution within the three types (iv) Are the current system and law adequate concerning the urban housing policy in Seoul City, or how can we improve or reform it?

The independent variable in this case is two, i.e., household and resident of the NHR. The dependent variables would be (i) the personal and household demographic of NHR, (ii) motives of opting for this type of residence and their personal attributes (iii) the factors to choose any specific type of residence and their status (iv) economic condition (iii) prospect or plan of the NHR residents for the future housing (iv) characteristics within the three types of residence (vii) managerial aspect of lessors of the former two types and owners of *K-Inns* (viii) their intention to sell, improve, remodel.

The research goal for the NHR project was driven to disclose the present status of residents in a deteriorated housing condition in Seoul City (SC), its implications for the socio-economic trend, and feasible solution to improve it with a more responsive public policy, system and law. As I have classed, we can identify three most prevalent modes of NHR, *Zsukbang, Koshiwon,* and *K-Inns,* which are generally sensed a product of polarization from the income disparity or poverty in SC (Kiyoung, K., 2014; Korean Urban Research Institute, 2013). The independent variables in this study would be those three types of worse residence, and dependent variables will span considerably wider in response with the research questions. In this consideration, I have derived a number of dependent variables in five superior sections The five superior sections include (i) the residential section, (ii) social welfare and public aid, (iii) economic (iv) health condition, and (v) demographic characteristic. Within each section, I have developed a cohort of dependent variables to be considered valuable to prove the hypothesis and answer the research questions. For example, the residential information of past and present, availability of alternative residence, the way to obtain a current residence, inner facilities of current residence, personal satisfaction and some others were set to illuminate the first section. In the second and fourth section, I simply surveyed two dependent variables, which, for the first, are his or her recognition on the housing welfare programs, experience thereof, need, reason to maintain out of the programs and their desire from the public aid programs. For the second, I have had intended to contemplate on a chronic disease and disability from the research samples. For the third and fifth sections, we probably find a most of common survey variables on that section. For example, age, sex, married status, educational background and etc. were selected as dependent variables for the fifth, and employment status, average monthly income, expense, savings, financial default and national programs to reconstruct were entered as dependent variables for the fourth section. In totality, the number of dependent variables amounted to 28, which are distributed within each of five sections (2014). Figure 1 shows a grand summary on the sample size for three stages of research operation, to say, face-to-face interview survey, in-depth interview, and physical examination of NHR.

(Figure 1) Grand Summary for SC NHR Project

	Research Subject	**Sample Size**

Research Method		*Zsukbang,*	*Koshiwon*	*K-Inns,*	Total
Face-to-Face Interview	Households of NH	100	200	100	400
In-depth Interview	Resident of NHR	10	10	10	30
	Lessor or Owner o NHR	6	7	6	19
Physical Examination	NHR	2	4	3	3

Nature of Study

The Research Design

i. A Paradigm

According to Frankfort-Nachmias, C., & Nachmias, D., one of paradigmatic research design would be an experimental one which has been widely used in the biological and physical sciences (2008). The classic experimental design is predicated on various concepts or elements, such as pretest and posttest, and most importantly among three variables, i.e., dependent, independent and control. The experimental design may be developed in types (2008). The quasi-experimental design has a characteristic where the researchers cannot manipulate a test subject since it is generally inherent as gender, race, ethnicity and residents or households about the income dynamics in the long term studies (2008). Most of social scientists perhaps may be entangled with this phase of concern, who often employ and benefit from this type of research design. Hence, here do we find no pretest and posttest paradigm unlike the controlled experimental design, which is most determinative to excavate a cause and effect relations between the variables. Often this facet may be practically related with a dimension between the natural and social sciences. This means that the internal and external validity could not be completely ensured in the research of social science, which more essentially depends on the wisdom and creativity of researchers (2008; Creswell, J. W., 2009).

ii. A Design

The research design I applied to this project may be properly viewed as quasi-experimental or cross-sectional one, which is most popular in the disciplines of social science (Frankfort-Nachmias, C., & Nachmias, D., 2008; Kiyoung, K., 2014). As framed, the independent variables could not be manipulated from a pretest and posttest typology as traditional with the experimental design. The intrinsic and extrinsic factors would be conceived in spectrum to locate a reality between the independent and dependent variables and to construct any meaningful relation of research findings with the values or hypotheses and eventually answers or suggestions for the research questions. The research project is not longitudinal in time element, so that their can we see no reason to employ a time-series design or panel form of cross-sectional research. We can find a covariation in assumption between three types of NHR and other dependent variables, which will be ultimately tested through the research operation. Given the research goal on the deteriorated residential condition and adequate policy response, my research frame penetrates the core of variables highly relevant with an effective and efficient policy making, which means as correlated and nonspurious. Time order may be partly related since the tendency toward these types of NHR had been accelerated around the late 1990's and early millennium when the IMF crisis and economic polarization has impacted to produce a large of poverty class in Korea (Shin, K.H., Shin D.K., 2007). Nevertheless, time order would not be major in this case, although dealt in secondary concern as one component of dependent factors. This is because the research goal was principally driven to various causes, present status, human and social condition of worse dwellers as well as to suggest any most effective policy response, say, reform on the housing law and improvement of the system and public administration. As I have briefed, the independent variables possess a property-disposition characteristic, which disables a manipulations and randomization. Three types of NHR are given absolutely like the race, gender and ethnicity. Although a cognitive threshold may be possible, it generally poses no public question, such that "what is Z or K and K-Inns?" We can

identify easily from their shingles, size, public registry, most decisively in the official classification already established, which is perhaps in the same level as with the blacks or females. A randomization is generally no attribute in the quasi-experimental design, which needs to be made distinct from a statistical strength of verification (Frankfort-Nachmias, C., & Nachmias, D., 2008). Nonetheless, seven districts were chosen for the interview survey which encompasses a principal region for these dwellers. Within each district, we considered the number of populace to decide the sample size. A comparison was planned, but the results are expected to yield no significant differences, which might compel a different policy dose beyond the SC leverage. The internal validity was ensured to apply a same content of survey questionnaires and controlled in proportionality with the dealings and analysis.

iii. A Rationale for the Design

I have developed four hypotheses, which are considered to relate with the research questions and eventually implication or suggestion for the reform on law, system and institution (Kiyoung, K., 2014). The hypothesis 1*: The number of NHR has been sharply increased over the decade in Seoul city."* has been derived from the scope of studies which argue on the economic crisis and polarization. A null hypothesis generally tends to decrease the merit of study, but not void the research project itself. This hypothesis does not necessitate several types of quasi-experimental design, such as the planned variation design, panel and time series design, nor control-series design. In the planned variation design, we expose individuals to stimuli that have been systemically varied in order to assess their causal effects (Frankfort-Nachmias, C., & Nachmias, D., 2008). We receive the NHR and individual residents as are, and merely in the time period during the research operation. Hence, the method and panels on time series design would not be a good choice. In some ambit, the more effective research design may enrich an understanding from diverse factors and spectrum of concerns. That would be for the future research, which might require a more time and effort. We may assume if the NHR in other cities may be set to deepen a comparison. The control series design tends to have same problem partly because they share a same attribute from the indecent condition of residences, and because it requires an extensive scheme on research operation (2008). Therefore, we may safely view that the research design may serve any better by employing a plain contrasted group one. Basically, the established data or statistics available from the government and public sources largely suffice our need on the hypo-1, and we must be sufficient with the frame of three modes as a contrasted group. This logic and working attribute of NHR research generally would govern other hypotheses in similar ways. For example, the survey questionnaires may be delivered plainly without a stimulating strand, and based on the popular fashion to address this kind of public issues. The planned variation or panel on time series design needs not be exploited in this condition, and the difference in content from three other hypotheses would have no meaning in terms of research design since the information would be generated from the interview survey of NHR residents as well as lesser or owner. For example, the interview survey on the hypo-4 "*The city government is now ineffective to respond with the problem of NHR from a lacking or insufficiency of the paradigm, system and law"* would be evaluated in the five scale of ratings, "(a) very infective (b) ineffective (c) normal (d) effective (e) very effective."

The research questions for the NHR issue have been developed in four folds, "(i) How significant can we ascertain the increase of NHR in Seoul city (ii) Why did the NHR multiply in number (iii) What characteristics can we find from the NHR in terms of the personal and household demography, motive, economic status, and distribution within the three types (iv) Are the current system and law adequate concerning the urban housing policy in Seoul City, or how can we improve or reform it?" (Kiyoung, K., 2014; Creswell, J. W., 2009). While the part of quantitative reasoning within the complete phase of this research project basically relies on the existing data and statistics as well as interview survey, a longitudinal approach generally does not make a sense given that the problem and issue would not be affected by the time elements. Time order in comparison and evaluation may be thought, but that requires other quality of research questions. To say, we may need to compare a first-time policy

application in later years, but this is not a concern in this research project. As viewed above, the control series design has to be deliberated in the same manner about the hypotheses (Frankfort-Nachmias, C., & Nachmias, D., 2008). The research project may be viewed as pre-experimental or one-shot case studies (2008). But this view would not be precise since the survey method is experimental in nature. As the NHR research for SC may involve a specific region and largely is static, it may be argued that it should be received as one-shot case study. This perspective also seems not be complete from the traditional classification since the research findings would be finally related with policy suggestions. It also provides a new knowledge and findings from the public survey and will be constructed to understand the holistic picture of the NHR in SC. I have set two independent variables and a scope of dependent variables, which were assigned within each of five sections. As you consider, the previous account concerning the hypotheses and research questions would pertain leading to my choice of research design. One note is that, as stated, it includes a useful comparison among the three types of NHR. In this case, we may find some nature of factorial designs where researchers might gain more insight by studying the effect of two or more independent variables simultaneously (2008). Therefore, the research design may possibly turn on a hybrid one as mixed with the factorial design although it is adequately classed as quasi-experimental.

Methodology

i. Population

The interview survey will be conducted by the sampling method, the selection of which is random and shaped to be statistically valid in size and distribution. In the next step, the Kronbach's alpha and other feasible frame of legacy, such as regression on the bivariate analysis and to validate the reliability of data, will be tested via the SPSS program (2008). The sample size would be 100 for Z, 200 for K, and 100 for K-Inns. The questionnaires include; (i) housing conditions, (ii) welfare benefit and public service, (iii) economic activities, (iv) health condition, (v) data on the respondent, (vi) household members and households. The result of interview survey provides a descriptive understanding of present conditions as corresponds with the respective type of NHRs. The survey result, of course, would not disclose the whole of NHR populace accurately. This requires a more work to provide the approximated reality of whole populace to respond with the needs on much important points selectively. Otherwise, the information and data merely were on the result of sample survey. The approximated reality of whole populace could be calculated by multiplying a weighted number in scale, which figures from a ratio between the whole number of each NHR and sample size (Reynolds, R. D., 2007; Bennet, J.O., Briggs, W.L., 2007). In my specific frame, the weighted number should be as follows.

(Figure 2) WNS for the Whole Households of NHR in SC

Category	Z	K	K-Inns	Total
Approximated number of households	2,977	138,805	2,847	144,629
Sample Size	100	200	100	400
WNS	29.77	694.03	28.47	-

- WNS = AH/SS

(Figure 3: WNS for the Whole Residents of NHR in SC)

Category	Z	K	K-Inns	Total
Approximated number of Residents	3,009	144,367	3,008	150.474
Sample Size	100	200	100	400
WNS	30.99	721.8	30.18	

- WNS=AR/SS

ii. Sampling

1. Type of Sampling

A sample design need to be contemplated which covers, in the larger class, probability and nonprobability sampling. Within the probability sampling, we can identify three sorts, which are convenience samples, purposive samples, and quota samples (Kiyoung, K. , 2014). Any accurate measurement of the population parameter (PP) can be achieved only with the probability sample. Probability sample design includes many, but four sorts are considered to be most commonly used by the social scientists, which are the simple random samples, systematic samples, stratified samples, and cluster samples (2014). In the design, the sample size can be calculated so as to be verified on the basis of statistical science. In this respect, we need to recall on the kind of concepts, say, standard deviation, confidence interval, and so (2014). We have some issues here about the sample strategy. In the cluster sampling, the researchers implement one type of probability sample that involves selecting grouping of units, then, selecting sampling units from those clusters (Faltas, I., 2014). In the probability sample, we use representative sampling to ensure that a variable's value found is drawn from a given population without differing parameters and nonprobability sample is a method in which there is no way of specifying the probability of a units inclusion in the sample. In my research plan, the simple random and stratified sampling will be implemented where the population is first divided into homogeneous strata, followed by sampling conducted within each" stratum and the collaborators assign an equal probability of being selected to each of the sampling units of the population.

2. A Sample Frame of NHR Research Plan

As a matter of research design, NHRs have three types, Z, K, K-Inns where the resident and household within each type of NHRs would be independent variables. They also comprise a sampling population from which we contemplate on the sample frame or sample design. As the cost and resources are limited, the investigation was conducted on the sample units, and we consider the probability samplings would make the frame more scientifically convincing or comprehensible with a due condition of random and unbiased selection, and later tested on the kind of statistical indicators, such as confidence interval or standard error. For example, the sample units of Z were conjectured in proportionality with the sample population (Korean Urban Research Institute, 2013). The whole number of Z residents was 3,099 in 2011, and 3.2 percent was selected for interview survey.

(Figure 4) Data to Show the Sample Strategy on Z type

Category	N/R	PN	N/SU	AN/SU
YD	554	16.2	18	20
ND	767	24.2	25	25
YS	873	28.0	28	30
JR	529	21.5	17	15
DD	376	10.1	12	10
Total	3,099	100.0	100	100

- **Z, K, and K-Inns refers to three types of NHR respectively**
- **N/R : Number of Residences**
- **PN : Percents**
- **N/SU : Number of Sample Units**
- **AN/SU : Adjusted Number of Sample Units**
- **Two words initial, such as JR, refers to the name of district/Three initials below, such as YDD, represents parish or chunk.**

K is known as most dominant form of solo residence within the three types. In the end of 2010, the number of K residences was 4,897, K residents being totaled at 140,000. The facilities, interior, and rental fee would range in span. Most are small rooms partitioned in a mosaic of internal space, which may range around ten square foots and 100 US dollars per month. Some rooms are affordable with a shower room and

toilet for 500, US dollars. The characteristics of residents are in types, i.e., waged workers, college students, day workers, and temporary residents from the government support. K residents are most diverse in characteristics so that sampling strategy is most pressing to reduce a bias and maintain an equal representation from a sort of sample population. The district, rental fees and level of provisions or affordability need to be considered. Hence, stratified or cluster samples can be developed principally on the basis of four types of K distribution in the region, and one type will be added to represent the region of poorest class. Provided if the researchers want to verify a scientific profile by the statistic analysis, the sampling can be classed as stratified one. As said, the residents can share a common propensity as a resident of dehumanized dwelling condition. In details, typically on the K residents, we also view from the differences of group on several characteristics. As known, stratified sampling primarily is to ensure of adequate representation from the different sample population and increase the level of accuracy when estimating parameters. We generally recognize two types in stratified sampling, a proportionate stratified sample and disproportionate stratified sample (Frankfort-Nachmias, C., & Nachmias, D., 2008). We plan to apply the disproportionate stratified sample since the characteristic of samples are highly divergent and non-patterned. Further in this aspect, the idea of cluster samples will likely be employed to respond with the hypotheses. Most of four hypotheses will survive a test which would likely not be a null hypothesis in the event. In the sampling design, we will select two most impressive districts which are patterned strongly across the characteristics, and several chunks within each district will be investigated. Finally, the sample size was set at 200, and it explains 0.1 percents from the sample population.

(Figure 5) Data to show Sample Strategy on K Type

Category		Region Covered		N/SU
Type 1	Univ. Street	SD	DHD/YHD/CCD	20
		MP	NKS/SKD/SSD	20
Type 2	K Town	KA	DHD/SLD	20
		DJ	NRJ	20
Type 3	Com. Area	KN	SSD/YSD/NHD	20
		JR	YDP/SPD/KSD/KCD	20
Type 4	Resd. Area	KS	HKD/BHD	20
		DD	SSD/YDD/JKD/JAD	20
Type 5	Ghetto (Cluster of the Poor)	YD	YDP/YDP 1-6	20
		YS	KWD/NYD/DJD	20
Total				
200				

K-Inns were dealt to reflect the size of residents, sample population, and implemented the stratified samples in the end to yield a proportionate stratified samples. Six districts were equally assigned the number of sample units in proportion with the number of long term customers. However, from the experience of past studies, a considerable number of owners of K-Inns are unwilling to cooperate, hence, the access to the residents will seem hindered. One other trouble is to draw an agreement of interview time because the attitudes or living style of the Inn’s customers could be unlikely to be routine. Our initial plan, then, will need to be adjusted which requires to add additional districts and lower the number of sample units already assigned. Finally, it is expected that the interview survey will include 8 districts and 5-20 sample units for each district. It is estimated to be 3.6 % of sample population, the long-term customers, say, residents of K-Inns, which would be numbered at 2,800 within the SC.

(Figure 6) Data to show the Sample Strategy on K-Inns

Category	N/R	PN	N/SU	N/ASU

KB	**178**	**17.3**	**20**	**-**
KS	**115**	**11.2**	**10**	**10**
KW	**117**	**11.4**	**10**	**5**
DD	**219**	**21.3**	**20**	**15**
YD	**160**	**15.6**	**20**	**20**
YS	**111**	**10.8**	**10**	**10**
JU	**128**	**12.5**	**10**	**10**
JR	**97**			**20**
KT	**91**			**10**
Total	**1,216**	**100.0**	**100**	**100**

- **Approximated number of sample units**

3. Sample Size and Statistical Analysis

As instructed, the sample size analysis enables a fine and concise frame which explores statistical power, such as alpha and effect size. Statistical power or simply said as power, is generally referred as probability to be correct between a real treatment effect and the outcome of sample research (Laureate Education Inc., 2014). As the sampling researcher ultimately desires to most closely approximate the reality, as called population parameter, they tempt to measure the proximity of sample outcome in precision and accuracy. Often the standard practice requires 80 percents in the statistical test (2014). This means that the null hypothesis would be correctly rejected 80 times from 100 repeating times of sample test. Alpha would be a same idea with the kind of confidence interval, and indicates the probability of correctness by percent number. Alpha often would be set at .05, which means there is 5 percent chance that the sample findings would be wrong (2014). Two terms are within the discretion of researchers, but largely conventional in some aspect, who consider the sampling strategy with various factors, such as research funding and expense, time, the nature of research problem, external conditions on sampling, and many practical variants. Effect size would not be predetermined from the conventions or standard practice and unlike the two terms. It gives an indication of how large an effect is or how strong a relationship is. It is calculated by hand, and Cohen's d, square of the correlation coefficients, R^2(from a multiple regression, and square of w; (measure of effect size for analysis of variance) (2014). There is no definite parameter to decide the best effect size between large and strong, and generally depends on the nature of research or preference of researchers. Therefore, it might be a good practice to explore a number of ds, and determine sample sizes accordingly. In the psychological studies, the small to medium effect size is conventional (2014).

In my research plan, the study examines 3 different conditions or types of NHR and their effect on the discontent, anxiety, socio-economic problems, such as degraded human subsistence or relationship with the socio-economic status (Shin, K.H., Shin D.K., 2007). In the relevant literature on this type of research, the average R^2 found in studies was .06 which was the estimated effect size. I am pursuing to ensure alpha .05 and power .80. Under this condition, I was led to go to the table labeled "Analysis of Variance" which is used to compare more than two groups (Laureate Education Inc., 2014). I was advised to find K located in the far left column labeled K, and to find the indicator of estimated effect size in the second left column labeled 1-β. Finally I can read a recommended sample size, 52 for each three types of NHR. As the sample size was determined to be 100, 200, and 100 for each type in my plan, it is largely expected to make a full-scale effect very powerfully and to be highly valid in measuring our phenomenon.

The sampling size for the studies of NHRs needs to be checked since the determination is an essential component of study. We need to ensure that we have enough people to answer our questions with any level of confidence. There are several attributes in the strategy of sample

size (i) a larger effect size decreases the required number of participants (ii) larger sample sizes are best for enhancing the ability to detect effects and relationship (iii) sample size calculations are not difficult to do (2014). Some caution taps, for example, concerning the care to select sensitive measure with the established reliability and validity, reasonableness of size and cost effectiveness, and explicitness of source information on the conventional level of sample size for the specific field of study. In the above, we have explored, concerning the NHR research, sample population, its estimated size, the ways to draw samples, type of sampling, and finally did calculation on the sample size. That is considered practically most precise to the PP, and cost effective given the feasible resources and time. The sample size is relatively larger, and the reliability as well as validity seems to be statistically verified from the conventional practice on the kind of Housing or NHR research.

4. Instrumentation and Materials

The survey instruments were structured to test a wide of relevant information, which can testify on and form the basis empirically necessary in shaping a more responsive NHR policy. The scale items were developed by implementing a due process often exercised to concern an index construction. First, I have compiled a possible scale items which are evaluated as pivoted with the NHR problems. The independent variables in this study would be those three types of worse residence, and dependent variables will span considerably wider in response with the research questions. In this consideration, I have derived a number of dependent variables in five superior sections The five superior sections include (i) the residential section, (ii) social welfare and public aid, (iii) economic (iv) health condition, and (v) demographic characteristic (Kiyoung, K, 2014-1). Within each section, 28 possible scale items, or indicators to be measured (sub-variables in other sense), were developed, which will later turn to be proven as acceptable both in terms of the validity and reliability. In progressing on the possible scale items toward final ones, I have introduced four factors to compute the discriminative power of possible scale items, and will conduct to verify its validity and reliability. That way of approach would be based on the process of factor analysis from the Guttman scaling (Frankfort-Nachmias, C., & Nachmias, D., 2008). A factor loading was implemented and the four factors in this case center on the dissatisfaction or dehumanized condition of NHRs, which are composed of (i) government support or engagement (ii) social culture (iii) LOs and neighborly quality (iv) familial condition. The coefficient of reproductability is an important concept to deal with the Guttman scaling, which measures the degree of conformity of the scale to what would be a perfectly unidimensional and cumulative scale (2008). Some of scale items were tested by the five scale of ratings, a commonly used form called the Likert scale. In this case, the information would be generated directly from the interview survey of NHR residents as well as LOs. For example, I may measure and compute the collected sum of values to measure the effectiveness of city government on the NHR problems. The values will be assigned 1, 2, 3, 4, 5 for each five scale of ratings, “(a) very infective (b) ineffective (c) normal (d) effective (e) very effective.” (Bennet, J.O., Briggs, W.L., 2007).

Reliability and Validity

A reliability refers to the extent to which the measuring instrument contains variable errors, which is related with the characteristics of measurement instrument (MI) than three areas of measurement validity. In this case, the result of measurement may vary across the time of observations and be inconsistent to question if the MI is reliable. The factors to distort a consistency may arise from respondent’s momentary distraction, ambiguous instructions, and technical difficulties in survey operations (Frankfort-Nachmias, C., & Nachmias, D., 2008). In nature, the measurement of social phenomenon is more vulnerable in terms of the reliability than that of natural science research. The reliability of measurement varies on a scale from O to 1. O means that the measurement displays nothing but error, and I means the measurement displays no variance error at all. In reporting or ensuring the reliability, three methods are generally in practice, which include test-retest validity, parallel-Forms technique, split-half method (2008). In my research plan, the first method will be applied to evaluate the reliability of measurement

instrument.

The instrument itself may be questioned if a measuring instrument exhibits the intolerable extent of variable error and it may be compared with the previous measurement instruments to explore the tendency of response or its reliability. A reliability in my case concerns uniquely the first question given that no previous research empirically has been undertaken or identified in the field of NHRs. In order to ensure the reliability, the research team implemented two phases of interview survey which was conducted twice in time interval of one month. The survey results in both times show no significant variance, and performed a validity and reliability check from the statistical analysis. Frequencies, standard deviation, confidence interval and other ways of computerized process were executed, such as Cronbach's alpha, regression analysis, correlative coefficient and so (Frankfort-Nachmias, C., & Nachmias, D., 2008; Miller, D.C., Salkind N.J., 2002). A reliability generally turns out to be verifiable, and the scale items could be tested to reduce into the item set of most discriminative power.

As we learned, the central assumption on measurement in the social science underlies, first, a kind of imperfection rooted between the phenomenon and symbol or number used to measure. This would be an impeccable reality since it arises inherently for the empirical scholars. The second assumption is the extent of isomorphism which means "similarity or identity of structure" where we consider the validity of measurement structure between the concepts of being measured and the numerical system (2008). This aspect is critical, though not exhaustive in details, to contemplate on the three types of measurement validity. The content validity enables to cover all the attributes of the concept we are trying to measure, which deals with the propriety of measurement instrument. In this dimension, we need to consider two kinds of validity, face validity and sampling validity. The face validity requires a most reasonable frame of measurement instrument (MI) which is based on subjective evaluation. As I have stated, the unit of analysis and points of emphasis to structure the MI will be extensive in the end to include all the attributes about the big sections of inquiry. For example, the concept of economic status will be measured with the span of attributes, income level, unemployment, willingness to work, and so on (Creswell, J. W., 2009; 2008). The measurement validity was tested statistically and the concept of WNS was used to most closely approximate the reality of whole populace. In terms of empirical validity, the researchers prefer to validate any meaningful relationship between the MI and measurement outcome. In some cases, they may yield a correlation coefficient to test an empirical validity, and compare with other external measures in assessing the results they expect to obtain. In the latter, we call it a predictive validity and the modern computer program can do provide a much help to phase this aspect of research operation. For the construct validity, the researchers need to study the concepts and most plausible criterion to measure. In order to perform the construct validity, the instrument must display coherence between the measurement and general theoretical framework (2008). In my research plan, we measure an unemployment and age which are generally considered to factor a public insecurity and high crime rates. As one important research goal is to suggest any most effective public policy on the NHRs with respect to public goodness, the measurement on these two variables can serve the construct validity.

Limitations

The internal validity may shrink if one argues that other mode of residences must be studied because of its influence. Despite a persuasiveness of this argument in the hypothetical assumption or odds, it is practically slim to tarnish the research design any significant way. That is principally because those are salient to occupy the social issue of deteriorated residential condition and poverty, and also because the definition can well be adaptive to make an effective coverage. External factors might also be brought to challenge the external validity of research, to say, generizability of research outcome for the cause and effect relations basically between the NHR and economic poverty (Kiyoung, K., 2014). Hence, the creativity of researchers would be required to frame more persuasively by including other factors in relevance and influence. For example, his educational background, the intent and willingness of LOs of NHR to remodel or repair, personal motive to reside in NHR and other factors may be

introduced to approximate a most perfect account for the causal relations at extent possible. In some cases, a rich solo may wish to reside in small one man space, and chose to reside in Z or K. In other cases, the LO's reluctance to remodel or repair may cause to prevent a decent standard of housing. This aspect would certainly be less powerful to explain these modes of residential problem than the economic poverty. Nonetheless, this wider frame could increase power of general persuasion by illuminating a most proximate picture about the truths. The research project is not longitudinal in time element, so that their can we see no reason to employ a time-series design or panel form of cross-sectional research.

The MI would have a strength that the inconsistencies between two observations are insignificant, which is principally because it measures a number of objective things or phenomenon. Given the affordable condition for the interview process, the measurement is highly reliable (Creswell, J. W., 2009). One limitation may arise that the interviewees in some scope are aged or mentally less sound, which brings a level of care to investigate. I also have stressed the strengths of MI in terms of measurement validity. Nonetheless, the limitations are never absent. For example, the construct validity may be questioned given a narrow scope of housing policy and especially in terms of NHRs. We can find no significant research work on NHRs, which makes it difficult to exercise more meaningfully on the construct validity. The content validity may not be perfect if we need more subjective profile of data and information for the residents. This requires a mixed method by conducting another phase of in-depth interviews for the selected few.

Scale, Test and Data Analysis Plan

We can derive two points in stress about the index construction. First, the source data, in some cases, need to be adjusted in response with the time elapse. As seen above, the weighting process can also create a new base for quality data in approximating the survey result for the entire population. We are required to aggregate the values assigned to the items to measure, which may be performed on the basis of simple or weighted aggregation. In other case, the researchers may need to select the source data, compare them, and shift to create a new base. Second, the validity and reliability have to be explored to design a most reasonable composite measure. Hence the Lickert scale in part, which characterizes the five scale system in interview survey comes into use. The Guttman scaling is also employed to test the scale items and factors, which provides a basis to establish the validity (Frankfort-Nachmias, C., & Nachmias, D., 2008). Then the completion of this process can produce a most valid measurement instrument which is the ultimate purpose of scaling work. A test is more operational in sense and practice as the definition suggests. The Likert scale is generally prevailing, and that expectedly is not exception in my case. A test is generally not against our intuitive judgments, but still effective to vibrate the research work as one of understandable feel of phenomenon. For example, the educational level is highest in the residents of K among the three types, which was zoned in its nominal title to afford the rooms or facilities for the students or examinees of national exam. For the Z and K-Inns, we expect that the residents are more aged than K, which would lead to the most worse data on health condition. The turnout had not disappointed our intuitive judgment. Nonetheless, the figure or charts created on the basis of survey outcome and filled with a specific number enhanced the research work as palpable and comprehensible. Figure 7 shows a quantitative result on the educational level of NHR residents. For one example on the statistical analysis with SPSS, I have attached a short data for 100 NHR residents (not 400) and the output file about several tests. This process will be extended for each set of data and variables, such as income level, employed and unemployed, social benefit recipient and none, solo and others, and so on.

(Figure 7) Educational Background for the NHR Residents

Category	Z		K		K-Inns (1)		K-Inns (2)*	
	Freq.	Per.	Freq.	Per.	Freq.	Per.	Freq.	Per.
PS	16	16.0	8	4.0	5	8.5	4	10.0

GPS	**22**	**22.0**	**7**	**3.5**	**3**	**5.0**	**14**	**35.0**
GMS	**27**	**27.0**	**18**	**9.0**	**14**	**23.3**	**11**	**27.5**
GHS	**25**	**25.0**	**47**	**23.5**	**29**	**48.3**	**11**	**27.5**
CLl	**9**	**9.0**	**119**	**59.5**	**9**	**14.9**	**-**	**-**
M	**1**	**1.0**	**1**	**0.5**	**-**	**-**	**-**	**-**
Total	**100**	**100.0**	**200**	**100.0**	**60**	**100.0**	**40**	**100.0**

- **PS : entered the primary school without a diploma or below**
- **GPS : graduate of primary school**
- **GMS : graduate of middle school**
- **GHS : graduate of high school**
- **CL : college level or above**
- **M : Miscellaneous**
- **K-Inns (2) are worse in condition than (1).**

Ethical Concerns

As the research involves a harm and risk, researchers are required to be seriously committed to the ethics of research. For example, a due respect of animal rights in the research of natural science has been contested and incorporated as one ethical chapter. Historically, two important incidents could give us a lesson for the ethical standard of research, one from the Nuremberg War Crimes in 1940's and Tuskegee Syphilis Study around 1950 and 1960's. By the 1990's, the paradigm patterned in the research ethic has changed in some sensitive area, such as cancer research about the immortal patients, so that any more audacious undertaking of experimental research was desired rather than being passive over the concern of considerable risk. While we regret an inhumane treatment of research subjects in the past, the patients, in such slim hope for recovery, would actively demand to run the risk of research operation. Therefore, it became tumultuous depending on the environment of research, changing nature of human need or condition as well as safety or decency standard. The ethical issues involve the elements of command and requirements, in which we perhaps can be keyed in several terms, i.e., voluntary participation, informed consent, risk of harm, participant's confidentiality and anonymity. People should not be coerced to participate in the research, and must be fully informed about the procedures and risks involved in the research. Researchers are required to create a due condition that participants are not at the risk of harm as a result of participation.

In my research plan, the survey procedure was prepared in due regard of ethical concern. We initially deliver a survey questionnaire through home visit and with a face-to-face contact. This is important to realize a voluntary participation since the mails can create a false impression about the mandatory public survey, and shrink a discretion not to participate. A face-to face contact also is more effective in terms of the informed consent since the procedure allows investigators to explain more faithfully and leads them a true comprehension across the research purpose, their role and contribution. As the risk of harm would arise not only from physical, but also psychological implications, the procedure needs to be cautious given their vulnerable socio-economic status. A modesty, humbleness, and faith, as well as candid human relations need to be minded through the research operation. In terms of research ethic, the role and responsibility of IRB (institutional research board) are critical so that we would need to ask their review of research plan as priori. In the first of survey, we would clarify the key points of research to interact with the participants, which seems essential to ensure ethics for the research participants.

"Dear participant,

This research project is conducted with the funding of National Science Foundation and for the marginalized condition of poor residents. This survey is prepared to investigate the residential conditions of NHR, i.e., Z. K, K-Inns in Seoul city, and in the end to reform the urban residential policy. The survey result should not be used for other purpose than the stated research purpose, and the confidentiality of any disclosure or anonymity of participants was duly ensured. We appreciate you voluntary participation and engagement to answer the survey questions." August, 2014. The Plaza Consulting Firm.

- If you have any questions on the survey, please do not hesitate to contact.
- Office on duty : Researcher A and B.
- Phone: xxx-xxx-xxxx
- E-mail :xxxxx@xxxxxxx

- Address: 00000000######

Significance of the study

Practical Contributions

The policy makers in Korea have an awareness about this issue and share a concern in response with the remarked increase of this housing pattern. A recent example would be the fire safety system, and financial support for the deprived households. This new policy attention, of course, would be importantly related with the role of welfare administration, and upgrades a national condition of human rights by realizing the stability in decent housing. Nevertheless, no systemic response was framed based on the empirical studies of NHR concerning its present status and tendency for the future. This is the point that my research project can contribute to the discipline of public policy and administration.

First, the research has been driven to find the status of residents in the three types of NHR, *Zsukbang*, *Koshiwon*, and *K-Inns*, as well as the characteristic of space use and management (Korean Urban Research Institute, 2013). Second, based on the understanding, we may elaborate on the policy suggestions in response with their housing problems. They include, firstly, the minimal requirements mandated to aid those worse dwellers. In this end, we suggest a point of considerations on the NHR in making the housing policy. The residences for common public use have to be regulated to ensure a humanly minimal standard, and we discuss the necessary or desirable policy options and alternatives. According to the desire and characteristic of dwellers, the findings would be discussed in any implications on the related field of public administration, including the social welfare, unemployment, and fiscal as well as public housing. Finally, our suggestion includes one paradigm project to demonstrate an improvement of non-housing condition, which involves a massive reform concerning the basic interchange on this issue.

A Concerned Group and Implications for Social Change

The public concern and action to address the challenges for the marginalized class of NHR residents are not only important or urgent, but also require a constant monitoring or responsive system over the time period. The issue also involves an interdisciplinary examination and comprehensive measure on the economics, law and public policy. My research plan also needs to be complemented from future work on other localities of South Korea given the nature of problem would differ depending on the local variants. In this aspect, the research plan may provide a paradigm on the empirical method and research design for the future work. More specifically, the research plan is based on the sample population in the year of 2014, who reside in Seoul city, South Korea. The inflows would fluctuate at radical rate, which, for example, marked an increase of 49.1 percents yearly. The number of NHR households in 2014, then, would be 155,629 and 75,013for the inflows (2013). This strongly suggests that the recent economic polarization and worsened poverty issue in SK well factor such rapid increase in Seoul city. If the number depends on the national economy or social stratification, the research needs to be made constant with the follow-up studies as temporal. The reasons for such rampant rate of worst NHR residents in other local cities would vary, which also necessitates a future elaboration for the research peers. Then we can construct the national scale of knowledge for the NHR households or residents and never miss to interact with the government and concerned public institutions on this problem. A more intense studies on the law reform and adequate policy formulation needs to be complemented where the empirical data or constant collection of evidence to know the reality of NHRs are based. For example, a priority in the public program or social benefit may be more systemically investigated by the economics researchers. The crisis of decent housing may be more persuasively analyzed in collaboration of the human rights expert, social workers, medical doctors and local politicians (2013). The urban planning experts may aid with future research, which will concern a public project of rezoning and provision of modest residences.

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(Attachment)

(1) Data File from Excel

VAR00001	VAR00002	VAR00003
14-1	1.00	3.00
14-2	2.00	4.00
14-3	1.00	3.00
14-4	3.00	2.00
14-5	2.00	5.00
14-6	3.00	1.00
14-7	1.00	4.00
14-8	2.00	5.00
14-9	2.00	4.00
14-10	3.00	4.00
14-11	1.00	5.00
14-12	2.00	1.00
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14-16	1.00	5.00
14-17	2.00	4.00
14-18	2.00	5.00
14-19	1.00	2.00
14-20	1.00	4.00
14-21	1.00	4.00
14-22	2.00	3.00
14-23	3.00	5.00
14-24	2.00	4.00
14-25	2.00	1.00
14-26	2.00	5.00
14-27	1.00	2.00
14-28	2.00	4.00
14-29	1.00	3.00
14-30	1.00	4.00
14-31	2.00	2.00
14-32	1.00	4.00
14-33	3.00	3.00
14-34	2.00	5.00
14-35	1.00	4.00
14-36	1.00	1.00
14-37	1.00	5.00
14-38	1.00	3.00
14-39	3.00	5.00
14-40	2.00	6.00
14-41	2.00	3.00
14-42	1.00	5.00
14-43	2.00	4.00
14-44	1.00	5.00
14-45	2.00	3.00
14-46	1.00	5.00
14-47	3.00	2.00
14-48	1.00	5.00
14-49	2.00	3.00
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14-99	2.00	2.00
14-00	3.00	2.00

(2) Output File From SPSS

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DATASET NAME DataSet2 WINDOW=FRONT.

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DATASET ACTIVATE DataSet2.

SAVE OUTFILE='C:\Users\user\Documents\내문서\Test Data.sav'
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DATASET ACTIVATE DataSet2.

SAVE OUTFILE='C:\Users\user\Documents\내문서\Test Data.sav'
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Frequencies

Notes

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	Cases Used	Statistics are based on all cases with valid data.
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	Elapsed Time	00:00:00.70

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Statistics

		Type of Residence	Educational Background
N	Valid	100	100
	Missing	0	0

Frequency Table

Type of Residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Z type residence	25	25.0	25.0	25.0
	K type residence	50	50.0	50.0	75.0
	K-Inns residence	25	25.0	25.0	100.0
	Total	100	100.0	100.0	

Educational Background

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary school without a diploma or below	8	8.0	8.0	8.0
	Graduate of primary school	14	14.0	14.0	22.0

Graduate of middle school	18	18.0	18.0	40.0	
Graduate of high school	27	27.0	27.0	67.0	
College level or above	32	32.0	32.0	99.0	
Miscellaneous	1	1.0	1.0	100.0	
Total	100	100.0	100.0		

Bar Chart

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  /POSTHOC=VAR00002(TUKEY)
  /EMMEANS=TABLES(VAR00002)
  /PRINT=ETASQ HOMOGENEITY DESCRIPTIVE
  /PLOT=RESIDUALS
  /CRITERIA=ALPHA(.05)
  /DESIGN=VAR00002.
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Univariate Analysis of Variance

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

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  /INTERCEPT=INCLUDE
  /POSTHOC=VAR00002(TUKEY)
  /EMMEANS=TABLES(VAR00002)
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  /PLOT=RESIDUALS
  /CRITERIA=ALPHA(.05)
  /DESIGN=VAR00002.
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Elapsed Time 00:00:00.19

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Between-Subjects Factors

	Value Label	N
Type of Residence 1.00	Z type residence	25
2.00	K type residence	50
3.00	K-Inns residence	25

Descriptive Statistics

Dependent Variable: Educational Background

Type of Residence	Mean	Std. Deviation	N
Z type residence	3.8400	1.14310	25
K type residence	3.5800	1.40102	50
K-Inns residence	3.5600	1.29357	25
Total	3.6400	1.30670	100

Levene's Test of Equality of Error Variancesa

Dependent Variable: Educational Background

F	df1	df2	Sig.
1.256	2	97	.289

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a Design: Intercept + VAR00002

Tests of Between-Subjects Effects

Dependent Variable: Educational Background

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	1.340a	2	.670	.388	.680	.008
Intercept	1205.604	1	1205.604	697.338	.000	.878
VAR00002	1.340	2	.670	.388	.680	.008
Error	167.700	97	1.729			
Total	1494.000	100				
Corrected Total	169.040	99				

a R Squared = .008 (Adjusted R Squared = -.013)

Estimated Marginal Means

Type of Residence

Dependent Variable: Educational Background

Type of Residence	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Z type residence	3.840	.263	3.318	4.362
K type residence	3.580	.186	3.211	3.949
K-Inns residence	3.560	.263	3.038	4.082

Post Hoc Tests

Type of Residence

Multiple Comparisons

Dependent Variable: Educational Background

Tukey HSD

(I) Type of Residence	(J) Type of Residence	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Z type residence	K type residence	.2600	.32207	.699	-.5066	1.0266
	K-Inns residence	.2800	.37190	.733	-.6052	1.1652
K type residence	Z type residence	-.2600	.32207	.699	-1.0266	.5066
	K-Inns residence	.0200	.32207	.998	-.7466	.7866
K-Inns residence	Z type residence	-.2800	.37190	.733	-1.1652	.6052
	K type residence	-.0200	.32207	.998	-.7866	.7466

Based on observed means.

The error term is Mean Square(Error) = 1.729.

Homogeneous Subsets

Educational Background

Tukey HSD a,b,c

Type of Residence	N	Subset
		1
K-Inns residence	25	3.5600
K type residence	50	3.5800
Z type residence	25	3.8400
Sig.		.689

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1.729.

a Uses Harmonic Mean Sample Size = 30.000.

b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c Alpha = .05.

XI. Summary and Reflections

A Thought in Summary

The research on social science eventually comes through any meaning about the human and society. Its message is directed to the society and the principal object of research would be its components, generally research participants or samples in terms of research method. As for nature, it is per se obvious that humans or populace act on various factors to influence their decision. This complex nature of human strands generally prevail that the multivarite analysis is an usual challenge for the social science researchers. For example, the researchers may like to know the relationship of special training on math and achievement of math score. He or she may apply a multivariate analysis from several variables, in which one may be controlled and pretest or post test will be administered. So he groups two classes in test and for a longitudinal study over one semester between the specially trained students and normal class. Then he adds one other variable of family income level that he supposes one important factor to affect the achievement of student in math subject. This would be quantitatively answered by applying a multivariate test, called specifically factoral ANOVA. The simple ANOVA test may be dosed in several times to understand more a complex interaction or control among the variables. Nevertheless, it has the weakness that unnecessary time and effort would be consumed. Additionally, MANOVA or other multivariate analysis of data would lead us to the more intense and precise result when the variables in consideration all interact to affect the outcome variables (Green, S.B., Salkind, N.J., 2014). It can be made distinct from mere aggregation of each result from one way ANOVA or univariate and bivarite analysis. Here can we make some tips for the social science researchers on his research design and data collection or analysis.

First, it needs to be seriously prepared to meet the cost and time for his ambit of research operation. The researchers may be funded or pursue his research on non-funded basis, but for some other context of requirements. In any case, he needs to have a time sufficient to meditate on the whole process of research, preferably with the definite time schedule and expense covered. This is important since it prevents a mid progress interruption from the barriers or myopic plan.

Second, it is any more important to frame a persuasive research design, typically in exploring and selecting the independent and dependent variables (Frankfort-Nachmias, C., & Nachmias, D., 2008). This area of concern fatally falls within the responsibility and wisdom of researchers. The knowledge and sense of composure, as well as talent or basic quality as a scholar would be contested on this phase. As mentioned, humans are difficult to measure in any quantitative terms, and we hardly explain them in one or two factors or variables (2014). Often multivariate analysis is superior in the power of persuasion but depending on situation or the destination what the researchers eventually like to know. The cost and resources also interact to make a research plan feasible. For example, in an emergency situation, like the war or fire scene, humans may be reduced about the alternatives in choosing his way of action or behavior. Where one factor is seen fairly governing for any reason, it would not be wise to consider many of other factors far less interactive merely because the human behavior occurs under some complex cause. In the first case, one research compared how Americans and Koreans behave. The factors, in this case, would be set between the human intuition and their acumen from the prior education or knowledge. It would be costly if he likes to incorporate a gamut of factors to deeply look into the details of human behavior. Therefore, the eventual revert to any touchstone would be that of researcher's who would be surrounded by a scope of situational factors and the inquiries he intends to solve. Therefore, the researchers have to constantly question what I like to know and how I can successfully complete the process with any meaningful message.

As we know, multivariate statistics are an analysis techniques to understand more than one set of dependent or independent variables at the same time. In multivariate statistics, we can benefit from a type of analytical frames (Green, S.B., Salkind, N.J., 2014).

First, we can use the advanced analysis of variance design which would be additional designs developed from the ANOVA. The factoral ANOVA allows the researchers to test an impact of more than one independent variable on one dependent variable (Walden University, 2014). ANCOVA considers covariate to extend the traditional one-way and factoral designs, in which the research would partial out the variance associated with the covariate. This is to enable the additional regression calculations and effect of covariate on variance. In the repeated measure ANOVA, we consider the effect of time on a particular dependent variable such that the dependent variable is assessed at multiple points in time (2014).

Second, we can use the multiple regression where multiple independent variables are tested together or separately on one continuous dependent variable. Therefore, the effect on variance of dependent variables is tested not singularly with one independent variable, but uniquely with multiple ones. Hence, the concept of Z-score for the multiple variables and post hoc test for each independent variable could help to assess. In this setting of test, we call the independent variable as predictor and dependent variable as outcome. The logistics regression analysis would be same as the multiple regression except that one or more independent variables are used to predict a categorical dependent variable.

Third, MANOVA is a powerful multivariate test in which the researchers deal with an effect between the mosaic of independent and dependent variables. This would be comprehensive and of most conventional use for the social scientists (2014).

Forth, the researchers, in some context of inquisition, may like to know what independent variables would most discriminate the membership of particular group. Another saying of this is what independent variable is most powerful to effect on the categorical or continuous dependent variables. In this case, they use the discrimination function analysis (DFA) which is a follow up test to the MANOVA (2014).

Fifth, the path analysis can allow the researchers to resolve the direct and indirect effects of independent variable on one dependent variable (2014). The factors or variables, in the researcher's sense, may not be closely coupled to draw upon any cause and effect relations, but through the path among the variables. In this case, the condition on path analysis could be created and be effective for more than the persuasive description or argument. The SEM would be the kind of applied paradigm to expand the power of PA dealing with a complex model and more than one independent variable (2014). The survival analysis is basically one type of multiple regression statistics which, however, is used to

specific purpose, say, the time to failure of something. Nonetheless, it serves other similar purpose beyond mortality, for example, the predictors of retention in a recovery clinic. There are other several multivariate analyses which would be a subject for the advanced research course, such as FA, meta-analysis, cluster analysis, canonic correlation, and log linear analysis. Among them, the meta-analysis is unique to statistically test the existing source of experimental studies, which provokes the interest of statisticians and create a new mind of social science researchers. In this case, the query is not directed to populace, but the research article from the researchers themselves.

In my research, multivariate analysis is appropriate, and more specifically, I plan to use the MANOVA with SPSS. The research problem was identified from the worse housing condition, which can possibly threat the human standard of living, contribution to the crime rate, and fire or other disaster-related insecurity for the deprived dwellers. The research question, therefore, would ask how we can model the present status of NHR (Non-housing residences) households or residents and what will be any more adequate and effective policy response for them. Therefore, the independent variables are three new modes of NHR, and many other dependent variables predetermined and supposed to relate with the policy tools. Their socio-economic status, educational history, household status (solo or more than one resident), age, gender, subjective feeling about the lessors or owners of residence, status on the welfare benefit, intention to work or not, and so would be included. The research also describes any difference among the three types as per each dependent variable, which requires the combined as well as separate effect of independent variables on each dependent variable. As the present status of poor dwellers cannot be explained in any single term, the MANOVA would be superior to the univariate or multivariate analysis. Nonetheless, it could be surmised if the socio-economic status can be any more powerful discriminant for their fate which can allow the discriminant factor analysis. The longitudinal study would not be preferred since it requires an amount of expense, although it may potentially enable any meaningful details in research outcome. Instead, the qualitative research for the selected few can serve, which makes the whole of research project as mixed one.

Reflections on the QRA Course

A Progress on the Research Method

Through the Quantitative Reasoning and Analysis (QRA) course, we could achieve much progress which has been so helpful to accelerate my interest and skills in the empirical studies. Most of all, this course would be a leapfrog for me, who feared of the quantitative skills of analysis. My only background for this course must be fragile since the math courses in the high school and one pass in the college days are all I have experienced. It is challenging also because the days were far gone of my middle age. For this reason, it never is a puffery that I would fear of quantitative skills. Long since, therefore, I had developed a qualitative approach for the work of dissertation in the future. I also realized that the qualitative work might pose another conundrum in detail the research design, which made me fairly fuzzy on the prospect. The course had been a messiah to adapt with the quantitative paradigm, and realized that the quantitative reasoning is fairly powerful and very persuasive to frame a scientific message not only for the peer professionals, but also for lay world. We don’t have to cite the belief of empiricists and its modern evolution backed up by the mathematicians and statisticians. The benefit from this research method is obvious from many realities. The SPSS program developed by one political scientist and his peer technicians facilitates to save from the difficult hand-on works in the earlier quantitative research. The empirical studies, particularly in the sphere of quantitative studies, typically are related with a mass of survey experiment which flavors the kind of political engraft with the research circle (Frankfort-Nachmias, C., & Nachmias, D., 2008). As we see, the poll of election and other sensitive issues of social science often are enabled of recourse in this way of approach. The aid of statistics is notable since we had been highly indebted with Pearson, Fisher and the kind of protégés in many of post hoc tests. Pearson is typically foundational who established the first statistic department in the University of London. It has been an amazing experience that this kind rich heritage was automated as a computerized program in the Click “Analyze” and interesting niche, called “legacy box” (Green, S.B., Salkind, N.J., 2014). The empiricists collect the data to evidence their research message qualitatively and quantitatively. They may awe if his often small scale of data could be a basis for his scientific message from the large world, often denoted as sample population or population parameter. It must be really encouraging and fascinating that the statistical analysis supports his research hypothesis meaningful to explain the whole of populace he intends to address. Through the course, I had been fancied with the terms and concepts, i.e., normal distribution, chi-square analysis, confidence interval, critical region, Cronbach’s alpha, frequencies, means and standard error or deviation, most importantly the concept of variance (2014). The regression analysis would be a node to hint on the relationship and characteristic of data and evidence, which is fairly helpful and conventional for the quantitative researchers. As sanguine, I realized if the SPSS would be some of Teddy Bear to get constantly with a person for the researchers. Nonetheless, it may be stated that the basic concept of math and supportive statistic has not been so easy. The video lecture with J.A. Morrow provided thorough the weeks of course was stimulating and instructive, and perfect on all the difficult process for the final points in effect. To say, I may retrieve the kind of pivots to relate with the quantitative studies from the course material and typically Appendixes for the main course material, such whether we can reject or accept a null hypothesis, p-value, important numbers including the Cronbch’s alpha and many others attached in the Appendix (Frankfort-Nachmias, C., & Nachmias, D., 2008). This helps to use the SPSS program practically and effectively through the data collection, statistical analysis, as well as for intriguing any meaningful description, discussion, and argument in any specific research project. Especially the dataset and lessons for each stage of program through the weekly training and course material exposed us to the virtual reality of quantitative social scientist. It was a model demonstration that the researchers pursue routinely, which comes close to my reality.

In terms of research method, the two camps may contend about the superiority of their way of approach. The quantitative researchers may distrust a scientific force from the demonstration of qualitative argument. The qualitative researchers stress their strength for in-depth disclosure of reality. They may disagree in tone or fundamentally on its basis if worse. We also may reconnoiter if the researchers often would be specialized in one of typical method. In other words, the quantitative researchers may devote the whole of research life to their own method while the same often would be true of qualitative researchers. Through this course, I have learnt that exposure to another method, who they disfavor, could allow much sense of whole picture within the research community (2008). One of cheerful outcome in this course must be that I can escape from a hidden pressure for the difficulties of math and statistics. Although we could not be every master of math and statistics, we can

be a master of quantitative studies if we faithfully pursue the lessons of each week. I had been exploring the topic of dissertation for a year and half. My interest actually roved around the integration of EU in the perspective of public administration, and other several issues currently challenged within the Korean community, such as contingent labor, worse dwellers in the urban city, and public administration of judicial or quasi-judicial branch. Initially most appealing for me had been the first topic which includes a less aspect of quantitative lens. Though the course, many other interesting topics rose as possible alternatives, and most importantly turned to be attractive directly because of my achievement in the quantitative reasoning course. Just a feasibility or competence to deal with the topic through quantitative methodology would turn to enable a quantum leap for amusement as a professional researcher. I now seriously consider if the cheap or contingent labor in the Korean labor market can be investigated as a dissertation topic.

The Residencies and Doctoral Progress

As we know, the on-line doctoral track requires four times of residency for various reasons. The socialization perhaps would be one important aim, but I also chanted that the research methodology also centers on the residency program. It has been a precious chance to ascertain our progress through the successful completion of doctoral thesis. Hence the purpose and program design would vary in response with the progress of student although we may find a little overlap and recurrence in the course schedule. We can also find two popular attributes, informal though, the methodology professors and knowledge or discipline group. This evidences the research method would be some focal point of emphasis for the training of research student. Since we pursue creating a new knowledge or original contribution to their specific field, the importance of method is hardly deniable (Frankfort-Nachmias, C., & Nachmias, D., 2008). I had completed two residency courses, one of normal residency and other for virtual residency. The virtual residency was first time in my case which came in this summer term. It requires about ten days alert for webinars, required and elective, and other online mode of instruction. Dr. Rainforth had been a cohort leader and provided the useful lessons and tips for the research methodology. The final assignment had been framed to demonstrate and consult the methodological issue on any hypothetical topic. I have utilized the draft of final project from the QRA course and applied the lessons from the virtual residency. For example, the emphasis had been shed “In terms of literature review, finding a gap from the existing authorities is important.” My response with this tip of advice can enable to revise the pertinent part of draft, “This area of public policy in South Korea, however, must be viewed as lacking or incomplete….the factors pursuant to the NHR were neither concerned nor investigated to provide a basis of adequate policy response. For this lacking, we could hardly find any plausible scheme or public program on the finance, loans and any tax benefit for this category of generally impoverished group.” Another sentences would be added, “The theory and tenet created over the decades generally are that an economic polarization has been intensified to transform the society in a radical divide (Shin, K.H., Shin D.K., 2007). This generally leads to the understanding that a reality and policy response for these poor groups are necessary, but with no specific solution. From the literature and similar sources extant, we find a gap that failed to deal with the alternatives and due response for the NHR (2009).” Other point of instruction from the virtual residency this summer had supplement with the QRA course. For example, it seems echoing through the dissertation process, “One key element in the academic resources or authoritative public document would be related with assumptions, limitations, and delimitations.”

The courses as a whole seem structured to cap with the research methods, library skills, APA lessons, synthesizing the literature, advanced library skills, quantitative and qualitative or mixed research. Others are few with the kind of cohort socialization and career management or so. It is really focused to pull the students up for the destination of creative research where the final contest can be proven in the dissertation work. I had utilized the summer virtual residency to complement with the QRA course. It has paralleled to progress in mid of July, and made it any helpful forum to resolve the queries and questions about the quantitative analysis. My next residency would be uncertain right now, but I probably can make a chance in this winter or next summer. My plan is to associate the remaining methodology courses, qualitative and advanced method, with the virtual and actual residencies.

New Horizon with the Research Community

The statistical method seems to increase a vital interest of my research performance. Before this course, I have attended with less interest when I read a research article. A new eyesight had been developed to get interested how this research has solved his or her research questions. This new interaction could open the horizon to make myself familiar with the peer community. I also realized that the researchers devoted within the typical pattern of dealing had exploited much of professional success with many articles and fame. It must be simple, but very, very efficient to mechanize the process of research operation. Even some journals would pay no interest in other mode of research piece without empirical data and statistical analysis. Hence the course is essential and hardly avoidable merely because we are not proficient of math and statistics. The learning outcome actually pierces the core of problems for the professional researchers even though we may not rattle in the lay meeting (Walden University, 2014). It is the kind of hidden arms, not on the surface of research community, but deep to discriminate against other nature of professionals. The SPSS program tends expanded in use to reach the global peers and many of national governments. These two intelligent organizations represent the competence of nations in the contemporary times. In this progress, the quantitative reasoning has been lodged as a powerful frame in terms of the human or societal persuasion and strategies (Frankfort-Nachmias, C., & Nachmias, D., 2008).

One caution for the present times researcher would be concerned of “sea change” in the mode of human interaction. The electronic communication is now popular for the lay persons or professionals where the cyber space is usual mode of social and business exchange. The Facebook is one important avenue for the socialization of global friends. The researchers may misappropriate this kind of tools to serve their research operation. The consumer research is most notorious that the quantitative studies can be performed on that basis which would be cheap and require less of labor. The problem is ethics in this case which most obviously threats the privacy of e-friends. On-line community also procures a fairly encouraging environment for publication and any type of cultural or intelligent exchange. For example, we can produce the books and articles more easily than any other times. It would be a good signal that many can be a writer and publish his or her ideas. The freedom of expression, a classic virtue from the early civil society, now rose at its pinnacle obviously. In other aspect, the ethics would remain in many of solo or small businesses, author and publisher notwithstanding. Therefore, the education of ethics and self-cultivated professionalism

would be implored to maintain a human dignity in this case. The national congressmen in Korea have long practiced on the publication ceremony to raise the funds which are not reported with the stringent requirements of statute. That has been a source of informal income for the selective congressmen who are in any advantageous position in the congress. They reap a large amount of money in the cause of publication. It seems evangelical across the countries to value the books and articles for any cultural or humanitarian cause and social dynamism. It had enjoyed a statutory exemption from reporting requirement and ceiling of fund raising. The issue turned to face new challenge that the Korean national assembly would explore the removal of exemption status. The charity and tribute for family wedding or funeral had not been exempted since the new statute came into force a decade ago. Nevertheless, the publication activities were considered as any sublime in the statutory framework. That policy is now challenged, which implies the change of environment forges a new logic of ethics and could hardly be denied. This does not say that new electronic culture made the publication trivial or nugatory. I state that the ethics often would be a product of prevailing circumstance and new paradigm of ethic now sees its right time to make any agreement. For example, on line articles and e-books increasingly dominate the intelligent circle where many quantitative studies can be readily available. A plagiarism can see any potential for prosperity than any other times. It is one point of which the researchers be minded. In this context, it was liberating that the final assignment in the QRA course requires including the ethical concern about their research plan. Besides this, the quantitative researchers may do good practice if they take a part of page for any ethical issue and their way of response within their research piece.

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The Repository of Socratic Conversation

[Week 1]

Hello Cosmos,

Thank you for a productive comment. I have deliberated on several options to address the need of this class, i.e., quantitative reasoning studies. The post, therefore, would not thoroughly deal with the issue, but could be ideated as a mere synopsis. Your observations practically must be important to organize an effective 3Cs, say, collaboration, cooperation and coordination among the various departments or branches. As poverty reduction is a priority in national policy making, the assessment and reform effort on the organizational efficacy is needless to say about its primacy. I may appoint a principal researcher about the data collection and compilation as a chief of charge, who would ensure against the bias by commanding and monitoring a scope of departmental or branch specificities. I would set an initial testing period for the telephone contact, which would be assessed at the end of that period about its viability and persuasion. Then it may be continued or dropped for the alternatives, such as mail survey or face-to-face interview. As we expect, a most marginal case would be a high-aged and one person household. In some cases, we may encounter a middle-aged, but undereducated, who have both of parent as high-aged. In the first case, the candidate might be (i) “entirely disabled,” who are not capable of work. In the second case, both members of household might go same or may fall in (ii) “easy task only” for the middle-aged. He or she may feel active to work who mentally or physically falls within (iii) “willing to labor.” Eventually, the mixed method could work more effectively in the first phase of public survey and later through an in-depth interview about “the willingness and ability to labor.” As I borrow from the quantitative method by giving a scale of three ratings for the latter two of categories, we may perhaps on (i) very strong (ii) strong (iii) merely because of economic need. The concept of “easy task” will be classified according to the standard job classification of Korean government. As the social welfare authority has been empowered to exercise a discretion by the statute, the reliable information based on the data and empirical evidence seems to contribute to the rule and information-based decision making. Respectfully.

Author: COSMOS RICHARDSON **Date:** Friday, June 6, 2014 7:31:39 AM EDT **Subject:** RE: Discussion - Week 1

Kiyoung,

Thank you for a very comprehensive and insightful post. Poverty reduction is an area in which I have a very keen interest since it is one of the objectives established by the government of Saint Lucia. One of the observations that I made from reading your post is that there are many different agencies involved in welfare type programs in Korea. Very often, these agencies do not have a common system for the collection and / or compilation of data. This may introduce sources of bias in the data and may require correction for bias (Cresswell, 2009). Another source of bias may arise from the fact that you propose to use the telephone as a means for gathering data. This may necessitate some prior testing before the commencement of actual data collection from this source. I would be grateful to hear your comments on these observations. I noted your two hypotheses and the variables which you have identified. The fact that you have identified several control variables suggests to me that you are concerned about the issue of spurious relations and feel the need to eliminate the influence of these other factors (Frankfort-Nachmias & Nachmias, 2008). This should help in validating the results. I am interested in how the variable "willingness and ability to labor" is measured. You did refer to disability which one can infer reflects a low ability to labor; what are the other factors whch would come into play?

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Hello. Iberkis,

Your topic is fairly echoing in terms of social justice. The Equal Pay Act has been attractive, but seems to have been lea striking practically for reasons. It falls within a private sector in our basic understanding, so that the public intervention could not be engineered to the deep core of contention. The new frame, “comparable worth,” seems persuasive, but less welcomed for the court to enforce positively through litigation. Besides an empowerment for the stakeholder, will you suggest any fair terms of legislative reform based on your research

finding? I expect that the educational background is most salient to affect the pay level. Will you also discuss two variables as any correlated, as between ethnicity and educational background? Thank you for the useful post. Respectfully.

Author: Iberkis Faltas **Date:** Wednesday, June 4, 2014 9:14:42 PM EDT **Subject:** RE: Discussion - Week 1

My empirical research problem is gender wage gap and economic inequality affecting America society. My units of analysis are grouped in genders, ethnicity, and educational background.

Reasonable for comparison: statistics show that, for instance, In the field of management—focusing on gender, my first unit of analysis, in weekly basics, males "earn $1,328 a week while women earn $951" a gap of 71.6% in page wage. In the field of finances, the gap favoring males is of 74% higher pay than women, while on the legal field, the difference between male and female is of 53.7% (Casserly, 2013).

I will prevent individualistic and ecological fallacy by preventing the assumption that, every male with a highest pay wage has already completed a higher education degree than those of the opposite gender, or that every women with a lower page wage is due to the fact that she has a no experience in their field of study. Individualistic assumptions in neither group (gender and education) must be prevented since the wage pay difference might be ascribing to others factors and variables. The evidence of the study must be concreted in variables attributes.

Two hypotheses:

1. In American's society, female's lower pay wage is a fact in all diversified ethnic groups.

2. In American's society, males tend to pursuit higher education than women; consequently, male-genders earn higher wage pay.

Dependent variables:

Females, between 18 to 28 years of age have a less competitive educational background than those in male groups due to negative social empowerment, and current social inequality between genders. A factor widely enforced by cultural mindset preventing equal economic developmental empowerment between genders.

Independent variable:

The gap in wage pay between gender is the result of females self-decision to undertake their professional development on less challenging field than those selected by males; hence, employed in jobs under lower pay rate.

Control variable:

Regardless of their educational or ethnic background, the fact that internal policies and regulations are preventing employees from further investigating and discussing pay-wage between genders; factors that consequently is preventing USA society to concretely realizing employee's violations of the Equal Pay Act. (EEOC, 2014)

Expected changes: to find empowering methodologies that will promote equal wage-pay scale between genders with equal educational and experience background regardless of their ethnic nature.

Iberkis Faltas

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Hello. Michael,

Great Post! I have enjoyed reading it. A household economy has long been one of public concern globally, particularly in the nations under the experience of highly consequential financial crisis. Attorneys in some countries may exploit the chances as a source of income, for example, through a bankruptcy proceeding or other public relief system. In some cases, high amount of debt impossible to pay may be remedied on some statutory conditions and with the public endorsement in a summary judicial recognition. The legal advice or remedial measure seems indispensable given an increasing rate of suicide in the kind of society. Your idea might pilot any reform of system or new enactment. Do you intend on the research findings to make a point, for example, about the increase of low-income legal aid organization, such as more lawyers or staffs, and new budgetary initiative? Do you consider, for example, an employment status as one of control variables? Respectfully.

Author: Michael Stanley **Date:** Wednesday, June 4, 2014 5:54:04 PM EDT **Subject:** Michael Stanley Main Post RE: Discussion - Week 1

My empirical research problem is to examine whether it is the case that individuals who qualify for services from legal aid organization are increasingly facing multiple legal problems beyond the single issue for which they sought help at initial contact. Creswell (2009) explains that "a survey design provides a quantitative or numeric description of trends…of a population by studying a sample to that population" (pg. 145). Traditionally, new clients at low-income legal services organizations have sought help for a single pressing issue, but, in the aftermath of America's recent financial crisis, new clients seem to be experiencing multiple interrelated civil legal problems rooted in personal financial hardships.

The units of analysis are individuals seeking help from legal aid organizations who identify a single pressing legal issue as the reason for seeking services. Frankfort-Nachmias and Nachmias (2008) wrote that units of analysis are "…the most elementary part of what is to be studied" (pg. 47). The units seem reasonable because they are in an interview setting and directly observed at contact. The individual nature of attorney-client interviews should aid in protecting the study from ecological fallacy where individual clients are given group characteristics while lacking supporting data. Also, the increasing diversity among populations who seek legal aid services could reasonably be seen as a restriction on individualistic fallacies.

Hypothesis 1- Individuals who seek services from legal aid organizations for a single issue will, when read a questionnaire/survey designed to help clients identify or divulge other legal problems they are facing, be in need of additional representation and services.

The independent variable is the questionnaire/survey and the dependent variable is the client who may change the nature of their inquiry.

Expected outcomes- I expect the individual clients will discover other legal issues.

Hypothesis 2- Economic hardship leads to multiple interrelated civil legal issues for many contemporary legal aid clients.

The independent variable is clients with multiple interrelated civil egal issues and the dependent variable is presence of economic hardship.

Expected outcomes- I expect the presence of economic hardship to be consistent with the numbers of clients who face multiple legal problems.

Resources

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Hello, Lauren.

The topic seems to unravel important implications the parents are interested in. I wonder if you agree that generally the private or charter school is intentionally pursued in the ambit of household plan, and the educational

expenses would be higher than public schools. The willingness to bear those generally is construed to indicate a deep concern, commitment, and auspice from the parents. It would be expected as positive, and your hypothesis probably would not turn to be a null one. As you suggest, however, a qualitative method may work to excavate a deeper knowledge among the variables, so that a mixed method seems to have a competitive strength in the event. I am also interested in the grading scale policy within each type of schools and tendency of grade distribution. Do you agree if they might be used as a control variable to explain the context of survey outcomes? Respectfully.

Author: Lauren Wood **Date:** Wednesday, June 4, 2014 6:25:36 PM EDT **Subject:** RE: Discussion - Week 1

For this discussion and the Final Project, I would like to work with the following empirical research problem: What is the effect of the availability of charter and private school alternatives on K-12 student performance in Florida? The units of analysis for this research project will be public, charter, and private school students in Florida as individuals and groups. By studying students as individual and group entities, the ecological and individualistic fallacies will be avoided because the data from which conclusions will be drawn will be collected from the individuals and groups. Further, the researcher notes the importance of evading the notion of generalizing the data and conclusions to individuals and groups outside of those in the study.

The hypotheses for the research problem are as follows:

K-12 students in Florida who attend charter and private schools will have higher grades than students in Florida public schools.

The dependent variables are the students' grades and the other factors that impact student performance such as teacher-to-student ratio, socio-economic status, school funding, and parent involvement. The independent variables are the school types (public, private, and charter). The controls are the grade levels which indicate why Montessori schools are not included as a school type (they group given age groups into one class, for example 3-6 year-olds in one class instead of in separate grade levels).

K-12 students in Florida who attend charter and private schools will have higher standardized test scores than students who attend Florida public schools.

The variables are the same for this hypothesis minus the dependent variable of the students' standardized test scores.

Race and gender will impact the magnitude and relations between the dependent and independent variables as these aspects of demographics cannot be manipulated in comparison to the other variables presented.

I must note that I am much more comfortable with qualitative research so any positive, constructive criticism/comments will be greatly appreciated.

[Week 4]

Author: Lynda Boswell **Date:** Tuesday, June 24, 2014 6:46:39 AM EDT **Subject:** Week 4 Discussion - Boswell Main Post

MAIN POST

The different levels of measurement are nominal, ordinal, interval, and ratio. I work with nominal a lot, and those are descriptive information. Objects are classified into categories with qualitative features (Frankfort-Nachmias & Nachmias, 2008, p. 143) such as names, places, and objectives. Ordinal has a ranking feature about it, and is often used in Likert-scales, and close-ended surveys. It pits values from answers against the relationship between the answers (p. 143-144) such as Likert-scales. Interval measurements are set. If there are levels in a model, and the answers to those levels are from 1-5, there is not a relation as much as there are observations in a fixed unit of measurement (p. 146). Finally, ratio are absolute measurements, such as population, area, and time (p. 147).

I can transform information regarding mentoring data (advisor, advisee, objectives, institution) from nominal to ordinal because the descriptive information is set. I cannot transform the outcomes of the mentoring data because each one is unique and does not lend itself to any other type of analysis outside of the descriptive qualities. They are not quantifiable at all.

Ordinal can actually be converted to nominal (descriptive) insofar as the descriptive still represents the qualitative answers. In SPSS, one can change the ordinal to the descriptive, or nominal representations of the answers. I can use ordinal information to analyze and form the ratios (how many answered 1, how many answered 2, percentage of the respondents to liked, didn't like, etc.).

Intervals can be nominal as well, since the "interval" is set. Intervals can be used as ratio for analysis (how many are at level 1 compared to level 2; percentage of those at level 1, 2, or 3, etc.). Interval can be nominal if the levels have a descriptive value to it.

Ratios can be used in intervals to categorize certain types of population, age range, etc. I often convert ages into 5 distinct categories. The ages are anywhere from 18-65, but using the intervals help me to group them.

In addressing measurement error, this one is an easy one because I just faced this recently with staff. We have a survey that determines level of maturity of an institution. The inexperienced staff decided that if most of the questions are answered affirmatively for Level 2, then the institution is a Level 2. They would set 85% as the target. This was the wrong measurement and was a measurement error. I had to explain that a Level 2 institution had to have 100% affirmative to be a Level 2, else, it is Level 1. There was NOT a percentage as the Levels were a result of "interval." There is no 1.85 Level = 2.00 Level. There is Level 1, Level 2, Level 3, Level 4, and Level 5. Being CLOSE to a level does not deem it to be at the upper level. The staff then had to recalculate all of the answers to formulate the actual level of the institution. This was an example of interpreting the measurement in different ways (Frankfort-Nachmias & Nachmias, p. 149).

Another measurement error (I have lots of examples because even smart people who think they know, really don't know how to look at or interpret data) was in regards to pre and post-test results. The Trainer who did the presentation was chastised strongly because the post-test results showed that there was little to no, or even reduced scores after the training. When I looked at the data and past performance, that didn't make sense. Looking at the biographical data, it showed that the majority of the students were only high school graduates. The class was geared to graduates of college. This is an example of not relating the actual attribute to another associated attribute (p. 149).

Now, I get to design! Using the same examples as above, the maturity level questionnaire was actually vetted over time and with subject matter experts. At the end of the result, they were not happy. The design was correct in terms of measuring all of the concepts necessary for institutional development. It measured what it was supposed to measure. It stood the content test. It withstands the empirical validity because the questionnaire was multi-dimensional (almost a 3-D model), and if the outcomes of the results would have been a Level 2, there would be evidence to support and it was applicable in 3 other institutions. It passed the construct validity as a holistic way to measure an institution that included resources, management attitude, objective hiring, ethics, communication, processes, grievance procedures, sharing of information, training, etc. Much of the construct was based on other studies that identified weaknesses in institutional capacity building.

The design was reliable, the results were not reliable. When the interviewer was asked about affirmative answers for Level 2, he or she could not express the proof provided by the interviewee. Part of the interviewing process

included a training of the interviewers on how to conduct survey/interview. They were unable to do this adequately, thus, despite the results, we could not validate the information. Thankfully, all the institutions were at Level 1, but when they are reassessed with "MY" experienced staff, we'll need to carefully explain the differences if the scores are lowered. (Of course I know why the interviewer could not do it properly….they were not experienced in the field of government functions).

Sources:

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York: Worth.

Hi. Lynda,

Thank you for the insightful post. I agree that a quantitative calculation may not deal completely with the intended grouping in some cases or quality expression of interview results. Level 1.85 may be produced, which could not be the Level 2. The lost share ranged 1-1.85 should be declared dead given if the researchers set that stipulation to deal with. This has a similar implication within the concepts of "mean" and "median." For the social scientists, a median score may stand more realistically than a pure proxy of "mean" in indicating the centralization of values. In your case, how can the researchers possibly reduce the loss of observations or values between the Level 1 and Level 2? You stated the construct validity was fully addressed by employing a holistic way and many studies on institutional capacity building. I may add that the construct validity is critical to swerve through the measurement and external validity of design. However, do you always believe if more variables or concepts always guarantee a more generizable effect? You also suggest that some mixed form of research would make it better to test your hypotheses and evaluate the maturity of institution. Do you plan on the mixed research actually? Respectfully.

Author: Lauren Wood **Date:** Thursday, June 26, 2014 2:20:02 AM EDT **Subject:** RE: Discussion - Week 4

The measurement scales discussed this week are nominal, ordinal, interval, and ratio. Gender and ethnicity are examples of nominal measurements in which exclusive classes are identified by numbers or symbols. In comparison, ordinal measurements utilize a ranking system such as greater than or less than as seen for example in polls (Frankfort-Nachmias & Nachmias, 2008). Interval measurements display the precision of ordinal measurements with a defined and consistent amount/degree whereas ratio measurements "have absolute and fixed natural zero points" (Frankfort-Nachmias & Nachmias, 2008, p. 147). From these definitions, it appears that ordinal measurements can be transformed into interval measurements, as evidenced by behavioral employment and psychology questionnaires, but coding may be required to transform ordinal data into ratio data.

Validity for measurement emphasizes a focus on content, empirical, and construct validity. This focus implies a confidence that the researcher can trust the instrument and the data collected by its utility. According to Frankfort-Nachmias and Nachmias (2008), "concepts of validty and reliability are inseparable from measurement" (p. 158). Therefore, concern about validity for measurement addresses the issue of the researcher measuring what (s)he intends to measure.

In contrast, research design validity involves internal and external threats to validity. Duplicability in experimental designs and the potential loss of internal validity in quasi-experimental designs are examples of research design validity issues. Specific external threats include the location and timing of the research and internal threats include research process and participant-related threats (Creswell, 2009). Paying attention to research design validity is a preventative measure for negative impacts on validity for measurement.

References

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York: Worth.

Hi. Lauren,

Good post! You stated finely between the validities of research design and measurement, "paying attention to research design…is a preventive measure for negative impacts on validity for measurement." Hence, I consider the process to design a research seems highly consequential through the research operation. However, the framing of

content, for example, different forms of question language for the survey interview, perhaps would be an interesting point that the researchers might explore in view of measurement validity. They may frame a phrase of questions in subtle difference, but with a largely same implication to direct an answer, and the set of different forms may be tested on the measurement validity. This process may not be undertaken in a basic stage of research design. I may respectfully disagree if the ordinal level of measurement may be transformed into the interval measurement. By way of definition, the data measured in ordinal level has no information about an interval other than order. In your research, are you experienced with the ratio level of measurement? Thank you for the informative post.

Author: Michael Derry **Date:** Thursday, June 26, 2014 3:01:13 AM EDT **Subject:** RE: Discussion - Week 4

When dealing with measurement there are four levels that determine what can and cannot be inferred from their relationships (Frankfort- Nachimias & Nachimias, 2008). According to Frankfort- Nachimias and Nachimias (2008) these are the nominal, ordinal, interval, and ratio levels of measurement. The nominal level of measurement is the most basic level and has very limited properties. At this level numbers are simply used a symbols to stand for other characteristics not amenable to quantification such as marital status (Frankfort- Nachimias & Nachimias, 2008). The second level of measurement is ordinal measurement (Frankfort- Nachimias & Nachimias, 2008). In this level of measurement the value assigned has meaning in relationship to other values but the relationship only indicates properties of "irreflexive, asymmetric, and transitive" nature (Frankfort- Nachimias & Nachimias, 2008, p. 144). The third level of measurement is the interval level. At this level of measurement the distance between the observed numbers consists of fixed and equal units (Frankfort- Nachimias & Nachimias, 2008). The highest level of measurement is a ratio level. At this level the numbers have a fixed, natural, and absolute zero point (Frankfort-Nachimias & Nachimias, 2008). This is very similar to the interval level with the exception of the true zero point which the ratio level contains but the interval level has an arbitrary zero point.

Data transformation

As a general rule higher levels of measurement can be transformed into lower levels of measurement but the reverse is not true (Frankfort- Nachimias & Nachimias, 2008). To help illustrate this idea consider a measurement of temperature. The coldest temperature that can exist is the temperature of outer space. This provides a true zero point that can be measured using the Kelvin scale. Temperatures in Kelvin can be converted to the Fahrenheit scale. The Fahrenheit scale is an interval scale in that zero is an arbitrary point (not a natural point) but each degree is of consistent size and contains the same meaning regardless of where you are in the scale. You can then convert the Fahrenheit scale into a nominal scale by classifying temperatures as freezing, cold, warm, and hot. However, if you began with a nominal scale you can not convert the temperatures into an interval scale. This is because hot is a relative value and may not mean the same to all people. For example, I live in Florida so 65 degrees Fahrenheit is cold to me although it might be warm to someone who lives in Alaska. The reason why some data can be transformed while other data can not relates to the level of information contained within the information. The information of the Fahrenheit can be reduced to simpler terms but the simpler terms do not have as much information. Cold is a relative measure and does not provide information on the specifics of what is meant.

Concepts of validity

In previous weeks we have examined the concept of experimental design validity. This concept relates to the internal and external ability of the design to lead to accurate conclusions on the relationship between the independent and dependent variables (Frankfort- Nachimias & Nachimias, 2008; Trochim, 2006a). The experimental design is concerned on how the structure of the research relates to the determination of the cause-effect relationship (Frankfort- Nachimias & Nachimias, 2008; Trochim, 2006a). The major concern is to show that the research can demonstrate the cause- effect relationship and that the results can be expanded beyond the initial area of research.

This differs from measurement validity which is concerned with demonstrating that the method of measurement used is accurate (Frankfort- Nachimias & Nachimias, 2008; Trochim, 2006b). Are the measurements used actually measuring what I think they are measuring? This question can usually be answered by addressing concerns with content, empirical, and construct validity (Frankfort- Nachimias & Nachimias, 2008; Trochim, 2006b). Construct validity is the relation of the measure to the theoretical framework (Frankfort- Nachimias & Nachimias, 2008). Empirical validity is the relationship between the measuring instrument and the measurement outcome (Frankfort-Nachimias & Nachimias, 2008). Content validity is whether or not the measurement you are using covers all aspects of the concept you are trying to measure (Frankfort- Nachimias & Nachimias, 2008).

Comparing the two major areas of validation we see that design validity relates to the cause- effect relationship

while measurement validity refers to the effectiveness of the measurement. The best design does not matter if you can not accurately measure the results and the best measurement does not matter if it is measuring the wrong items. It is only by establishing that you are measuring the cause- effect relationship in a manner that is meaningful that research can obtain meaning.

References

Frankfort- Nachimias, C., & Nachimias, D. (2008). *Research methods in the social sciences* (7th ed.). New York: Worth Publishers.

Trochim, W. (2006a). Experimental design. *Research Methods Knowledge Base*. Retrieved June 23, 2014, from http://www.socialresearchmethods.net/kb/desexper.php

Trochim, W. (2006b). Idea of construct validity. *Research Methods Knowledge Base*. Retrieved June 26, 2014, from http://www.socialresearchmethods.net/kb/considea.php

Hi. Michael,

Thank for the excellent post. You made an enlightening comment, "design validity relates to the cause-effect relationship while….effectiveness of the measurement." I consider it also bears an extent of implications between the natural and social science. Often the humans or societal members pursue the stability and "socially noted" predictability where the communal values or other embedded social system is deemed most important. Under these elements in the disciplines, the researchers work to produce a scientific paper. I predicated "socially noted" on predictability since predictability is also patronized by the social scientists. One other difference is that the predictability in the natural science is "natural" as verbatim, such as in the climate change or sea and bio research. It might alert a public response to ensure safety or develop an alternative source of food, but would not be constructed in any same structure or manner as dealt in the disciplines of social science. The law department would mean on predictability that the vested rights should not be deprived arbitrarily or against a due expectation of interest holders. The department of economics, sociology, and political science may approach a predictability if new agenda to reform on the existing welfare rights would make effective on the economic growth, economic and social justice, or grounded on the legitimacy and democracy. Hence, the predictability in this case diverges although that generally remains common for the natural scientists other than in the extraordinary circumstances. One day, we may have read an interesting contrast among the international experts of biochemistry in the news paper article about the lethargic condition of Arafat, an Arab leader. They interpreted differently about his status so that we may suppose if the chemistry of continental states, such as France, would differ from the mainstream. In any case, this kind of difference seems to make it more serious an effectiveness of measurement for the social scientists. For example, a survey question and the questionnaires need to be developed and tested for the content or empirical validity. The concepts in the social science seem amenable to a diverse interpretation than the natural science, which perhaps extorts a toils and deliberation on the constructive validity. In the marginal area, we may get interesting as you illustrated. The Fahrenheit and Celsius degrees in measuring temperature had long been most official, and the former, though less in cases, was still in practice and effect. We have been introduced that the ratio measurement has an absolute zero, which may lead us to imagine if the graphics to reveal a ratio contrast may lack the bottom line disabling to capture a ratio. In one sense, it seems to be related with the definitional question about an absolute zero. More interesting is that the Fahrenheit degree actually has some definition based on the average of human core body temperature. As we know, the Celsius degree is based on water, a natural substance and on its freezing/boiling point. Then, the Fahrenheit degree is human-based, and perhaps an applied character to the community or politics. It may imply that the natural and social sciences had converged. Nevertheless, it could not excel the Celsius degree given that only a limited scope of countries respect officially that method to measure. Respectfully.

Hi ThetThet,

Thank you for the informative posting. You are interested in the leadership effectiveness in the change process. You explored factors, such as leadership attributes, leadership process, and leadership performance as a team. The collective capacity and mindset of steering person would be independent variables. Then you may advance to select a set of scale items to increase the validity of composite measures. How do you progress on candidate scale items and factors? How many number of candidate items will you test for the final scale items to be measured and to indicate variables or concepts? If you evaluate the incumbent Chinese leadership in the change process, do you see a research frame can be same with the case of liberal leadership in other countries? Respectfully.

[Week 5]

Author: ThetThet Khine **Date:** Wednesday, July 2, 2014 1:55:13 PM EDT **Subject:** RE: Discussion - Week 5

Analyzing Tests and Scales

The Relationships among Tests and Scales, Populations, and Reliability and Validity with the examples and the ability to be applied to another population

In order to measure the complex concepts reliable like leadership effectiveness in the change process (dependent variable), and the collective capacity and the mindset of the steering person in an organization (independent variables), devising the instruments by constructing the indexes and scales are the essential in the social science research process. The indexes can be constructed by combining two or more variables (indicators) and they are referred to as items. By using multiple-item scales and indexes, the researcher can use a single score representing more than one variable, which, in turn, can make statistical analysis more precise, and reliable. Constructing scales needs more attention for validity and reliability while constructing indexes can be done by simply adding up the scores.

A group of items representing a single dimension or concept, which can be ordered on a continuum according to their intensity, difficulty, severity or so on, fulfills the principle of unidimensionality of the scales. By being unidimensional, questions or items can be identified, ranked on the level of intensity or difficulty, and advance the level of measurement beyond nominal and ordinal data. So, indexes are the composite measures and these should be developed according to the purpose of the research, i. e., "what is going to be measured and how?" In measuring the broad concept like the leadership effectiveness, the collective capacity and mindset of the steering persons in an organization in its change effort, cannot be measured by a single indicator, but a number of indicators must be used which will serve a specific purpose of on the individual factors. In this example, the concept to be measured can be divided into three sub-concepts (factors) namely the individual leadership attributes, leadership performance as a team, and the leadership process, which will be contributing to the outcome of leadership effectiveness in the change process.

The sources of data and how to ensure their validity and reliability should be determined according to the purpose and the research design. In other words, the data must be closely related with the phenomenon being researched. The base of comparison, proportion, percentage and ratio must be used for the deeper level of measurement. And the scaling methods like Likert scaling and Guttman scale, should be used with the large range of sample randomly selected. Likert scaling to determine the discriminative power of the items is important to distinguish between highest and lowest DP values. The discriminative power can be measured by internal consistency method and item analysis. In internal consistency method and item analysis, the extent of each item being correlated to the total score and the researcher can retain those with the highest correlations. These testing can be proved reliable by employing the split-half reliability test, test-retest and parallel-forms techniques.

In Guttman scaling, unidimensionality and cumulativeness can be measured. The cumulativeness of Guttman scaling increase the predictability on the responses by placing the items in the order of their difficulty or intensity or specificity. The degree of conformity can be measured by calculating the coefficient of reproducibility (CR). And the validity is greater with the higher CR of the scale. It is also important to go through factor analysis to narrow down the number of dimensions or factors. By doing so, the researcher can screen the most influential indicators of a highly abstract concept like leadership attributes, leadership performance as a team, and leadership process to increase the efficacy and the validity of the research. In here, the relationship between items reflecting a factor can be determined by calculating factor loading. The higher the loading of an item, the better the indicator for these particular factors. The researcher must try to select the items that will clearly represent each factor by calculating the percentage of explained variance and in which the higher the percentage of explained variance, the clearer the item in representing a respective factor. A composite scale for each factor can be calculated by using a factor score coefficient to reach more precise groups of indicators/variables.

In assessing the leadership effectiveness in change process, the several different factors will be analyzed, in order to identify the stage of leadership in change process. In conclusion, the complex concepts can only be measured indirectly by constructing the relevant indexes and scales.

References:

Frankfort-Nachmias (2008), Chapter 18 "Index construction and scaling methods", in *Research Methods in the Social Sciences,* 7th ed.

Frankfort-Nachmias (2008), Chapter 7 "Measurement", in Research Methods in the Social Sciences, 7th ed.

Hi. Mattew,

Thank you for the excellent post. I feel that the chosen article seems fairly adequate to combat across the moribund of concepts, such as explained variance, structural bias coefficients, unidimensional, multidimensionality, and plausible test. In my view, the measurement has to be unidimensional to make the readership on the continuum of values, indicators, concepts and variables. On the other hand, as much as multi-dimensional of scale items to any validated compromise about the validity and unidimensionality of measurement could reinforce a scientific impact. Due to my short knowledge about your article and generally on research concepts, I am afraid if my view is precise. How do you find in the article, if any, if the reliability, extent to which a measuring instrument exhibits variable error, had been dealt? Respectfully.

An Integrated Model for Assessing the Leadership Effectiveness retrieved from
*www.wireinternet.com/.../**Leadership**%20**Effectiveness**%20Assessment%...*

Author: Matthew Burke **Date:** Tuesday, July 1, 2014 2:02:38 PM EDT **Subject:** Main Post - Burke

By: Matthew Burke

The relationship among test and scales appeared seamless at first glance. According to Frankfort-Nachmias and Nachmias (2008), a scale measures the "amount of a property possessed by a class of objects or events." Known for measuring attitude, scales can transform "qualitative variables into a series of quantitative variables" (Frankfort-Nachmias, & Nachmias, 2008). Tests' on the other hand generates a more sophisticated explanation. Frankfort-Nachmias and Nachmias (2008) explain a series of exclusive tests. We first explore the intrinsic factors of testing; where pretest and posttest find definitive place in research. Then test-retest depicts the notion of determining the original test results as reliable. Lastly, testing is used by researchers to test a hypothesis or two. Let's take a closer look at the unique differences and similarities between tests and scales and how they affect research on populations, reliability and validity.

Tests focus on the objective while scales focus on interpreting the objective. Populations can be tested and scaled according to several classes. Two mentioned by Frankfort-Nachmias and Nachmias (2008) are the Likert and Guttman scaling techniques. The Likert scaling technique aims to decipher the discriminative power before selecting a final scale (Frankfort-Nachmias and Nachmias, 2008). Guttman scaling incorporates pragmatic testing techniques to perform as "unidimensional" within the scaling process (p. 425). Both the Likert and Guttman scaling techniques play a significant role for researching populations. They demonstrate relative glitches within the research, and enhance the validity and reliability.

Scales and tests are proven reliable and valid through a series of resolute refinements. Factor score coefficiency, coefficiency of reproducibility, and indexes are examples of the refining process to validate a reliable hypothesis. Where Likert conceptualizes definitive attitudes, Guttman challenges a super-diligent method of extracting relative data. Therefore, scholastic means to applicable research succumbs to testing to prove its value to display as scales.

Researching astute articles relative to Public Policy and Administration with a concentration in Emergency Management led me through a series of interesting articles. Unfortunately I was unable to locate one that particularly focuses on our assignment. Therefore, I retracted to a more generalized search. The one article that covers both test and scales is by Reise, Scheines, Widaman, and Haviland (2012). In their study regarding '*Educational and Psychological Measurement'* a sensational concept of testing the psychological resolve of our educational system developed. "When fit with a unidimensional measurement model, the degree of structural coefficient bias depends strongly and inversely on explained common variance" (Reise, Scheines, Widaman, and Haviland, 2012). The common variance ascertains a plausible test of the academic populace, which showcases the data structure on page 10. I believe the series of test conducted in '*Multidimensionality and Structural Coefficient Bias in Structural Equation Modeling: A Bifactor Perspective'* can cross-analyze other populations.

Reference:

Frankfort-Nachmias, C., & Nachmias, D. (2008). Research methods in the social sciences (7th ed.). New York, NY: Worth.

Reise, S. P., Scheines, R., Widaman, K. F. and Haviland, M. G. (2013). Educational and Psychological Measurement. Modeling: A Bifactor Perspective Multidimensionality and Structural Coefficient Bias in Structural Equation

Hi Iberkis,

Great post to deal in enlightenment. I agree that scale or scaling is certainly a way to provide the validity and generizability of research work. In the article, LSI-R was evaluated as related with the SAFE and R/R, the public programs on the notorious theme of spousal recidivism. LSI-R, as you stated, has long been used as any most powerful instrument, primarily in the end toward a correctional service. As you pointed, the forms and manner of that instrument can be replicate at extent for the school admission process or other context of social needs. Scaling often developed in terms of specific research work, while the article was intended to test its reliability or even validity of that measurement instrument. We learnt a predictive validity for the general of research work, but an author's purpose in the article was to measure specifically for spousal recidivism. This manner of research, I suppose, can contribute in ways to test a paradigm and by reporting. We can see not only the issue of SR but also test a general persuasion of LSI-R. It can frontier the work commitment of researchers moving through both specific themes and general paradigm. That also seems to show a cycle within the tenet or theory, hypothesis, questions, experimental or quasi-experimental, and hopefully theory to be tested by other researchers. You stated, "…. personal, interpersonal, and automatic outcomes of personal domain as well as the strength of relationship through family, school, and work.…" I suppose that, in most countries, a prevalence based on the past data, like the LSI-R, may be challenged for many reasons. Nevertheless, its objective frame offers an ease and convenience in various context of use, as typified in the policy area of correctional service. If you are a pubic officer or CEO, do you like to complement with the method in recruitment or other purpose? Generally, do you support a qualitative kind of research, for example, in-depth interviews or ground theory building, to question or complement with the LSI-R? Do you believe if the mixed research always do serve better than one way method? Respectfully.

Author: Iberkis Faltas **Date:** Wednesday, July 2, 2014 12:32:06 AM EDT **Subject:** RE: Discussion - Week 5

Relationships among tests and scales, populations, and reliability and validity:
Definitions:

- Test is implemented to create assessments, experiments, and examinations of products. Frankfort Reynolds (2007) explained the need for testing in research studies. It allows researchers to test the data to derive conclusions on the hypothesis and in social science, test are necessary to consider intuitive judgments and to have a clear and understandable "feel for the phenomena" of study (p-132).

- Scale is a measuring instrument "designed to represent the complexities inherent in human behavior in a more reliable way" and are implemented to rank the level of "difficulty, intensity, and limitation imposed by nominal or ordinal data" (Frankfort-Nachmias & Nachmias, 2008, p-414-415)

- Population is the "aggregate of all cases conform to some designated set of specifications" (p-163).

- Reliability is the consistency of measurement an "instrument, that is, the extent to which a measuring instrument exhibits variable error" and a statistical measuring instrument implemented to "test the reliability" of the previous measurements instruments (p-154).

- Validity is the "degree to which an instrument measures what it is supposed to measure" (p-149).

Relationships:

The core purpose of the relationship between population, scales, and test is empirical for the cognitive relation of the variables and for researchers to categorize data and information for further conclusive measurement. Tests are necessary to clearly identify erroneous validities in the measurements of the variables within the population's phenomenon under observation.

The relationship between reliability and validity relies on the consistency and stability of validates. Both guarantee accuracy of the "inferences, interpretations, or actions" of the conclusions, based on the results of the measurements of the tests and scales (SAU, n.d.).

The article from my discipline is *Recidivism among spousal abusers: Predictions and program evaluation:*

The population of study in the former article is the 200 spousal abusers. The tests and re-tests were done during the 14 weeks treatments and observations on restructuring treatments on abuser's recidivisms; the main scale tool of measurement was the LSI-R; however, it was also used in correlate measurement with SAFE, the R&R, and PCL-R/LSIR; the reliability and validity of the test and scales was demonstrated and confirmed by the convergent

rationality demonstrated by the correlations of the PCL-R score, the lifestyle factors, and the general statistical information on the recidivism scale. The results were reliable because they were retested using different measurement tools and various subscales measurements.

Can LSI-R be applied to another population?

Yes.

As per the Department of Corrective Services (2002), the LSI-R was constructed to take into consideration responses to immediate situation—(in my own analytical point of view) to impulsive reactions due to emotional stimulating situations. Impulsive reactions are behaviors traits that affect all of us, with the difference that, many of us are able to exercise control over the situation while others are not able to, don't want to, or simple do not have any concern of their environment and it provides strategies of modelling to tie "to the impact of rewards and costs" (p-5). The LSI-R also allows researchers to measure repetition behavior which also happens in uncountable situations NOT related to criminal behavior, e.g., smokers. How many times smokers try to quit the habit and falls into the repetitive behavior studied by the LSI-R? And finally, LSI-R has three key of interpersonal—or source signals that I consider of general behavior—criminal and non-criminal behavior, variables that must be consider in most social science tests: personal, interpersonal, and automatic outcomes of "personal domain as well as the strength of relationship through family, school, and work" (p-6).

Iberkis Faltas

Department of Corrective Services LSI-R Training Manual. (2002). *NSW Department of Corrective Services.* Accessed from http://csa.intersearch.com.au/csajspui/bitstream/10627/548/1/LSI-R%20Training%20Manual.pdf

Hendrics, B., Werner, T., Shipway, L., Turinetti, G. J. (2006). Recidivism among spousal abusers: Predictions and program evaluation. *Journal of Interpersonal Violence, 21*(6). 703 – 716. doi: 10.1177/0886260506287310

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York: Worth.

Reynolds, D., (2007). *A Prime in Theory Construction.* Boston, MA: Allyn & Bacon Standardized Measurement and Assessment. (n.d.). South Alabama University. Accessed from http://www.southalabama.edu/coe/bset/johnson/lectures/lec5.htm

Hi. Aleta,

Thank you for the excellent post. It seems a great idea to construct an exposure indexes, which is intended to remedy a vulnerable reliability of research. In some aspect, the way you plan on may enable the additional information about exposure times. In other aspect, it may raise a difficult work to make it cohesive between the effect of carcinogen on breast cancer and working women. How do you deal with this problem? Hope to do successful work on your research plan. Respectfully.

Author: Aleta Horton **Date:** Thursday, July 3, 2014 2:04:05 AM EDT **Subject:** Main Post to Discussion Wk5

Levels of Measurement and Concepts of Validity

According to Blome and Bochmann (2011), "measurements that are made for scientific purposes are not bound by the legal requirements that apply to mandated surveillance activities" (para. 18). When researchers use tests to study their participants, they are not creating laws or policies, they are establishing guides for which they will measure and compare their participants' traits, characteristics, problems, solutions, and/or other attributes. With each of the test, a scale is needed to separate and/or evaluates the values or result of the tests. In qualitative research, just having the data from the test is not enough, there needs to be a way of formulating and categorizing the data.

Population is used as a surveillance data. According to Blome and Bochmann (2011),

Surveillance data must satisfy well-established criteria. The measurement technique should not influence the results during the measurement process (reactivity). Furthermore, the measurement should be objective, reliable, and valid. The results should not be influenced either by the measurement technique used (execution objectivity) or by the reading or documentation by the measurement technician (assessment objectivity). The

same measurement values should be obtained under the same conditions (reliability); the intended thing should be measured (validity) and interactions with other substances or exposures should not unduly influence the results". (para. 6).

Test and Scale Examples from My Discipline

There are at least two tests and scales, which I have found that I feel would be very useful in my discipline. Each of the tests will use a ratio level of measurement, and a Likert scale, which uses six steps:

1. Compile a list of possible scale items
2. Administer these items to a random sample of respondents
3. Compute a total score for each respondent
4. Determine the discriminative power of the items
5. Select the scale items
6. Test the scale's reliability. (Frankfort-Nachmias & Nachmias, 2008, p. 422)

One of the tests is a Breast Cancer Risk Assessment Tool, which was produced by the National Cancer Institute (NCI). This test is focused especially on the population that I am studying, which is white woman, over the age of 35; however, the reliability and validity of these tests are not exactly the best. This test fails to consider some other factors, which are or could be cancer related, in the participants' lives. Factors such as the participants' smoking habits, their place of employment, the exposures in their community and/or homes, or their medical conditions.

The other test is a measurement in the environment. This test would measure environmental cancer-causing agents in the workplaces and about 50 homes of the participants. This test will evaluate known cancer-causing agents in each of the workplaces of the participants, and at least 50 of their homes. The population of this test will focus specifically on white women between the ages of 45-49, who have or have had some form of breast cancer, and are residents of North Carolina. The validity of this test is a positive, since this test will use a number of various databases, such as:

- Toxicology Data Network (TOXNET)
- Occupational Safety and Health Act (OSHA)
- US Department of Health and Human Services (DHHS)
- National Toxicology Program (NTP)
- Hazardous Substances Data Bank (HSDB)
- National Institute for Occupational Safety and Health (NIOSH)
- Material Safety Data Sheet (MSDS). (Horton, 2013, p. 5)

The reliability of the test is negative, since there is the amounts of times of exposure to the harmful agents are inconsistent; therefore, exposure indexes would need to be created. The exposure indexes could be produced as ratio scales. This test could also be used to measure other populations, such as different age ranges, genders, and/or duration of exposures before the diagnoses any form of cancer.

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Author: Gloria Doherty **Date:** Thursday, July 3, 2014 1:08:29 AM EDT **Subject:** RE: Discussion - Week 5

Analyzing Tests and Scales

This posting analyzes the relationships amongst tests and scales, populations, and reliability and validity. An example of a test and scale from the medical discipline follows. Finally, a discussion of the test and scale being applied to another population ensues.

Tests and Scales

Tests are tools intended to measure performance of an individual in some area of interest. There are two different types; norm referenced and criterion related test. Norm referenced tests are standardized tests based on a minimum achievement through comparison to others participating resulting in a rank (Huitt, 1996). The participant receives a score, a percentile, or grade equivalent. Examples of this include achievement tests, aptitude tests, and intelligence testing.

Criterion referenced tests focus on a specific subject, concept, or skill (Huitt, 1996). The measured objectives are predefined operationally and behaviorally. The pass is set by the researcher.

There are several different scales. Regardless of the type, possible items are considered, piloted, given a total score, determining the discriminative power, selecting scale items, and seeking reliability of the scale (Frankfort-Nachmias & Nachmias, 2008, p. 422). The Likert scale usually seeks to measure attitudes (Frankfort-Nachmias & Nachmias, 2008). Guttman scaling is a variation of the Likert scale designed to empirically test unidimensionality of a set of items (Frankfort-Nachmias & Nachmias, 2008, p. 425).

Reliability and Validity

Test

Test validity establishes it is measuring what it is intending to measure. This is through criterion and/or content validity. Criterion validity determines whether the test is reflecting the set of skills it is supposed to. The content validity determines whether a test encompasses a full range of behaviors of what is being tested. The behaviors tested must be representative of the construct.

Reliability is attained through test-retest with correlation of scores. The stability of scores would be determined as a correlation coefficient. Parallel forms reliability uses two different forms, similar to the split half reliability of scales. Inter-rater reliability assesses if the consensus of those judging (Phelan & Wren, 2005).

Scales

The discriminant power is determined through item analysis with an internal consistency method or discriminant power method. The scale must be able to discriminate between those respondents with high agreeability to those with low. An example of a reliability test is the split-half reliability test. Additionally, Pearson's r can be utilized to determine how closely related items within a scale are (Frankfort-Nachmias & Nachmias, 2008). For Guttmann's scale, a coefficient of reproducibility confirms results conform to a scale pattern.

Factor analysis is useful for those with a large number of interrelated variables needing classification in a limited number of domains (Frankfort-Nachmias & Nachmias, 2008, p. 427). Together, these domains represent a phenomenon. Relationships are determined through the Pearson's r and factor score coefficients.

Examples

Test and Population

A test within the medical field often used is the mini-mental state exam. This test is basically a screening for cognitive dysfunction. This was deemed to have construct validity and reliability (Tombaugh & McIntyre, 1992). The content analysis revealed the test as highly verbal, making this not adequate for developmentally delayed individuals, those with hearing impairment, or those less educated. It cannot be used on the whole population but does provide a useful tool. However, it is deemed valid in numerous populations. Due to poor interrater reliability, it cannot be used to determine drug treatment effects (Davey & Jamieson, 2004). Providers must take care not to rely solely on the results of this test.

Scale and Population

The Minnesota Living with Heart Failure tool is a scale meant for those with heart failure. IT has been deemed valid and reliable in many studies relating to improvement in quality of life (Rector, T.S., 1992). Factor analysis would be appropriate for this scale as it seeks to identify perceptions in physical and emotional dimensions to create the quality of life construct (Rector, 2004). There is test-retest reliability with r = 0.87 and has internal consistency measured through Chronbach's alpha for all items of 0.92 (Rector, 2004, sec. 12). Factor analysis revealed higher inter-related subgroup of 8 questions in the physical symptom area and 5 emotional domain (Office for Technology Commercialization, 2014). So, there is high internal consistency. There is a construct correlation showing that it is measuring what it is intending to (Rector, 2005). This scale is meant for a specific population. However, there is high correlation with scores and associate New York Heart Association class. It can also be used for COPD patients who have quality of life restricted by dyspnea.

Final thought:

Rector (2005) discusses the following 'aha' moment, "..estimates of internal consistency can be increased by increasing the number of interrelated items on the questionnaire" (p. 3). Makes sense, but makes one wonder.

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[Week 6]

Hi. Lynda,

I have enjoyed reading your post. I agree that the sampling frame in the selected article would be purposive one as indispensable to argue on the author's theme. Since the researchers test a hypothesis, "State programs to strengthen marriage do effect on poverty issue or divorce rate," the state seems to arise on his subjective judgment and he considered each state to be representative of sampling population. In this case, I may see if the sampling population might be infinite across the span of decades in time track, or fairly gross from the some definite point of time on the effective modern marriage support program. Given one year research, 50 states may be said both as sample units and sample population. I also agree that a small scale and concept of strata or stratified sampling can be stronger or more realistic in this case with implications or repercussion. Crime rate and urban or rural would be items researchers would not like to miss in this nature of research. However, I respectfully disagree if the current research is stratified samples since each state is a firm unit and would not be from different groups of population. In your past research experience, do you see if it is imperative to complete all 400 sample units initially planned? What would happen if you miss 10 units? Respectfully.

Author: Lynda Boswell **Date:** Thursday, July 10, 2014 12:44:41 AM EDT **Subject:** Week 6 Discussion - Boswell Main Post

MAIN POST

The journal article used for critiquing the sampling strategy and sample size is by Kickham and Ford (2009). The data they are looking at are state programs that encourage strengthening marriage, with the byproduct of decreased divorce rate, and decreased childhood poverty (p. 846).

The sampling strategy is to use a stratified sampling pool (states that have active programs and states that are not as active). From the stratified sampling pool (each state), they used descriptive statistics from several types of sources, and used that in a time series over 17 years. When they used the descriptive statistics, it described the purposive samples in Frankfort-Nachmias and Nachmias (2008, p. 168). The reason the statistics are purposeful is that Kickham and Ford rely on an already given measure for several of the descriptives they are using such as unemployment, number of marriages, childhood poverty, etc. given by each state regardless of the accuracy of the measures. Also, using other census data and the current population survey, they included those to do their analysis. This sampling design is nonprobability.

It's hard for me to criticize because of the time series. If data were collected consistently for all states in certain areas related to the hypothesis mentioned by Kickham and Ford, it would be a stronger suggestion or proof. Anyone can develop a sample design in terms of the groupings and get down to what's actually happening in terms of the effects of aid that aims to strengthen marriage. It would be easier to do case studies via community, and then populate the data. Stratification can be isolated to rural or urban, high crime, low crime areas, etc.

In one of the studies I have done, we used a systematic sample to obtain the availability of potable water. The required Sample Number was 400. In this neighborhood, we chose every 4th home, and if the person was not there, or did not wish to participate, we went to the adjacent home. We were able to obtain our total number. We

then wrote a proposal which the government accepted, and the following year, the community had potable running water. This method could not have been improved as we were seeking solutions and answers regarding perception and reality. (The government perceived there was no issue.)

That was pretty straightforward. With the Kickham and Ford study, they used a lot of other agency's data and I think that worked for this study. At the least, it showed areas in which we may want to handle this hypothesis differently.

Kickham, K., & Ford, D. A. (2009, Sept./Oct.). Are state marriage initiatives having an effect? An initial exploration of the impact on divorce and childhood poverty rates. *Public Administration Review*, *69*, 846–854.

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Author: Trang Nguyen **Date:** Thursday, July 10, 2014 3:52:31 PM EDT **Subject:** RE: Discussion - Week 6

Main Discussion Post

Critiquing Sampling Strategy and Sample Size in a Research Article

In a quantitative research, an appropriate sampling strategy is important for that it secures a representative sample of the research population which will lead to research findings reflecting the true effects of a treatment or true relationship between variables. Sampling strategy-making involves considerations of sample design, sample frame, and confidence interval. From these considerations, the researcher can calculate sample size to researcher's desired balance of cost and risks of being wrong in research findings. Sampling strategy also take into account non-sampling errors, such as non-response rate, in order to have solutions to eliminating bias introduced into researching finding.

In the article "Non-profits and civic engagement" (Berry, 2005), the author employed the quasi-experimental designs and random sampling. The general hypothesis was that "section 501(c)(3) significantly deters political participation and, as a result, diminishes the potential of nonprofits to build, nurture, and enhance civic engagement in America." (Berry, 2005, p.5). The population was 501(c)(3) organizations. Although the total number of 501[c][3] organizations was 800,000, many of them are not registered because their annual income falls below the threshold of $5,000. Therefore, only 220,000 which were IRS listed were included in the sample frame as the control group, and 2.5 percent of all 501(c)(3)s taking the H election option was the treatment group. The data were gathered from a random-sample mail survey of nonprofits from around the country; phone interviews with the executive directors of some of the organizations that took part in the survey; focus groups with nonprofit executive directors or board members in selected locations around the country; and interviews with experts on nonprofits or nonprofit law in Washington, DC. The study did not face with non-response error because the response rate of mail survey was 64% which was considered as a high rate and almost 100% for phone interviews and focus groups. There was no discussion in the article about the sample size for ensuring the representativeness of the sample and confidence interval. The sampling strategy of this research is evaluated strong. However, this research has a problem of research design: a quasi-experimental two-group design which is not appropriate with the research purpose. The objective of the research, as presented in the article, not to measure the impact of a treatment (H election), but to confirm that the regulation of IRS section 501(c)(3) including provisions on H election restricted non-profits from mobilizing marginalized people to participate in making policies that affect them. As such, the two-group design appears not appropriate, rather a survey design is more relevant with the same sampling strategy.

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Vol. 65, No. 5

Hi. Trang,

Good post! You argued that a survey design is more relevant with the sampling strategy. IRS law would be developed from many purposes. In one respect, the non-profits need to be politically neutral or disaffiliated to ensure a public expectation on their distinct commitment. One the other hand, the political engagement is implied of its commercial nature which debases a tax exemption for the non-profits. H-election would be the kind of moderator to reconcile a rigorous treatment of IRS code. Hence, H-election seems to place at the center of research problem that cannot be neglected. I see no reason to demerit the two group design in this case. Do you

consider if the tone of argument or any critical evaluation between the treatment group, say, H-electors and general nonprofits of IRS section 501 © (3) is generally lacking? The IRS listing was utilized to develop a sampling frame which appears to serve as convenience samples. Why do you think the researchers failed to implement a probability sampling? If sample size is larger, nonprobability sampling can be equal with the probability sampling? How do you assess if the non-response rate, 64 % in this case, would possibly bias the result? Thanks and respectfully.

Hi Innocent,

Thank you for the excellent post. I also see it exciting if the experiment was conducted with the ethnic samples beyond gender. This kind of sampling frame may involve the practically infinite sample population, which include all the mankind with requisite mental capacity. A correlative between the external pressure or phobia and attitude to obey authority is quite interest-provoking. As the authority or norm is one of pivotal concepts in the social science, researchers would like to test an earlier research. We generally learn that the sample size need not to be always larger to assure the scientific persuasion of research. How many of sample units do you consider to make it most effective? The researcher in this article has seemed to take care for the unbiased and most representative sampling. For example, the college students were excluded who were available of extended exposure to the psychology subject. This implies that a normal and reasonable person had been pursued as a sample unit as less as tainted possible. In my view, a more serious issue in this type of research would be of ethical nature. Then the volunteer-based sampling would be any most feasible way to be used. Further, I consider that the due standard must be kept to allow the test takers to be informed duly and not to be misled as well as make a voluntary assent. Overall I generally agree on your view, but I am afraid if you see any other way beyond the volunteer method. Respectfully.

Author: Innocent Azih **Date:** Thursday, July 10, 2014 7:14:30 AM EDT **Subject:** RE: Discussion - Week 6

The article *Replicating Milgram: Would people still obey?* (Burger, 2009) is reviewed in the context of its sampling frame. The population of 70 participants in the research had a gender distribution of 29 males to 41 females of mean age 42.9 years. This is an example of non-probability sampling (Frankfort-Nachmias & Nachmias, 2008, p. 167) that employed purposive sampling of volunteers.

Given the small-size scale of the study, the process of recruitment of participants was through advertisement in newspapers, online service listing, etc, which did not indicate a random sampling procedure (Frankfort-Nachmias & Nachmias, 2008). Indeed, the study did not define any population of interest as a sampling frame (Frankfort-Nachmias & Nachmias, 2008, p. 165) which could not indicate the correspondence of the sample used to any population. It did not even specifically target any ethnic population. However, there was a randomization of treatment and maintenance of consistent approximately equal gender ratio (Burger, 2009, p. 6). It however ensured that those who may have been aware of the earlier research were excluded.

Again it used the final sample size on the basis of volunteers without indicating the proportion of to the overall or any intended specific population. Consequently when a participant could not bear treatment and exited (Burger, 2009, p. 7), it meant that the sample is dwindled and could not be replaced and could introduce error at that point.

This non-probability sampling is a poorly designed sample (Frankfort-Nachmias & Nachmias, 2008, p. 166) and the conclusions could not be generalized to any gorup or population.

I think that a definition of specific target population frame will make the quantitative research more meaningful and focused. It should also have contained a means of randomizing participant selection beyond the volunteer method. The response of the participants on the may be different if they believed they were not being video-taped. This may help to capture the true mood or reaction to stimulus.

[Week 12]

Author: Matthew Burke **Date:** Tuesday, August 19, 2014 4:00:45 PM EDT **Subject:** Burke - Main Post

Week 12 Main Discussion Post: Multivariate Analysis

By: Matthew R. Burke

According to Dr. Burkholder (2014) multivariate test analyze three or more independent or dependent variables simultaneously; whereas univariate tests one and bivariate tests two variables. I believe each model is appropriate in its own accord. Depending on the research being conducted, any of the three could be most beneficial. I believe for completing an academic assignment, less is more; thus utilizing the univariate test would be most effective (in my opinion).

Another way to look at it is through a sense of thoroughness. I believe multivariate tests' could promote a deeper look into a perpetual issue. Not uncommon is the quantitative and qualitative research models. Both would benefit utilizing the multivariate test, if the researcher sought to resolve a problem with a solution.

In my research of underprivileged communities, there will be numerous factors to consider. Looking at these factors through a multi-dimensional lens like multivariate test will offer me an opportunity to explore the global issue. Primarily, I would focus on three w's: why are you poor, what are doing to escape, and when will you move? The asusmptions are that people are born into poverty and never escape. Drugs, gambling, and other sorts create poverty. People don't escape poverty because they don't try. And lastly, the assumption exist that geographic and demographics are acquainted to poverty. I would utilize the multi-dimensional lens to explore potential solutions.

References:

Burkholder, G. J. PhD. (2014). Multivariate Statistics: An Introduction. Walden University. Retrieved from Blackboard Week 12 Resources.

Hi. Matthew,

Thank you for the good post. I agree that the univariate test is basic and breeds a seed thought on the many of understanding over the SPSS statistical analysis. However, the social scientists oftentimes employ the multivariate test as you suggest the frame of your doctoral research. The topic seems very interesting and perhaps one of hyperboles in the national concern. Some of core research center was said to operate on the research work and practical solution to reduce the poverty in the nation. There could we assume differing perspectives about the cause of poverty and any policy remedies. How do you make your point among the personal, social, and public or economic version? Do you believe if the poverty would generally be permanent when he or she is born into a poor household? Respectfully.

Hi. Chinwe,

I have enjoyed reading your post. I believe that your variables are fairly well framed and properly squared to cover the factors, which affect the tradition. Tradition in your use of that word seems very determinative in understanding the mindset of girl children training. Do you consider the scope nationally or internationally? Perhaps, the international comparison may complicate the thesis you like to draw upon. One other variable, if potentially significant, would be an age of girl children. What age scope do you consider to investigate? Thank you for the excellent post.

Author: CHINWE MORDI **Date:** Wednesday, August 20, 2014 5:47:43 AM EDT **Subject:** RE: Discussion - Week 12

Multivariate analysis is a statistical method used to analyse data from one than one variable. In some analysis the researcher is trying to obtain an outcome from many different determinants or they might just be trying to observe the sensitivity to these different determinants under various control conditions. It can be used in different sectors ranging from research, through process simulation. The aim here is to obtain the dominant pattern, trend or outliers. These patterns are then classified and then a relationship is established. This becomes especially important because in research using experimental data variables are hardly univariate in existence. Also there exist multiple complex interrelationships and a multivariate solution and deduction process becomes necessary. For researches with non experimental data, although variables might analyses in univariate pattern, it takes a multivariate approach to answer the question that would result from it. (Esbensen, 2002)

Multivariate analysis although blest with the ability to describe real life scenarios, enable multiple variable analysis, better interpretation with greater statistical power, has its own seeming draw backs to include multiple rules and

assumptions (that sometimes makes the research less robust), lack of clarity/ambiguity and sometimes unnecessary complexity, it is therefore necessary it is performed when exactly, and that the process of analysis and deductions is well understood and followed through. (Mardia, 1979).

My research study involves understanding the mindset of a set of people in the light of the tradition they were brought up in and how this mindset has evolved into the way they train their girl children. Tradition is not just one factor but rather a culmination of many factors which could include location, education, mentor influences, economic status, location etc. It is therefore necessary to note that some of these sub-factors could influence the "tradition" factor in affecting the mindset, while in another respect, they could major influences to the overall girl child education problem themselves. It is important to understand how these variables relate with themselves and the outcome and find out the dominant trend that exists therein and that is why an understanding of multivariate analysis becomes very necessary.

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Mardia K, et al (1979) Multivariate Analysis. Academic Press

Hi. Taylor,

I enjoyed reading your post. Your quote, "common conceptual meaning" seems to represent a surprise of multivariate analysis. Most especially, the Z-score calculated from the aggregation of values and their variance seems to culminate that many ideas on dependent variables shifted into any numeric expression on recognition and human sense. Multivarite regression analysis also enlightens the relationship among the variables to make the data firmly understood on the statistical vindication. As one peer pointed, however, there are more assumptions to condition on the statistical analysis in this case other than univariate one. It seems fascinating if we can forecast the groups more probable in terms of emergency management or terrorism policy. Can you briefly introduce the variables to explore your research plan? Thank you for the excellent post.

Author: Taylor Stark **Date:** Thursday, August 21, 2014 1:36:08 AM EDT **Subject:** Main Discussion Week 12-Taylor Stark

In a journal article written by Zientek and Thompson (2009), they explain three important aspects in the use of a multivariate analysis: 1) multivariate methods decrease the probability of experiment-wise Type I errors; 2) citing Bray and Maxwell (1985), these test can be much more powerful against Type II error than univariate tests of the same data (only under certain conditions); and 3) citing Thompson (1991), these methods capture what the researcher is trying to generalize (p 345, para 3). A definition of Multivariate Data Analysis, supplied by CAMO, states that it "refers to any statistical technique used to analyze data that arises from more than one variable" (CAMO Software website, 2014). These methods, according to CAMO, are appropriate for such fields of study regarding market research, development, and consumer research (CAMO Software website).

Dependent variables within quantitative studies can be observed simultaneously, in order to find if any one variable correlates with another or shares a common denominator. Multivariate analysis could be used in studies that determine the correlation of rural and urban living and the effects of poverty, student assessment in higher education, and the comparison of different ethnic perceptions on social and economic topics, for example. Sink and Mvududu (2010) further these examples by contending that "for situations where two groups are compared….the researcher assumes that the groups have equivalent variance in self-efficacy scores" (p 5, para 2).

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Appendix

(Sample Residency Progress on the Research Plan)

QUANTITATIVE REASONING & SOCIAL SCIENCE

Residency 2 Final Assignment: Research Plan			
	Required Component and Description	**Student Response**	**Additional notes, questions and/or next steps**
A.	**Research Question**	**The Research Questions/Hypotheses/Variables**	Skills for Doctoral Research : Points of Lesson
	Following Seminar 1 write your current research question.	In formulating the research questions, I have surveyed a scope of literature and national statistics in terms of the welfare and housing policy and their current status in South Korea The literature has been abundant with the decent standard and role of government in dealing with the welfare of Korean public. Their focus seems elaborated on the new concept of human right, issues of urban planning, economic disparity and welfare policy on the marginalized group. Narrowing our concern, we can see an initiative or public programs on the new housing policy, *Happiness Shelter* (HS) and other similar nature of financial support for the degraded class of Korean society (Tae-ho Do, 2009). The HS was created over the past election campaign for President M.B. Lee in 2007-2013. Other public programs and contracts have generally been pursued on a continued basis over the successive governments, in which the government may make a lower rate of loans for the household stripped from the housing difficulties. This area of public policy in South Korea, however, must be viewed as lacking or incomplete because the housing policy was narrowly focused on the statutory concept of "housing" (Tae-ho Do, 2009). Moreover, the safety standard in these types of housing has been neglected, in which the factors pursuant to the NHR were neither concerned nor investigated to provide a basis of adequate policy response. For this lacking, we could hardly find any plausible scheme or public program on the finance, loans and any tax benefit for this category of generally impoverished group. The theory and tenet created over the decades in Korea generally are that an economic polarization has been intensified to transform the society in a radical divide. From the theory and hypothesis, I will derive three research questions; (i) How significant can we ascertain the increase of NHR in Seoul city (ii) Why did the NHR multiply in number? (iii) What characteristics can we find from the NHR in terms of the personal and household demography, motive, economic status, and distribution within the three types (iv) Are the current system and law adequate concerning the urban housing policy in Seoul City, or how can we improve or reform it? * NHR : Non-housing Residences (for example, one room rentals and so)	1. Identify considerations and strategies when moving from research idea to question 2. Dissect the organization and content of a peer-reviewed article to understand the context of the research question and problem 3. Develop a research question and problem statement based on individual research interests

B.	**Research Methodology** What methodology would you propose to test your research question and why this is the best one?	In response with the changing trend in view of the residential mode within Seoul city, the author has been inquisitive of an accurate profile, including its status and characteristics, as recently developed within the NHR. The research project was phased into several stages from the status and characteristic of NHR, current law and system pursuant to the national housing administration, comparative review with the foreign nations, such as Germany, England, and other western countries, architectural or constructional issue on the space design and use, and finally through the implications of research finding for the improvement and reform of the current national housing policy (2013). The mixed method was applied to finalize the project, which includes a public survey and in-depth interview with the residents within the sample. The investigation on the documents and record were undertaken particularly to respond with the second and third stages. Some skills and experts on the space design and use were employed to disclose the problem of worse space use in the mid of chapters. The research design I applied to this project may be properly viewed as quasi-experimental or cross-sectional one, which is most popular in the disciplines of social science (Frankfort-Nachmias, C., & Nachmias, D., 2008; Kiyoung, K., 2014). As framed, the independent variables could not be manipulated from a pretest and posttest typology as traditional with the experimental design. The intrinsic and extrinsic factors would be conceived in spectrum to locate a reality between the independent and dependent variables and to construct any meaningful relation of research findings with the values, hypotheses and eventually answers or suggestions for the research questions. The mixed method is best since the research question requires an objective and subjective data. Typically photo or blueprint for worse construction would be innovative for the participatory-action method. As the class of people may be aged or poor solo, their reality could only be excavated from an in-depth interview in combination with the survey.	• **What are some defining characteristics of the following approaches to research? And how do we apply to my research plan?** ○ Qualitative ○ Quantitative ○ Mixed Methods
C.	**Theoretical Foundation and/or Conceptual Framework** List 1- to 2-potential theoretical foundations and/or conceptual frameworks that may guide your study. State the key concepts of the theory and how they are related. For conceptual framework, describe the particular “lens”	The legal theory generally indentifies a new generation of human rights on decent housing. The economic theory now finds an extended polarization between the poor and well to do, and seriousness of poverty issue. The public housing policy would be distinct and intense on this issue, which has an impact in interdisciplinary ways, such as human rights, social welfare and economic policy For details, see the second file attached to	**Peer-Review Resources: Key Components** • Theoretical Framework • Literature Review • Research Questions and/or hypotheses • Assumptions, limitations, and delimitations • Implications of the research

	this framework offers for your study.	this e-mail.	
D.	**Gaps**	As stated, the literature has been abundant with the decent standard and role of government in dealing with the welfare of Korean public. For example, the literature on legal theory acknowledged new concept of right to housing, which nevertheless lacks details depending on national particulars or policy resources Some public programs and contracts, not exactly a source of literature, have generally been pursued on a continued basis over the successive governments, in which the government may make a lower rate of loans for the household stripped from the housing difficulties. This area of public policy in South Korea, however, must be viewed as lacking or incomplete because the housing policy was narrowly focused on the statutory concept of "housing" (Tae-ho Do, 2009). Moreover, the safety standard in these types of housing has been neglected, in which the factors pursuant to the NHR were neither concerned nor investigated to provide a basis of adequate policy response. For this lacking, we could hardly find any plausible scheme or public program on the finance, loans and any tax benefit for this category of generally impoverished group. The theory and tenet created over the decades generally are that an economic polarization has been intensified to transform the society in a radical divide (Shin, K.H., Shin D.K., 2007). This generally leads to the understanding that a reality and policy response for these poor groups are necessary, but with no specific solution. From the literature and similar sources extant, we find a gap that failed to deal with the alternatives and due response for the NHR (2009).	● Note : In terms of literature review, finding a gap from the existing authorities is important.
	Identify at least 1 potential gap		
E.	**Assumptions, Limitations, and Delimitations**	Assumption 1: The *lassiez-faire* economy is generally considered to facilitate a material prosperity in the high speed on one hand, and contributed to a scope of social injustice from the structural flaws (Shin, K.H., Shin D.K., 2007). The modern administrative state began to involve remedying for a basic and decent standard of human condition. Assumption 2: They are both regulators for the capitalists and collaborate with them for the common welfare and national prosperity. In this ambit, the states may take an initiative to reduce a carbon emission and create a rule for statutory standard of workplace safety. Assumption 3: The regulated community may be generally drawn from the production side. Limitations for above 1, 2, 3: Nevertheless, the government also turned	**Note : One key element in the academic resources or authoritative public document would be related with assumptions, limitations, and delimitations.**
	Identify at least 1 assumption, limitation, and delimitation.		

		to assume a bitter responsibility to address the group of weak bargaining power other than the enterprises and businesses. For example, homelessness in the American community has been one crunching issue for the human standard of condition. A poverty reduction comes as a priority if to focus on the recent trend in the US. They also require mobilizing a lot of fiscal resources to suffice an extent of social welfare system. The tax policy was pecked about its effectiveness and efficiency in the global jurisdictions. Limitations and Delimitations : In this understanding, I have identified two salient problems on the social welfare administration in the countries. A housing, along with the food and clothing, is one of three basic conditions to determine the welfare of citizens and people (Bratt, R, Stone M., Hartman, C., 2006). Homelessness definitely would be a most ready problem we have kept over a period of public attention and concerned deeply to restore the shared community. **(1) The policy makers and researchers generally undertake a square of efforts to investigate, involve and cure, but we failed to see any remarked of progress or improvement. (2) The issue of homelessness is viewed as a general of policy point shared largely by the global jurisdictions**. **(3) Other problem, as less highlighted in terms of the decent human housing, may be said as particularized to a specific national condition or cultural sharing.** The decades of Korean experience in the wake of globally economic restructuring and turbulence might incur a new cultural mode of housing subsistence. The *Koshiwon, Zsukbang,and Korean Inns(K-Inns)* are three representative paradigm of deprived class in maintaining their feeble standard of living arrangement (Korean Urban Research Institute, 2013). It could not be termed as homeless since they culturally recognize such poor quality of space as their home. The residents may be a layoff from the 1994 IMF financial crisis and for other personal misfortune in managing their personal and household economy (Shin, K.H., Shin D.K., 2007). This housing pattern, therefore, tends to stigmatize a recent rise of economic polarization in South Korea, high crime rate and suicide. I believe, as a corollary, that the problem well provokes the policy makers as a first priority within the social welfare agenda list.	
F.	**Controlling and Managing Bias**	The internal validity may shrink if one argues that other mode of residences must be studied because of its influence. Despite a persuasiveness of this argument	
	Identify one strategy for controlling and managing bias		

	in your research.	in the hypothetical assumption or odds, it is practically slim to tarnish the research design any significant way. That is principally because those are salient to occupy the social issue of deteriorated residential condition and poverty, and also because the definition can well be adaptive to make an effective coverage. External factors might also be brought to challenge the external validity of research, to say, generizability of research outcome for the cause and effect relations basically between the NHR and economic poverty (2014). Hence, the creativity of researchers would be required to frame more persuasively by including other factors in relevance and influence. For example, his educational background, the intent and willingness of a lesser or owner (LO) of NHR to remodel or repair, personal motive to reside in NHR and other factors may be introduced to approximate a most perfect account for the causal relations at extent possible. In some cases, a rich solo may wish to reside in small one man space, and chose to reside in Z or K. In other cases, the LO's reluctance to remodel or repair may cause to prevent a decent standard of housing. This aspect would certainly be less powerful to explain these modes of residential problem than the economic poverty. Nonetheless, this wider frame could increase power of general persuasion by illuminating a most proximate picture about the truths. The research project is not longitudinal in time element, so that their can we see no reason to employ a time-series design or panel form of cross-sectional research.	
G.	**Summary of the Literature/Logical Fallacies** Attach a brief outline that describes the flow of your intended literature review. Describe one logical fallacy and how you will guard against this in your own writing.	In my research plan, the lessors or owners of three type NHRs often earn a considerable income profit from his business. Among the three, Z type would be reported of least income, but the operation expense also is smallest to balance. They generally tend to be defensive against the investment for affordable room condition. K and K-Inns seem to be more active about the investment and improvement of business facilities, which perhaps would be correspond with the higher income profit than Z type. The logical fallacies from the literature generally arise from the Korean sources, most of which argues "more government or charity support would serve an improvement of three type NHRs for better dwelling condition." That argument is based on the premise that the owners or lessors would faithfully respond with the support and increase the investment accordingly. This argument is pivotal in this area of research, which eventually intends to suggest the more	Note: The basic structure of all arguments involves three interdependent elements, claim, support, and warrant. Let us to illustrate the No Child Left Behind Act in 2001 and it effect on the public education. The author may create an impression or make conclusion that the Act has led to an increase in high school student drop-out rates. He claimed in that way and the author argued "Drop-out rates in the US have climbed by 20% since 2001." In this case, the quoted sentence would be support, a minor premise in the argumentative structure. We also see that major premise of authors argument is that the drop-out of students is a bad thing, which we call warrant. But consider the drop-out rate may indicate other good consequence in some cases, which tarnish the author's intention or conclusion on the Act concerning the effect on the public education. *Logical fallacies* occur in this case, which are errors of reasoning involving the incoherence of arguments from faulty connection making.

		effective NHR policy. The logical fallacies would be serious to provoke an extended investigation and evidence-based argument. Plainly, the investment support can well discourage the lessors or owners, who would not volunteer to invest. This requires a distinctive approach and system from the charity or normal support where most critical repair or remodeling is necessary for safety and extreme deterioration. The logical fallacies also could arise from the misunderstanding of charity support, which is dispensed for the support of poor resident, not for the purpose directly on the improvement investment. This makes it dubious if the lessors or owners would be willing to turn such support for repair or remodeling.	
H.	**Synthesis of the Literature**	The literature shows that several level of public program for residential improvement and financial support of worse condition residents. We also confirm a law, public program and system which works to address the challenges of NHR problems in South Korea. However, the current institution and system mainly rely on the two statutes “Construction Act” and “Fire Safety Act.” This means that the minimum human standard of housing was outside the scope of due contemplation. This requires that basic standard needs to be created, most effective alternative being evaluated for NHR improvement project, and establish a connection with the existing NHR plan of government. The literature or public document from the US, UK and Japan provides an acceptable standard of NHR policy and residential modality for the poverty class. For example, the hotels afforded with the single room occupancy for the inflows of urban workforce, in the effect of 1970 gentrification, was responded with new zoning program where they had been mostly remodeled for the middle class residence. We also see a helpful standard of comparative evaluation or lesson from the UK and Japan, for example, Housing Act 2004, which instituted a Permit system on the houses in multiple occupation. The creative reading of these sources generally suggest that the standard or requirement for normal housing policy would not serve effectively for the marginalized condition of NHRs. They also advise that non-intervention of government is highly problematic. Their general guideline would be (i) the three countries manage a dual of policy response to deal with the general housing policy and that of NHRs independently (ii) the NHR policy is highly dependent on the practical variants and particulars of locality (iii) the NHR policy is not	
	Write 1 paragraph that provides a synthesis of at least 3 articles that approach your topic from different perspectives.		

		separated from the welfare policy of poor class, and combined to sustain a minimum standard of human rights.	
I.	**Implications for Future Research**	The public concern and action to address the challenges for the marginalized class of NHR residents are not only important or urgent, but also requires a constant monitoring or responsive system over the time period. The issue also involves a interdisciplinary examination and comprehensive measure on the economics, law and public policy. My research plan also needs to be complemented from future work on other localities of South Korea given the nature of problem would differ depending on the local variants. In this aspect, the research plan may provide a frame and paradigm for empirical method and research design for the future work. More specifically, the research plan is based on the sample population in the year of 2010, who reside in Seoul city, South Korea. The inflows would fluctuate at radical rate, which, for example, marked an increase of 49.1 percents yearly. The number of NHR households in 2010 was 144,629 and 71,013 ones explain for the inflows in that specific year. This strongly suggests that the recent economic polarization and worsened poverty issue in SK well factor such rapid increase in Seoul city. If the number depends on the national economy or social stratification, the research needs to be made constantly with follow-up studies as temporal. The reasons for rampant rate of worst NHR residents in other local cities would vary, which also necessitates a future elaboration for the research peers. Then we can construct the national scale of knowledge for the NHR households or residents and interact no missingly with the government and concerned public institutions on this kind of problem. More intense studies on law reform and adequate policy formulation needs to be complemented where the empirical data or constant collection of evidence to know the reality of NHRs are based. For example, the priority in public support and public program on social benefit may be more systemically investigated by economics researchers. The crisis of decent housing may be more persuasively analyzed in collaboration of human rights expert, social workers, medical doctors and local politicians. The urban planning expert may aid with future research, which will concern public project of rezoning and provision of modest condition of residences.	
	What implications will your study have on future research?		
J.	**Contributions to Discipline and to Social Change**	The policy makers in Korea have an awareness about this issue and share a concern in response with the remarked	Note : A background for this research project has been driven from the non-housing residences located in the Seoul city, which shows a
	What contributions will your		

	research make to the discipline and society? Note: Social change implications are expressed in terms of tangible improvements to individuals, communities, organizations, institutions, cultures, or societies.	increase of this housing pattern. A recent example would be the fire safety system, and financial support for the deprived households. This new policy attention, of course, would be importantly related with the role of social welfare administration, and upgrades a national condition of human rights by realizing the stability in decent housing. Nevertheless, no systemic response was framed based on the empirical studies of NHR concerning its present status and tendency for the future. This is the point that my research project can contribute to the discipline of public policy and administration. First, the research has been driven to find the status of residents in the three types of NHR, *Zsukbang*, *Koshiwon*, and *K-Inns*, as well as the characteristic of space use and management. Second, based on the understanding, we may elaborate on the policy suggestions in response with their housing problem. They include, firstly, the minimal requirements mandatorily to be provided for those worse dwellers. In this end, we suggest a point of consideration on the NHR in making the housing policy. The residences for common public use have to be regulated to ensure a humanly minimal standard, and we discuss the necessary or desirable policy options and alternatives. According to the desire and characteristic of dwellers, the findings would be discussed in any implications on the related field of public administration, including the social welfare, unemployment, and fiscal as well as public housing. Finally, our suggestion includes one paradigm project to demonstrate an improvement of non-housing condition, which involves a massive reform of the basic interchange on this issue.	deteriorated quality as improper for the residential use. In this research, the “non-housing residencies (NHR)” is denoted from the general definition of “housing,” perhaps most helped out by the statutory one as defined in the Korean Housing Act or the National Census. Practically, the types of NHR would include a Vinyl House, *Zsukbang*, *Koshiwon*, *K-Inns*, and public space of business operations, such as a PC room, *Sauna*, *Mangabang*, *Dabang*) . Nonetheless, the former three are most notorious to bring our attention as a social phenomenon or as a subject of public policy in Korea. The populace exposed to these conditions seems to amount to 270,000 nationally and 150,000 around the Seoul city (Tae-ho Do, 2009).