Quality of Proxy Reports On Labor Force Survey – Case study: Tulkarm Governorate

جودة بيانات الوكيل في مسوح القوى العاملة – دراسة حالة: محافظة طولكرم

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Submitted in partial fulfillment of the requirements of the "Master Degree in Applied Statistics" From the Faculty of Graduate Studies at Birzeit University- Palestine

جامعة بيرزيت
BIRZEIT UNIVERSITY

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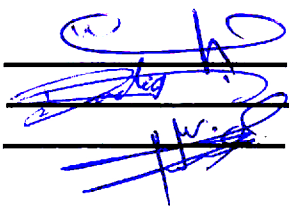

DEDICATION

To my Father

Ahmad Amara

To my mother

Hadeyya Amara

To my brothers and sisters

To my friends and colleagues

To everyone who helped me to finish this research

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I would like to express my unrestrained appreciation to my thesis advisor Prof. Hassan Abu Hassan, for his constant help and guidance. He has been helping me out and supported me throughout the course of this work and on several other occasions Thanks are also due to my thesis committee members Prof. Tariq Sadiq and Prof. Ali Barakat for their attention, cooperation, comments and constructive criticism.

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ملخص

تهدف هذه الدراسة إلى تقييم جودة استجابات الوكيل استنادا إلى استجابات الشخص المستهدف. وقد شارك 620 شخص في هذه الدراسة، حيث مثلوا 310 أسرة، بواقع شخصين لكل أسرة. وقد اشتملت استبانة الدراسة على عدد من البنود الهامة المستمدة من استبانة مسح القوى العاملة الفلسطينية (PLFS). هذه البنود ركزت على وضع العمالة لدى الشخص وعدد ساعات العمل خلال الفترة المرجعية والاستعداد للعمل وعدد أيام العمل والأجور. وقد استخدم الباحث معامل الارتباط الداخلي(Intraclass Correlation Coefficient) ومعامل كابا (Kappa Cofficient) لتقييم التوافق بين استجابات الوكيل واستجابات الشخص المستهدف. كما تم استخدام اختبار ستوارت–ماكسويل (Stuart-Maxwell) لتحديد الدلالة الإحصائية لنسبة التحيز في حالة كون البيانات نوعية. كما تم استخدام اختبار t للعينات المرتبطة (Paired t test) لتحديد الدلالة الإحصائية للتحيز في الوسط الحسابي في حالة كون البيانات كمية. وقد لوحظ أن هناك تذبذبا في قيم معاملات الاتفاق المستخدمة، حيث لوحظ أن قيمة معامل الاتفاق في بعض البنود تجاوزت 0.9 في المقابل كانت منخفضة جدا في بنود أخرى. تشير النتائج إلى أن قيم استجابات الوكيل تميل نحو الانخفاض عن استجابات الشخص المستهدف في معظم الأسئلة ذات البيانات الكمية.

صنف الباحث الوكلاء حسب صلة قرابتهم بالشخص المستهدف. فلاحظ أن النتائج كانت متباينة من سؤال لآخر، فعلى سبيل المثال، كانت استجابة الوكيل الزوج هي الأفضل في بعض الأسئلة والأسوأ في أسئلة أخرى. كما صنف الباحث الوكلاء حسب فئة أعمارهم، فلاحظ أنه عندما يتجاوز عمر الوكيل 30 عاما، فإنه من المرجح أن تكون استجابته أكثر اتساقا مع استجابة الشخص المستهدف. كما صنف الباحث الوكلاء حسب مستوى ثقتهم من استجابتهم على السؤال المطروح، فلاحظ أنه عندما تكون ثقة الوكيل من استجابته عالية، فإنه من المرجح أن تكون استجابته أكثر اتساقا مع استجابة الشخص المستهدف. تشير نتائج الدراسة إلى أن هناك عوامل خفية تؤثر في تقارير الوكيل، ولكن لم يتم أخذها بعين الاعتبار في هذه الدراسة، حيث أن وجود الدلالة الإحصائية للاختبار على المستوى الكلي يدعم هذا الادعاء.

Abstract

The purpose of this study is to evaluate the quality and reliability of proxy reports based on the self reports. 620 individuals representing 310 household from Tulkarm Governorate participated in this study by indirect interview. The questionnaire included important items which were derived from Palestinian Labor Force Survey (PLFS) questionnaire. These items about the employment status, working hours in the reference period, readiness to work, number of workdays and wages. Intraclass correlation and Kappa Coefficient were used to assess the agreement between proxy reports and self reports. Stuart-Maxwell test was used to determine the statistical significance for the qualitative measure of the percentage of bias. The paired *t* test was used to determine the statistical significance of bias for the quantitative measure. The agreement values were wobbling. In some items, the agreement values were over 0.9 whereas in other items they were very low.

Our analysis confirm that proxy reports about quantitative questions tended to be biased downward in most quantitative questions.

We classified proxy reporters according to relationship with self-reporters. We found that the results vary from one question to another, for example, the spouse answers were the best in some questions and the worst in the others. We also classified proxy reporters according to their group age. We found that the proxies who were aged over 30 years were significantly more likely to give consistent answer than other proxies. Moreover, we classified proxy reporters according to their confidence rating about a given question. We found that the proxies who rated their confidence as a high were significantly more likely to give consistent answer than other proxies.

The results of the study indicates that there are a hidden factors which they affect on the proxy reports, but this study did not take them into consideration. The existence of statistical significance at aggregate level confirms the validity of this claim.

Chapter One

Background of study and its problem

1.1: Problem statement:

Wisdom says that the self respondent's report is the closest accurate answer, and the proxy respondent's answer is usually less accurate, where there are many factors affect both answers (Moore, 1988).

The proxy answer may vary in accuracy from one topic to another, depending on personal or public information about actor, and many factors as topic saliency, cognition, communication, age, and social distance.

These factors and others may affect the quality of the answer, so the impact on quality of the response may be random, or systematic; random errors are variations in results from one measurement and it can be minimized, but systematic errors make results that differ consistently from the correct result by some fixed amount and it can not be measured and eliminated (Cherry, Sorenson, & Phelps, 2012).

There are some circumstances that force the researcher or research institute to use proxy reports as a substitute of self reports, these circumstances may be concerned with cost, access difficulty to self respondents, or the respondent is suffering from health problems prevent his answer (Tucker & Miller, 1993; St-Pierre & Beland, 2002).

The labor force data are gathered in Palestine by both self- and proxy-reporters, so this study utilizes a labor force survey in Tulkarm Governorate in Palestine to determine the quality of proxy reports and the factors that affect it.

Because of the large amount of variables that can affect the report of the proxy, I highlighted in my study on a selected number of these variables such as type of question, social distance, age of proxy, and confidence rating.

1.2: Study Hypotheses:

The researcher developed a set of Hypotheses based on previous studies as follows:

1. There are differences between self reports and proxy reports in the Palestinian Labor Force Survey (PLFS) at aggregate level.
2. There are differences between self reports and proxy reports depending on the type of question.
3. There are differences between self reports and proxy reports depending on the type of kinship (spouse, parent, child, other relative).
4. There are differences between self reports and proxy reports according to the proxy reporter's age group (less than 30, from 30 to less than 50, 50 or more).
5. There are differences between self reports and proxy reports depending on the proxy reporter's confidence rating (high, moderate, low).

1.3: Questions of the study:

Study aim to answer on the following questions:

1. How reliable are the proxy responses in PLFS?
2. What are the characteristics of respondent in the PLFS that affect the quality of his/her responses?
3. Are there differences in consistency of the responses between proxy and self reports attributable to type of question?
4. Are there differences in consistency of the responses between proxy and self reports attributable to type of kinship?
5. Are there differences in consistency of the responses between proxy and self reports attributable to the proxy reporter's age group?
6. Are there differences in consistency of the responses between proxy and self reports attributable to proxy reporter's confidence rating?

1.4: Objectives of the study:

We have some specific goals in this study, these goals are to :

1. Examine the accuracy of proxy reports versus self reports.
2. Identify factors underplaying the knowledge acquisition process that would be systemically related to the accuracy of proxy reports.
3. Determine the effect of proxy responses on the labor force classification.
4. Evaluate the utility of proxy reporter's confidence rating as screening procedure to identify the quality of proxy reporting.

1.5: Importance of the study:

The labor force survey in Palestine is one of the most important surveys conducted quarterly by the Palestinian Central Bureau of Statistics (PCBS). It provides a basic information about the size and structure of the Palestinian labor force. Data collected at different periods of time provide a basis for monitoring current trends, changes in the labor market and in the employment situation. These data, supply us with information about other aspects of economy, and provide a basis for the evaluation and analysis of macro-economic policies. Therefore, it is crucial that the data collected in the labor force survey maintains high quality standards.

The Palestinian Central Bureau of Statistics use proxy reports in many surveys; particularly, the labor force survey and the quality of the proxy reports have never been assessed in a systematic way, so this study might help PCBS to review its policy with regard to data collection and the use of proxy reports.

The importance of this study also appears as it could help researchers to assess respondents' answers and identify the factors that reduce the quality of response in order to control it.

Arabic Studies in the field of response quality for both self and proxy reports are few, so this study is an attempt to enrich this neglected field.

1.6: Beneficiaries of this study:

1. PCBS significantly, because this study examined the quality for one of the most important surveys which is conducted by this institution.
2. Statistics centers in neighboring Arab Countries.
3. Statistics students at Birzeit University and other Palestinian Universities.
4. Researchers in the field of survey methodology.
5. Policy makers and agencies interested in economic development in the Palestinian area.

1.7: Operational definitions:

1.7.1: Proxy reports: answers which are made by a person called proxy respondent (reporter), and also called (indirect interview).

Proxy respondent is "one person answers questions on behalf of another person (the sampled subject) "(Thomsen & Villund, 2011, p.87).

Usually the proxy reporter is a person who lives with his/her partner or parents who acts their offspring (Office for National Statistics, 2006).

In this research, proxy reporter is a household member aged 15 years or more who lives in the same home with the person who we want to inquire about him.

1.7.2: Self reports: the reports from the person who is selected in the labor force survey where the questionnaire data gathered about him.

1.7.3: Palestinian Labor Force Survey (PLFS): is a survey carried out by the Palestinian central Bureau of Statistics in the Occupied Palestinian Territories in 1967.

The survey is conducted quarterly (every three months) since the second half of the year 1995. It produces statistics about unemployment rate, labor force participation rates, wages, and other statistics.

This survey focuses on the three indicators which are: full employment, limited employment and unemployment, in terms of the number and geographic distribution and demographic composition. The study also focus on the characteristics of employees in terms of the number, gender, age and economic activity, occupation, and work status, as well as features of individuals outside the labor force.

The aim of conducting this survey periodicity is to recognize the changes that occur in successive different seasons of the year and in subsequent years. It is also used to identify the Palestinian labor market in order to build a time series of data about the factors affecting the Palestinian labor market (Palestinian Central Bureau of Statistics, 2010).

1.7.4: Kinship: the relation that links the proxy respondent with the target person.

The interviewer asked about it before the interview by the following question:

What is the kinship between you and (target person)?

A) Spouse.
B) Parent.
C) Child.
D) Brother / sister.
E) Other relative.

1.7.5: Confidence rating: it is the assessing tool for the proxies knowledge which provided by themselves, this depends on the ability of proxy reporter to rate his/her reports (Dashen, 2012; Boehm, 1989).

Proxy reporters are asked to determine the level of their answer's confidence next each questionnaire's question.

The interviewer asked proxy reporter's about it by the following question:

What is your rating of confidence about your report?

A) High.
B) Moderate.
C) Low.

1.8: Limitations of the study:

First, the results of this study are limited to Tulkarm governorate with the possibility of rolling out to the other governorates, due to the similarity of the social, economic and cultural level in the governorates of the country.

Second, the structure of skip patterns in the questionnaire limits some of the comparisons that we are able to make between self and proxy reporters.

1.9: Study plan:

The second Chapter of this study contains the theoretical framework and previous studies relevant to the subject of the study, which includes definition of proxy reporter, consequences of using proxy reports, justifications for the use of proxy reports, criteria for judging the response proxy, some of the expected factors to impact on the proxy response and response strategies, as well as some previous studies such as by Dawe and Knight (1997), Lee et al. (2004), Martin and Butcher (1982), Boehm (1989), and Bickart et al. (1991).

The third chapter of this study, the methodology, contains a description of the study population, study sample, study instrument, study design, statistical procedures and treatments used to draw conclusions and to examine hypothesis.

The fourth chapter shows the study data and results, in order to answer the study questions and hypotheses.

The last chapter of the study contains discussion of the results and their interpretation, and it contains some recommendations.

CHAPTER TWO

Literature Review

2.1: Definition of the proxy reporter:

The definition of proxy respondent is: "also called (indirect interview) one person answers questions on behalf of another person (the sampled subject) "(Thomsen & Villund, 2011, p.87).

The proxy is usually a person lives with his/her partners or parents who acts as offspring (ONS, 2006).

There are two types of proxy reporting in some surveys, as an example in the National Health Interview Survey (NHIS) we can find:

- Complete proxy reported data.
- Partial self reported: In this case we rely on self reports for some questions and on proxy reports for others (Reither & Utz, 2009).

Moreover, there are two types of proxy respondents according to the type of survey:

- A household informant: Adult member of household who will be expected to provide answers about another member in household. This type can be found in current population survey and labor force survey.
- Standard proxy respondent: This respondent answer on target subjects only, because the targets are unable or incompetent. This type can be found in National Health Interview Survey, National Immunization survey, and National Crime Victimizations Survey (Moore, 1988; De Leeuw, 2005).

There are several exceptions to the above definition according to UK National Statistical Office publication which was entitled as Labour Force Survey User Guide (ONS, 2003, p.15):"

- a young person, of the same household, may translate for a non-English speaking relative.
- a carer of the elderly or infirm although not related, may answer for someone in their.
- care if it can be established that they know the respondent well enough.
- anyone can respond by proxy with the personal permission of the head of household or spouse."

2.2: Justifications for the use of proxy reporter:

They are many justifications for the use of proxy reports, one of them is communicating with all respondents themselves in many surveys may be difficult, even be impossible sometimes, and costly to a large degree particularly in the labor force survey, health surveys and crime survey (Bickart, Blair, Menon, & Sudman, 1990).

The researchers go to the use proxy respondents in their studies, as a substitute of self respondents. This is to be sampling more efficient and get the information from a large number of people. In addition, they are forced to reduced estimate precision in exchange for cost and effort feasibility. They also use proxies when the survey pertains with specific and factual information (Rajmil el al.,1999; Moore, 1988; Martin & Butcher, 1982).

A wide range of surveys have became rely on proxy responses such as labor force surveys, expenditures surveys, current population surveys and governmental surveys. The use of proxy reports increase the amount of information that is obtained about the household (Menon et al., 1995).

Sometimes, the connection with the target person is very difficult, because some people refuse to give their own data or due to mental or physical incapacity (Tucker & Miller, 1993; St-Pierre & Beland, 2002).

There is no enough time for the interviewers to conduct interviews with each targeted individual, because there are some studies that must be completed in a certain time period, such as labor force surveys (Tucker & Miller,1993).

In the labor force surveys, the required person not always available, so we turn to adult member in the household to be proxy respondent, but sometimes we replace that member by another such as a carer or other person can response with personal permission of the head of household or spouse (ONS, 2003).

Using a proxy respondents make access to information more cheaper, easier, save working time, reduce the time of data collection, and reduce the incidence of non-response, so you can access to one and get information about several individuals, such as that happens in the labor force survey (Cobb, 2009; Thomsen & Villund, 2011; Todorov, 2003; Menon et al., 1995).

We resort to interview all family members in the case of a very low probability of accurate proxy knowledge (Tucker & Miller, 1993).

2.3: Consequences of using proxy reporter:

Quality of proxy data and differences between proxy reporting and self reporting are a part of the barbed statistical subjects, which have been studied for decades. These differences are depending on several factors that affect the proxy report, such as confounding background, cognitive process, how to store information in memory, the characteristics of proxy respondent, the proxy respondent's relationship with the self respondent, saliency principle, reference period, motivation to report, and how proxy respondent learned about the event

(Todorov, 2003; Rajmil et al.,1999; Bickart et al., 1990; Schwarz & Wellens, 1994; Lee, Mathiowetz, & Tourangeau, 2004).

All of that may cause a systematic bias if the proxies consistently underestimate variables. The proxy answer sometimes leads to a high variance, this occurs when a group underestimate variables, whereas another group overestimate these variables. There is a relationship between bias and specific degree, to explain; if the information are more specific then the bias will be small, on the other hand, if the information are autobiographical and hidden, the bias will be large (Todorov, 2003; Rajmil et al.,1999; ONS, 2003; Statistics Canada, 2008).

If the self and proxy reports differ systemically, then the national estimates will be biased, however we can adjust the systemic bias if the source of it can be identified and measured (Todorov, 2003; Todorov & Kirchner 2000).

When the proxy response leads to response errors, we must accept the responses from the target respondents (Statistics Canda , 2008).

Sometimes, reducing a source of error in surveys, leads to another source of error. This happens when we allow proxy reports, but this responses are working to increase response rates and reduce lost data, but at the same time may reduce the accuracy of the data, when he/she does not give the actual answer (ONS, 2003).

The characteristics of proxy respondent may also -such as age, gender and relationship with self respondent, ….etc- cast a shadow on his/her response. For example, proxy health status may affect on his/her vision about child health (Rajmil et al.,1999).

Occasionally, there are a problems will be generated because the proxy respondents may be the source of non-response. If they don't have sufficient

information about the target particularly in the private, personal and sensitive topics, they will answer a previous question incorrectly, thus affecting the routing through the questionnaire, and therefore did not answer the question required when the questionnaire contain skipped questions (Statistical Policy Office, 2001; St-Pierre & Beland, 2002; Dawe & Knight,1997).

Through literature review conducted by Moore(1988), he found that there is little evidence that self-reports are superior to the proxy reports. He also noted that there was a weakness of methodology used in many studies about proxy reports.

Despite the fact that the proxies generate some problems in their reports, they give a representative response sample, so we can say that the proxy responses maintain the accuracy in a wide range of available resource (Thomsen & Villund, 2011).

On the other hand, the proxy report is more accurate than self report if the proxy respondent was asked the question in a clear way, because he is less likely to be effected by social desirability concerns. The proxy reporter may give more accurate data than self respondent in labor force survey if the target person is unemployed (Lee & Lee, 2012; Thomsen & Villund, 2011; Magaziner, Bassett, Hebel & Gruber-Baldinin, 1996).

Thus, the degree of the question's sensitivity is one of the issues that making a large difference between proxy report and self-report. Menon et al. (1995, p.76) said that "the proxy-reports may be closer to the truth than the self-reports".

But in other cases, proxy respondents may lack the necessary information to give an accurate answer, although they more willing to respond to undesirable behaviors (Bickart et al., 1990).

The type of respondents may affect the accuracy of information related to the labor force questions survey, such as the number of working hours (ONS, 2006).

In many behaviors or attitudes, proxy respondent often depends on inferences based on subjective theories of question's subject, or he depends on inferences from discussion or observation of self-respondent behavior, especially in the case of shortage of information and the distant reference period (Todorov, 2003; Menon et al., 1995).

Inference generates two problems in report:

- Over-report : this leads to overestimate .
- Under-report : this leads to underestimate (Todorov, 2003).

The study of Dillon, Bardasi, Beegle, & Serneels (2010) demonstrated that the using proxy reporters produce underestimation of child labor statistics comparing with self reporters, but the effects of that are too small.

2.4 : Previous studies:

Lee et al. (2004) conducted a study to compere the estimates of persons with disabilits based on self-responses versus proxy responses. They found that the differences between self- and proxy-reports may be related to the cognitive process, either differences in richness of encoded material or differences in retrieval information. They also found that spouses and younger respondents give the most consistent proxy reports.

In another study pertains LFS conducted by Dawe and Knight (1997), we can note that the researcher divided variables of questionnaire into three types:

- Demographic variables such as sex and age. There were no problems in the proxy response in more than 99% of cases, and less from that in marital status.
- Variables requiring less straight-forward information such as highest qualification obtained. They noted that a higher agreement between proxy and respondent reporters. They also noted that when qualification

information is collected from spouse the level of agreement is much lower .

- Variables requiring very detailed numerical information such as hours worked and income. They noted a less agreement between proxy and respondent. They also noted when these information is collected from spouse proxies, the level of agreement is much higher, but there was a problem if the answer to these variables was "not know".

As a result, we prefer to choose proxy who is most affected by self respondent actions.

In a large-scale study, Martin and Butcher (1982) found that there is a very high level of agreement between proxy and self reports in employment such as employment classification housing, social class area. They also found a low agreement in attitudes area and in financial aspects such as income.

In addition, they found that use the wife as a proxy respondent versus husband cause a little distortion on the net distributions of employment status.

Boehm (1989) conducted a study on a sample of eighty-four individuals representing 42 households participated in the study, he found that the proxy respondents reported hourly and weekly earnings below the self respondents' figures.

He also shows that there is no relationship between confidence rating, the length of time that the self and proxy respondents have known each other and self-rated knowledge on the one hand, and accuracy of proxy reports on other hand.

Bickart, Blair, Sudman, & Menon (1991) conducted a research to develop a methodology which allow them to compare proxy reports to actual behavior. They have been compared the accuracy between proxy- and self reports for the

questions of varying specificity, and they have been interested in determining the conditions that the proxy reports are most likely to be accurate.

Questionnaire contained a set of behaviors and activities related to the planning of the vacation. The results demonstrated that the accuracy of self reports was greater than the accuracy of proxy reports for all items, and the proxy reporters tended to underreport their partners' behavior; especially, if they were using a counting strategy, their reports were least accurate with respect to activities.

Biggs (1992) carried out a review of some literatures in order to know the implications of the data quality as a result of acceptance of proxy response. The review concluded that a lack of clarity of the implications of the use of proxy response and the proxy respondents tend to lack of participation in government income support programs.

It should be noted that this study concluded that the self- and proxy-responses were more consistent in the sensitive topics, and there was a difficulty in giving details about the events of short duration by proxy respondents.

Dashen (2012) make a study to know how does proxy acquisition and expertise affect survey reports. The first aim of his study is to find out whether proxies adjust their confidence ratings according to how they learned about event. The second aim is to discover whether experts have a richer recollection of an event than novices do. The third aim is to find out whether recounting an event to another strengthens a person's memory of it.

The findings of his study are: recounting of an event shapes the self report's memory, not all self reports are created equal and there are factors mediating good quality of self-reports other than engaging in activity, such as a level of discussion. He also found that the proxy reporters adjusted their confidence ratings according to how they learned about the event.

McVilly, Burton-Smith, & Davidson (2000) have examined the agreement between subjects' self reported quality of life (QOL) and proxies who were either a first degree relative, or were acting in a supportive role similar as a family member.

Two studies were conducted. The first study examined the degree of agreement between non-disabled subjects QOL and ratings made on their behalf by proxies who were either a parent or sibling. The second study examined the agreement between QOL ratings made by subjects with mild intellectual disability and proxies who were either parents or support workers. In both studies, the effects on agreement of variables including the subject/proxy living arrangements, gender similarity, and proxy gender and empathy were examined.

Overall results from the two studies indicated a high degree of subject/proxy agreement. Overestimation or underestimation of ratings by proxies was minimal. None of these investigated factors also affected directly on agreement between subject/proxy QOL reports.

If proxies are selected on the basis of close and regular contact, it won't seem matter if they are male or female, cohabitating family members or non-cohabitating support workers.

Magaziner et al. (1996) conducted a study entitled " use of proxies to measure health and functional status in epidemiologic studies of community-dwelling women Aged 65 years and older ". The purpose of this study was to compare the self-reports and proxy-reports about chronic diseases, health symptoms and physical functioning.

The study conclude that the agreement across question areas was generally better when the proxy was a male and living with the self respondent.

2.5 : Reasons for expecting differences between self- and proxy- reporters:

1. Differences in knowledge.
2. Differences in accuracy of reporting for some facts (Freeman and Medoff, 1982).

2.6: Factors affecting proxy reporter's knowledge:

There are many factors affects the proxy knowledge. These factors were the goal of many statistical, medical, social and philosophical research.

There are many obvious factors which were highlighted in previous studies. They are:

1. Amount of time which household spent together: it is likely the more time they spent together, the more proxy knowledge and more he would be accepted as a participate in activities (Kojetin & Mullin, 1995).

2. Specialization: there are persons in the household are delegated to them some tasks, such as pay a certain bill, so they are likely to own the knowledge about household members in the delegation filed (Kojetin & Mullin, 1995).

3. Relationship between proxy respondent and self respondent: this factor is one of the most important ones. The impact of this factor was examined in many different researches. Those researches concerned about studying the impact on the accuracy of proxy response if this proxy is a partner, spouse, father, mother, son or sibling.

Kojetin & Mullin (1995) conducted study about the quality of proxy reports in the Current Population Survey, which included some of items about the activities of the labor force. They noted that the child or sibling reports were less agreement

with self-reports about the targeted person's work for a pay last week, compared with the reports of spouses.

They also noted that if proxies were siblings or other relatives, the reports would be less agreement with self-reports for the question about the target person as whether he or she was making anything to find work during the past four weeks, compared with the reports of parents or children.

As for the hours and earnings items, children reports were less agreement with self-reports than spouses, and siblings reports were less agreement with self-reports for hours items.

There are studies in other aspects, such as disabilities and health, showed that the consistency of spouse reports with self reports is higher than other proxy reports. The spouses are able to provide information more often other proxies (Demisse et al. , 2001).

Social relationship play an important role in predicting the accuracy of responses. Becker et al. (2004) has noted in a verification study conducted to learn the accuracy of the response about proxy inflammatory asthma that mothers have the fewest reporting errors.

Rajmil et al. (1999) explained in their study -the influence of the proxy respondent on health surveys in children- why do mothers know better than the others members of the family?. The expected reason is that the mothers may remember accidents or magnify things which have a little importance than the others family members.

Kojetin & Miller (1993) examined the agreement between proxy- and self-reports for common expenditures. They concluded that parents reporting about their children's expenditures had more disagreement about the number of

expenditures and the category of expenditures (Clothing, food and drink, groceries, and medical) than the husbands reporting about their wives, the wives reporting about husbands, or children reporting about their parents.

Dillon et al. (2010) explained the variation in child labor statistics. This study resulted that fathers reported lower labor force participation rate (LFP) and higher working hours of their children than mothers, but the differences is not statistically significant.

4. The type of information that will be asked about: from previous illustrations we note that the response of the proxy reporter vary from one research to another, this probably due to the differences in required information or differences in the research topic.

The question type is likely to affect the accuracy of the response, because some of the questions vary in the degree of specifying or relating to the invisible psychological aspects.

The type of information are expected to affect on the proxy response, where the line of reasoning assumes that the response on the attitudes and opinions, will do not have the same accuracy of the response about the occupation (Martin & Butcher, 1982).

Studies have shown that the bias is reduced when the question is more specific or the question is away from the psychological and invisible aspects (Rajmil et al.,1999, as cited in Rothman, Hedrick, Bulcroft, Hickam & Rubenstein, 1991).

The type of question may be a source of non-response among proxy. Demissie et al. (2001) conducted study about "reliability of information collected by proxy in family studies of Alzheimer's disease". The study results showed that the rates of non-response vary according to the type of question. It also showed that the

non-response rates were high in the questions that related to a medication history and women's health, and they were low in the questions related to the medical outcomes and health behavior questions.

The review carried out by Moore (1988) showed that the quality of proxy reporting depend on the subject of survey. It is also difficult to determine the cause of the differences in the quality of the reporting.

There are several factors that lead to the differences between an available information for the proxy- and self-reporter, such as experience, focus visual motivational and/or motivational orientation, which affect the formation of judgments (Schwarz & Wellenes, 1994).

5. The importance of the information to the proxy: proxy reporter tends to recall a salient events, so he/she is likely to give more accurate and better answers about salient events and important domains when he/she reports about other (Mathiowetz & Groves, 1985; Kojetin & Mullin, 1995).

6. The characteristics of the proxy: sometimes, the proxy characteristics may affect his report; for example, the proxy respondent's health could affect his report with regard to self-respondent's health (Rajmil et al. , 1999).

7. Discussion about activities and participation in the activities: discussion and participation play an important role in raising the quality of the respondent's report, where a lot of discussion with the proxies, make them give us a best response quality (Dashen, 2012).

In a study was carried out by Menon, Bickart, Sudman, & Blair (1995) concluded that the increased discussion about the topic of question, increases the convergence between proxy and self reports.

Bickart et al.(1991) research had demonstrated that the absolute differences between proxy reports and actual behavior was consistently larger in the low discussion condition.

Proxy respondents rely on general information about target person in answering questions about attitudes, but this reliance decreases when the level of discussion increases (Menon et al., 1995).

If the proxy respondents do not participate in the activities or they are not discussed about behavior or attitude, they won't rely on episodic or semantic information. At that time the proxy respondents infer their response from accessible context, but the problem here that the response may be not relevant to the behavior or attitudes of self respondents (Menon et al., 1995).

2.7: Judging criteria of proxy reports:

The accuracy of the proxy reports are judged through one of the following mechanisms:

- The corresponding between proxy and self reports.
  If we use this criteria, the results will reflect the reliability of the proxy reports relative to the self reports. "Reliability does not imply validity; the self and proxy can agree on an incorrect answer "(Boehm, 1989, p.486).
- External data: in this criteria we use the register data or administrative records; for example, the register data of employees by employers. It is assumed that the registration data are correct. The proxy responses are compared relative to these data (Kojetin & Mullin, 1995; Thomsen & Villund, 2011).

Different definitions, time lag, random errors and other register properties may cause divergence between data sources (Thomsen & Vilund, 2011).

Self answer remains the best criteria that can be obtained, and represents the only alternative to proxy reports in many surveys (Kojetin & Mullin,1995).

In some cases, the cognitive problems make self-respondents unable to response, thus the comparison between self-reports and proxy-reports does not rely on the degree of the correspondence between their reports because the self-reports are not available (Demissie et al. , 2001).

2.8: Cognitive aspects in previous studies:

In order to understand the differences between self-reports and proxy reports, researchers focused -particularly in the recent studies- on theoretical perceptions derived from social and cognitive psychology (Kojetin & Mullin, 1995).

Menon et al. (1995, p.76) mentioned in their study the strategies which use in formulating of proxy reports and their effects on the convergence to self-reports:

> "The memory structure for information about oneself versus that for other people could vary as a function of :
>
> 1. The way information is acquired about the event or attitude.
> 2. The context in which information in encoded.
> 3. How information is stored in memory".

Jones and Nisbett (1971) observed that the reasons for the difference between proxy- and self reports due to the view of self reporter (actor) about his behavior and the view of the proxy reporter (observer) about behavior of others. They have presented these reasons by the concept called "actor-observer difference".

The information are divided into behavioral and attitudinal, in the behavioral case, the proxy reporter may depend on knowledge of observation, participation, or communication with the person who is targeted. If the information are attitudinal, the proxy can not access to it directly, so he will depend on the inferences through participation or observing the behavior of the targeted person (Menon et al., 1995; Bem, 1972).

There are many studies that focused on studying the cognitive aspects of both self- and proxy-respondent that make differences among their responses. Bickart et al. (1990) concluded that proxy respondents used less event cues and chronological sequences than self responsdents.

There is a positive relationship between cognitive effort and the amount of consistency between the proxy- and the self- response. Questions that require less cognitive effort are more greater consistency (Cobb, 2009).

Researchers interested in cognitive processes for two reasons:

- To improve the respondent's memory of the event and enhance him to respond, for instance: cues .
- To evaluate the quality of respondent reports by tools sort out good report from bad such as confidence rating, expertise and discussion.

The confidence rating vary depending on the variation of the senses were used in event. If the event was witnessed, it would have a higher confidence rating than the event was heard. The proxies rely on details of the event in making judgments and adjust their confidence ratings according to the way that they learned about it (Dashen, 2012).

The expert may be the owner of the knowledge, thus when we choose a proxy reporter, we must make our effort expert to choose an expert respondent, because

he has the richest information among proxies, this will lead to a better quality of data (Dashen, 2012).

2.9: Impact of reference period at the quality of proxy reports:

Exploring cognitive processes is important in the long run and short run. The respondents vary in using reference period, where the proxies are less slightly to use reference period than self respondents (Schwarz & Wellens, 1994; Bickart et al., 1990).

The information of recent period are more visible to the self-reporter than information pertain a distant period, thus he relies on inference strategies, and the proxies rely on more general characteristics of self respondents, unless they participate in behaviors (Schwarz,1990; Sudman, Bickart, Blair, & Menon, 1994).

The self-reporter can access to a richer set of episodic information in memory. Pursuit of self response to be compatible with environmental demands make their responses are relied on situational explanations and proxies rely on dispositional explanations in making judgments (Schwarz & Wellens, 1994).

The variation in the research methodologies according to its domains make it difficult to determine the reasons for the difference in the quality of proxy reports, as well as the independent effects and sampling biases (Moore, 1988).

2.10: Respond strategies:

"Self and proxy reports differ in two fundamental aspects: the amount of information available to respond to survey and the cognitive strategies of generating a response" (Todorov, 2003, p.222).

Self- and proxy reports not only differ in the amount of information, but they also differ in encoding the type of available information where proxy reporters more likely to use the estimation strategies than self reporter.

There are two general strategies that respondents use in the behavioral frequently questions:

1. Estimation: judgment about another person may depend on estimations and inferences, on the contrary when the person judge him/ herself; for example, if you asked a person "how many times you visited the doctor last month?", he will try to remember all his visits, while if you ask this question to a houshold member, he will likely to estimate the number of times that the person visit the doctor rather than to recall them (Schwarz & Wellens, 1997).

2. Counting: the increase in participation also leads to more reliance on a counting in forming proxy-reports (Menon et al.,1995).

The proxies may have difficulty in retrieving a specific information even when it is available in memory (Bickart et al., 1991).

These strategies are not separate from the other strategies that control the respondent reports of behavioral frequencies:

1. variance of behavior.
2. regularly of behavior (Bickart et al., 1990).

These strategies vary in the use according to the type of respondent (is he/she proxy or self respondent?), type of behavior or attitudes, level of participation or discussion and procedures of organizing information in memory (Menon et al., 1995 ; Bickart et al., 1990). For example; if the question pertains the frequency of behavior, proxy reporter is more likely to be based on a counting strategy than self respondent.

There are four conditions to identify differences in accuracy between proxy and self-responses:

1. Interview each of the proxy and self-respondents.
2. The sample should be representative.
3. Identical way in asking question for proxy- and self-respondent.
4. Independent external measure of accuracy (Cobb , 2009).

Chapter Three

Methodology

The study is conducted to assess the quality of proxy reports on PLFS in Tulkarm Governorate at each level of kinship between self- and proxy-respondent, proxy reporter's confidence rating and proxy reporter's age group.

This chapter describes the study population, the study sample, study design, and statistical procedures used to derive the results and test hypotheses.

3.1: The source of Data:

- Data about the types and sizes of the localities were obtained through one of the population publications, housing and establishment Census 2007 (Palestinian Central Bureau of Statistics, 2011).
- Data relating to the labor force modified questionnaire were obtained from selected households in the sample of localities. It have been collected by the researcher with the help of two fieldworkers.

3.2: Study population:

The study population consists of all households in Tulkarm Governorate, where the number of households in 2007 were 29938, spread over three locality types (urban - rural - refugee camps), and the number of all residential localities in this governorate is 35.

The following table shows the distribution of households according to type of locality and also shows the percentage of households in each stratum.

Table (3.2.1)

The distribution of households according to type of locality

Locality Type (stratum)	Number of households	Percentage
Urban	20,255	67.7
Rural	6,505	21.7
Camp	3,178	10.6
Total	29,938	100

The following table shows the number of localities in each stratum.

Table (3.2.2)

The number of localities in each stratum

Locality Type	Number of localities
Urban	9
Rural	24
Camp	2
Total	35

3.3: Study Sample:

A three-stage stratified cluster random sample of 310 households was selected from the population. In the first stage, seven localities were selected, in the second stage, 310 households were selected from the observed localities, in the third stage, two persons were randomly selected from each household, and in the final stage, one of the two selected persons was randomly assigned to be proxy-reporter and another to be self-reporter.

In the first stage, the sample was a stratified random sample, where the population was divided into three main strata (Urban - Rural - Camp). Next, 7 locality were randomly selected through these strata. Households were selected from each locality using random walk procedure.

The researcher used proportional allocation to distribute the 7 localities on the three strata (Bethlehem, 2009):

$$n_h = n\frac{N_h}{N} \quad \ldots\ldots\ldots\ldots\ldots\ldots \quad (3.3.1)$$

Where :

N : number of households in Tulkarm governorate .

N_h : number of households in stratum h .

n : number of localities in whole sample .

n_h : sample size of localities in stratum h .

After that, localities were randomly selected from each stratum by simple random sample (SRS) method.

In order to determine the number of households to be selected in each stratum, the researcher had used the formula (3.3.1), but the value of n was changed into the number of households in the sample (n = 310).

The following table shows the sample size of households in each selected locality.

Table(3.3.1)

Sample size of households in each selected locality

Locality Type (stratum)	**Locality Name**	**Sample Size of Locality**	**Sample Size of the stratum**
Urban	Tulkarm City	149	210
	Anabta	22	
	Bait-leed	15	
	Qaffeen	24	
Rural	Faron	46	67
	Al-ras	21	
Camp	Tulkarm	33	33

The margin of error was 6 %. It was somewhat acceptable in statistical studies. It was calculated at the standard 95% confidence level. The reason for not choosing a larger sample that we did not aim to make a survey of a specific field, but to collect data through laboratory interviews, so it would be difficult and costly to choose a larger sample.

We are not interested in generating confidence intervals for the parameters of population (e.g. unemployment rate), but rather, we aim to test statistical hypotheses.

3.4: Instrument of study:

The researcher used the same questionnaire with the two reporters. The researcher benefited from PLFS questionnaire, where he made minor adjustments and deleted some unneeded questions from the PLFS questionnaire.

The researcher added two personal questions that would be asked to the proxy reporter before interview. These questions were the type of kinship between self reporter and proxy reporter, and proxy reporter's age. The proxy reporter would be asked about the confidence rating of his/her answer after some labor force questions.

The researcher benefited in design of the questionnaire from some previous studies such as Bickart et al. (1990; 1991) , Dashen (2012), Tucker & Miller (1993), Moore (1988), Schwarz & Wellenes (1994), Boehm (1989), Lee et al. (2004), Kojetin & Mullin (1995), Rajmil et al. (1999), Menon et al. (1995), Todorov (2000; 2003), Dawe & Knight (1997), Martin & Butcher (1982).

The labor force questions in the questionnaire were about the status of employment, number of working hours, the readiness to work, the duration of employment and wage (appendix III).

3.5: Method of data collection:

The method used to collect data was a direct interview, which was conducted by the researcher and two fieldworkers using structured questionnaire.

The interview was conducted with a proxy reporter and, independently, another interview was conducted with self reporter .

The same interviewer conducted the interview with the proxy reporter and self reporter, this prevents the interviewer effects.

3.6: Study variables:

3.6.1: Dependent variables:

The dependent variable was the respondent's response about the questionnaire's questions such as wages, hours worked weekly and duration of employment.

3.6.2: Independent Variables :

The Independent variables in my study were the type of kinship, proxy reporter's age group and proxy reporter's confidence rating.

3.7: Study procedures :

In order to achieve the objectives of the study, the researcher carried out the following procedures:

- The researcher did some modifications to the questionnaire of PLFS (see questionnaire, appendix III).
- The researcher conducted a pilot study, the sample of the pilot study was 20 households. It included three localities, each selected locality belonged to one of the three strata (urban, rural, camp).

- On 17/01/2013, the researcher began collecting data with the help of two fieldworkers in 7 localities in Tulkarm Governorate. Data collection has been completed on 10/03/2013.
- When the data collection completed, the researcher introduced the data into the Statistical Packages. Next, data were edited, cleaned and analyzed.

3.8: Criteria of study:

- The study used self responses as a criterion for judging the accuracy of proxy responses.
- The criterion for the selection of the proxy reporter was to be a member of the household of the target person. The respondent randomly assigned to be a proxy reporter or self reporter to determine whether proxy response may be the reason for differences in the data.
- We assumed that the proxy responses did not change if the proxies were asked about the same fact in another time.
- The Individuals who were covered by this study were aged 15 years or more.

3.9: Statistical Methods:

3.9.1: Simple and weighted Kappa measure of agreement (κ):

A measurement of agreement between two nominal raters. It compares the agreement with that expected if the ratings were independent (Agresti, 2007; Gwet, 2010).

The kappa statistic also can be interpreted as the proportion of agreement beyond the amount that is expected by chance alone (Magaziner et al., 1996).

Simple Kappa formula used when data is classified in two categories of nominal scale, the formula of it is (Sim & Wright, 2005).

$$\hat{\kappa} = \frac{\hat{p}_o - \hat{p}_e}{1 - \hat{p}_e} \quad \text{.....(3.9.1.1)}$$

Where**:**

$\hat{\kappa}$ **:** estimated kappa coefficient value.

$\hat{p}_o$ **:** the overall proportion of observed agreement (computed from sample).

$$\hat{p}_o = \sum_{i=1}^{k} p_{ii} \quad \text{.....(3.9.1.2)}$$

$p_{.i}$: the proportion of items assigned to category *i* by rater 2.

$p_{i.}$: the proportion of items assigned to category *i* by rater 1.

K : number of categories in each rater.

$\hat{p}_e$: overall proportion of agreement expected by chance (computed from sample).

$$\hat{p}_e = \sum_{i=1}^{k} p_{.i}\, p_{i.} \quad \text{.....(3.9.1.3)}$$

Weighted Kappa used when the scale has more than two nominal or ordinal categories, and its formula is (Sim & Wright, 2005) :

$$\kappa_w = \frac{\sum wf_o - wf_c}{n - \sum wf_c} \quad \text{.....(3.9.1.4)}$$

Where:

$\sum wf_o$: sum of the weighted observed frequencies in the cells of the contingency table .

$\sum wf_c$: sum of the weighted frequencies expected by chance in the cells of the contingency table.

n : number of paired ratings.

3.9.2: Interclass correlation coefficient (ICC):

It is one of the reliability measures which reflects the degree of consistency and agreement among two or more continuous ratings. Each rating must be have a normal distribution (Bruton, Conway & Holgate, 2000).

I used model three of ICC with signal measures in this study, so the ICC formula used in this study is:

$$ICC = \frac{BMS - EMS}{BMS + (k-1)EMS} \quad \text{……..….(3.9.2.1)}$$

Where :

BMS : Between subjects mean square.

EMS : Residual mean square.

k : number of ratings (Molloy & Birn, 2012).

Kappa and ICC range from less than 0 to 1, with 1 indicating perfect agreement and 0 indicating agreement equivalent to chance alone. The kappa and ICC values correspond to levels of agreement as follows: equal or more than 0.81, almost perfect agreement; 0.6-0.8, substantial agreement; 0.4-0.6, moderate agreement; equal or less than 0.4, slight to fair agreement (Futrell, 1995; Landis & Koch, 1977).

A negative kappa is unlikely to occur but it is possible. The negative value indicates that the agreement below the level of pure chance.

2.9.3: Paired t-test:

This test is used to test the null hypothesis that the average of the differences between the paired observations of the two related samples is zero ("paired t-test",2010).

The assumptions of *t* test distribution are as follows: "

1. The data chosen used for comparing the mean must be identical or matched subjects over a period of time or in a different circumstances.
2. The population from which the observed data is taken must follow a normal distribution.
3. The standard deviation of both the group must be approximately equal" ("paired t-test", 2010; Ott & Longnecker, 2010).

Test statistic :

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}} \quad \text{.....(3.9.3.1)}$$

Where:

d : The difference between the two paired observations.

n : Number of matched observation ("paired t-test",2010).

3.9.4: MacNemar's test and Stuart-Maxwell test:

McNemar's test is used for 2×2 tables when we analyze data from matched pairs of subjects response or when the same subjects are measured on the same variable at two different times. It tests the marginal homogeneity, or the null hypothesis of $P_{1\bullet} = P_{\bullet 1}$(SAS Institute Inc., 2010).

Let the data consist of observation on n independent bivariate random variables (X_i, Y_i), i = 1, 2, 3, …….. n .

The measurement scale for X_i and Y_i is nominal, thus the possible values of X_i and Y_i are 0 or 1.

McNemar's test is computed as:

$$Q_m = \frac{\left(n_{12} - n_{21}\right)^2}{n_{12} + n_{21}} \quad \text{.....(3.9.4.1)}$$

Where:

n_{12} : number of pairs when $X_i = 0$ and $Y_i = 1$.

n_{21} : number of pairs when $X_i = 1$ and $Y_i = 0$.

Under the null hypothesis Q_m has an asymptotic chi-square distribution with one degree of freedom (Conover, 1980).

Stuart-Maxwell test is extension of Mcnemar's test. It used for $k \times k$ tables to examine the marginal symmetry. There are k response categories for the two dependent samples (Yang, Sun & Hardin, 2011).

The null hypothesis is that the marginal proportions are symmetric, or that $p_{i\bullet} = p_{\bullet j}$ for all pairs of the table.

Suppose that the vector **d** contains each $k-1$ amount from the amounts of $d_1, d_2, ..., d_{k-1}$ in which $d_i = n_{i\bullet} - n_{\bullet i}$, where $i = 1, 2, ..., k$.

The matrix $\mathbf{S} = \left[s_{ij} \right]$ with the dimension of $\left(k-1\right)\left(k-1\right)$ which is the covariance matrix of **d** can be defined as:

$$s_{ii} = n_{i\bullet} + n_{\bullet i} - 2n_{ii}$$
$$s_{ij} = -\left(n_{ij} + n_{ji}\right)$$

The Stuart-Maxwell statistic is calculated from the following formula:

$$\chi^2 = \mathbf{d}'\mathbf{S}^{-1}\mathbf{d} \quad \text{…….(3.9.4.2)}$$

To do the homogeneity hypothesis, we compare the above amount with Chi square distribution of $k-1$ freedom degrees (Abbasi, Dokoohaki & Jamali, 2009)

3.10 : Indicators counting process :

3.10.1: Labor force Participation : "this group consists of all individuals (aged 15 years and above) including the concepts of employment or unemployment. It's calculated by dividing the number of individuals in the Labor force (employed +unemployed) on the total number of individuals aged (15 and above) " (PCBS, 2011, p.28).

3.10.2: Full employment : "this group consists all of those applied to the concept of employment of normal number of hours in this job, all individuals in the age of work (man power)and work the normal number for such career, that includes ; Employers, paid employed, self employed, and work in this job 35 hours and above in usual week. It is calculated by dividing the total number of Labors, either waged or unwaged normal number of working hours on the number of individuals the Labor force included (employed and unemployed)" (PCBS, 2011, p.28).

3.10.3: Underemployment: "this group consists of all individuals applicable to the concept of employment, and their working hours less than normal for any reason, and have the desire to increase their working hour to normal level (35 hour weekly and above) and they are trying this number in any way, such as looking for additional work or trying to establish a private work, or private firm. It is calculated by dividing the number of underemployment employees on the individuals within the Labor force(employed and unemployed)" (PCBS, 2011, p.28).

3.10.4: Bias for quantitative measure: it is calculated by dividing the summation of difference between proxy report and self reports on the summation of self reports.

3.10.5: Bias for qualitative measure: it is calculated by dividing the number of inconsistencies cases between self reports and proxy reports on the number of self reports.

3.11 : Statistical software:

The researcher used four statistical packages in analysis of the study data, namely:

1. Statistical Package for the Social Sciences (SPSS): version 17.
2. Medcalc: version 11.4.4.0.
3. JMP: version 10.0.2.
4. Stata: version 10.

Chapter Four

Results of study

4.1: Agreement coefficient for the qualitative data:

We calculated Kappa Coefficient to examine the agreement between the proxy-reports and the self-reports. This coefficient was calculated at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating.

Null hypothesis states that there is no more agreement between self- and proxy-reports than might occur by chance at level of ($\alpha = 0.05$).

We must note that the agreement between self- and proxy reports about the eighth question was not examined due to the lack of responses about this question.

It also should be noted that the agreement between self- and proxy-responses was not examined at each level of proxy reporter's confidence rating, due to the lack of data in some levels of this variable.

4.1.1:**The first Question**:

This question was asked for self-respondent in this format:
Did you work for wage in any kind of job including casual activities even for one hour?
And was asked for proxy-respondent in this format:
Did ..... work for wage in any kind of job including casual activities even for one hour?

Table (4.1.1.1, Appendix I) shows the numbers and percentages of agreement cases between self- and proxy-reports for this question according to the various levels of kinship.

I used the kappa coefficient to examine the agreement between self-responses and proxy-responses about this question. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value.

Table (4.1.1.2)

The value of the kappa coefficient between self- and proxy-responses about the first question according to type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	110	0.961	0.909 to 1.000
Parent	55	0.959	0.879 to 1.000
Son/daughter	67	0.939	0.852 to 1.000
Brother/Sister	74	0.919	0.829 to 1.000

It was noted from the previous table that the value of the agreement coefficient between self-responses and proxy-responses for this question was high in all levels of the kinship. It was the largest when the proxy reporter was a spouse of self reporter, where the value of the coefficient of agreement was 0.961.

Because all of the confidence intervals did not contain "zero" and all values of kappa were positive, so we conclude that the proxy- and self-reports were in agreement in all levels at ($\alpha = 0.05$).

Agreement was also examined for the same question, but this time according to the proxy reporter's age group. Table (4.1.1.3 , Appendix I) shows the numbers and percentages of agreement cases between self- and proxy-reports for this question according to the various levels of proxy reporter's age group.

Next table illustrates the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of proxy reporter's age group.

Table (4.1.1.4)

The value of the kappa coefficient between self- and proxy-responses about the first question according to proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	149	0.929	0.867 to 0.990
From 30 to less than 50	114	0.965	0.916 to 1.000
50 and more	45	0.956	0.870 to 1.000

It was noted from the previous table that the kappa values were high in all levels of proxy reporter's age group, but it was the lowest when the proxy reporter's age group less than 30 years old ($\hat{\kappa}$ = 0.929).

Because all of the confidence intervals did not contain zero and all values of kappa were positive, so we conclude that the responses of the proxy reporter and self reporter were in agreement in all levels at ($\alpha = 0.05$).

4.1.2: The second Question:

This question was asked for self-respondent in this format:
Although you did not work last week, did he\she assist in any work including casual activities?

And was asked for proxy-respondent in this format:
Although ……. did not work last week, did he\she assist in any work including casual activities?

Table (4.1.2.1, appendix I) shows the numbers and percentages of agreement cases between self- and proxy-reports about this question according to the various levels of kinship.

I used kappa coefficient to examine the agreement between self-responses and proxy-responses for this question. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of kinship.

Table (4.1.2.2)

The value of the kappa coefficient between self- and proxy-responses about the second question according to type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	42	0.408	0.0138 to 0.802
Parent	37	0.874	0.632 to 1.000
Brother/Sister	37	0.665	0.351 to 0.979

It was noted from the previous table that when the proxy-reporter was a spouse of self-reporter, the kappa value was the lowest ($\hat{\kappa}$=0.408), which indicates that the self reports and proxy reports were in a moderate agreement.

When the proxy reporter was a father/mother of self reporter, the value of the kappa coefficient was 0.874, which indicates that the self reports and proxy reports were in almost perfect agreement.

When the proxy reporter was a father/mother of self reporter, the value of Sperman Correlation Coefficient was 1, which indicates that the self reports and proxy reports were in perfect linearship.

We could not compute kappa coefficient at level three (when the proxy reporter was a son/daughter of self reporter) because the values of proxy reports were constant.

Because all of the confidence intervals did not contain "zero" and all kappa values were positive, so we conclude that the responses of the proxy- and self-reporters were in agreement at each level of kinship at ($\alpha = 0.05$).

Agreement also was examined for the same question, but this time according to the proxy reporter's age group.

Table (4.1.2.3, appendix I) shows the numbers and percentages of agreement cases between self- and proxy-reports for this question according to the various levels of proxy reporter's age group.

Next table illustrates the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of proxy reporter's age group.

Table (4.1.2.4)

The value of the kappa coefficient between self- and proxy-responses about the second question according to the proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	59	0.551	0.235 to 0.867
From 30 to less than 50	62	0.516	0.160 to 0.872
50 and more	27	0.836	0.526 to 1.000

It was noted from previous table that the kappa values were moderate when the proxy reporters were aged less than 50.

When the proxy reporters were aged less than 30, the value of the kappa coefficient was 0.551, and it was 0.516 when the proxy reporters age were ranging from 30 to less than 50. It was the largest when the proxy reporters' age group was 50 years old or more ($\hat{\kappa}$ =0.836).

Because all of the confidence intervals did not contain "zero" and all kappa values were positive, so we conclude that the responses of the proxy and self were in agreement in all levels at ($\alpha = 0.05$).

4.1.3: The Third Question:

This question was asked for self-respondent in this format:
Does you have any work or enterprise for which he/she was absent last week?
And was asked for proxy-respondent in this format:
Does ..... have any work or enterprise for which he/she was absent last week?

Table (4.1.3.1, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy reports for this question according to the various levels of kinship.

We can see many cases of disagreement through the previous table, so I used the kappa coefficient to examine the agreement between self-responses and proxy -responses. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of kinship.

Table (4.1.3.2)

The value of the kappa coefficient between self- and proxy-responses about the third question according to type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	40	0.632	0.403 to 0.861
Parent	33	0.480	-0.116 to 1.000
Son/daughter	29	-0.0235	-0.0557 to 0.00868
Brother/Sister	33	0.577	0.164 to 0.990

It was noted from the previous table that the kappa values were moderate when the proxy reporter was a father/mother or brother/sister for the self reporter. The values of kappa coefficient less than 0.6 at these levels.

When the proxy reporter was a spouse of self reporter, the value of kappa coefficient was 0.632, which indicates that the self reports and proxy reports were substantial agreed at this level.

Confidence interval for second level (when the proxy reporter was a father/mother of self reporter) contained "zero", so we conclude that the agreement between the proxy responses and self responses was due to the chance.

Confidence interval of third level (when the proxy reporter was a son/daughter of self reporter) contained "zero", so we conclude that the agreement between the proxy responses and self response was due to the chance.

Agreement also was examined for the same question, but this time according to the proxy reporter's age group.

Table (4.1.3.3, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-reports for this question according to the various levels of proxy reporter's age group.

Next table illustrates the estimated values of kappa coefficient and 95% confidence interval of Kappa coefficient value at each level of proxy reporter's age group.

Table (4.1.3.4)

The value of the kappa coefficient between self and proxy-responses about the third question according to the proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	55	0.342	-0.0259 to 0.710
From 30 to less than 50	59	0.656	0.434 to 0.877
50 and more	24	0.363	-0.158 to 0.884

It was noted from the previous table that when the proxy reporters were aged from 30 to less than 50, the kappa value was 0.656, which indicates that the self- and proxy- reports were in a strong agreement.

when the proxy reporters were aged less than 30, or 50 or more, the value of the kappa coefficient was less than 0.4, which indicates that the self- and proxy-reports were in a fair agreement.

Confidence intervals of first and third level (when proxy reporters were aged from 30 to less than 50) contain "zero", so we conclude that the agreement between the responses of the proxy reporters and self reporters were due to the chance.

Because of the second confidence interval did not contain "zero" and all kappa values were positive, so we conclude that the responses of the proxy reporters and self reporters were in agreement.

4.1.4: The sixth Question:

This question was asked for self-respondent in this format:

Was you available for work last week?

And was asked for proxy-respondent in this format:

Was .... available for work last week?

Table (4.1.4.1, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of kinship.

Through the previous table we can see many cases of disagreement. I used kappa coefficient to examine the agreement between self-response and proxy-response. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of kinship.

Table (4.1.4.2)

The value of the kappa coefficient between self- and proxy-responses about the sixth question according to type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	32	0.654	0.449 to 0.860
Parent	31	0.637	0.421 to 0.852
Son/daughter	28	0.656	0.389 to 0.923
Brother/Sister	30	0.655	0.434 to 0.877

It was noted from the previous table that the kappa values were slightly more than 0.6, which indicate that the self- and proxy-reports were in a strong agreement.

Because all of the confidence intervals did not contain zero, so we conclude that the responses of the proxy reporters and self reporters were in agreement in all levels.

Table (4.1.4.3, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of proxy reporter's age group.

Through the previous table we can see many cases of disagreement, so I used the kappa coefficient to examine the agreement between self-responses and proxy-responses. Next table shows the estimated kappa coefficient values and 95% confidence intervals of kappa coefficient value at each level of proxy reporter's age group.

Table (4.1.4.4)

The value of the kappa coefficient between self- and proxy-responses about the sixth question according to the proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	52	0.668	0.514 to 0.822
From 30 to less than 50	50	0.697	0.545 to 0.849
50 and more	22	0.711	0.503 to 0.918

It was noted from the previous table that the kappa values were slightly more than 0.6, which indicate that the self- and proxy-reports were in a strong agreement.

When the proxy reporters were aged 50 or more, the value of the kappa coefficient was the largest ($\hat{\kappa}$=0.711), which indicates that the self and proxy reports were in high agreement.

Because all of the confidence intervals did not contain "zero" and all kappa coefficients were positive, so we conclude that the responses of proxy- and self-reporters were in agreement at all levels.

4.1.5: The Seventh Question:

This question was asked for self-respondent in this format:
Was there any reason that prevented you from getting a job if he was offered on last week?
And was asked for proxy-respondent in this format:
Was there any reason that prevented ..... from getting a job if he was offered on last week?

Table (4.1.5.1, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-response for this question.

Cross-tabulation and kappa coefficient were not computed at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating, due to the small number of individuals who responded about this question in each level.

Through the previous table, we can see many cases of disagreement, so I used the kappa coefficient to examine the agreement between self-responses and proxy-responses. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at two levels of proxy reporter's age group. I merged the second level (from 30 to less than 50) with the third level (50 or more) in one level because of the small number of respondents pairs who responded about this question in third level.

Table (4.1.5.2)

The value of the kappa coefficient between self- and proxy-responses about the seventh question according to the proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	16	-0.356	-0.605 to -0.107
30 or more	23	-0.278	-0.443 to -0.112

We note from the previous table that the kappa coefficient values were negative in the two levels, which indicate that the agreement worse than that expected by chance.

4.1.6: The Ninth Question:

This question was asked for self-respondent in this format:

Did you ever work in the past for two weeks regularly?

And was asked for proxy-respondent in this format:

Did....ever work in the past for two weeks regularly?

Table (4.1.6.1, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of kinship.

I used the kappa coefficient to examine the agreement between self-responses and proxy-responses for this question. Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of kinship.

Table (4.1.6.2)

The value of the kappa coefficient between self- and proxy-responses about the ninth question according to the type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	32	0.653	0.424 to 0.883
Parent	31	0.830	0.633 to 1.000
Son/daughter	28	0.313	0.0818 to 0.545
Brother/Sister	31	0.641	0.350 to 0.931

It was noted from the previous table that when the proxy reporter was son/daughter of self reporter, the value of kappa was lowest ($\hat{\kappa}$=0.313), which indicates that the self reports and proxy reports were in a brief agreement.

When the proxy reporter was a father/mother of self reporter, the value of the kappa coefficient was the largest value of **(**$\hat{\kappa}$=0.830), which indicates that the self reports and proxy reports were in almost perfect agreement.

When the proxy reporter was a spouse or brother/sister of self reporter, the value of the kappa coefficient was slightly more than 0.6, which indicates that the self reports and proxy reports were in a strong agreement.

Because all of the confidence intervals did not contain "zero", so we conclude that the responses of the proxy reporters and self reporters were in agreement in all levels.

Table (4.1.6.3, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of proxy reporter's age group.

Next table shows the estimated values of kappa coefficient and 95% confidence intervals of kappa coefficient value at each level of proxy reporter's age group.

Table (4.1.6.4)

The value of the kappa coefficient between self- and proxy-responses about the ninth question according to the proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Less than 30	52	0.382	0.182 to 0.582
From 30 to less than 50	50	0.779	0.593 to 0.966
50 and more	23	0.657	0.427 to 0.886

It was noted from the previous table that the kappa values were slightly more than 0.6 when proxy reporters were aged 30 or more, which indicate that the self- and proxy-reports were in a strong agreement. When the proxy reporters were aged from 30 to less than 50, the value of the kappa coefficient was 0.382, which indicates that the self- and proxy- reports are in a fair agreement.

Because all of the confidence intervals did not contain "zero" and all kappa values were positive, so we conclude that the responses of the proxy and self were in agreement in all levels at ($\alpha = 0.05$).

4.1.7: The Tenth Question:

This question was asked for self-respondent in this format:
What is\was your employment status?
And was asked for proxy-respondent in this format:
What is\was his\her employment status?

Table (4.1.7.1, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of kinship.

I used the kappa coefficient to examine the agreement between self-responses and proxy responses for this question. Next table shows the estimated values of kappa Coefficient and 95% confidence intervals of kappa coefficient value at each level of kinship.

Table (4.1.7.2)

The value of the kappa coefficient between self- and proxy-responses about the tenth question according to type of kinship

Type of kinship	**Number of pairs**	**Kappa Coefficient Value**	**95% confidence Interval**
Spouse	89	0.923	0.860 to 0.987
Parent	29	1	1.000 to 1.000
Son/daughter	46	0.884	0.780 to 0.989
Brother/Sister	50	0.845	0.717 to 0.974

The values of kappa coefficient exceed 0.8 in all levels of kinship, which indicates that the self reports and proxy reports were in almost perfect agreement.

Because all of the confidence intervals did not contain zero and all values of kappa coefficient were positive, so we conclude that the responses of the proxy- and self-reporters were in agreement in all levels.

Table (4.1.7.3, appendix I) illustrates the numbers and percentages of agreement cases between self- and proxy-responses for this question according to the various levels of proxy reporter's age group.

Table (4.1.7.4)

The value of the kappa coefficient between self- and proxy- responses about the tenth question according to the proxy reporter's age group

Proxy reporter's age group	Number of pairs	Kappa Coefficient Value	95% confidence Interval
Less than 30	111	0.881	0.808 to 0.954
From 30 to less than 50	76	0.947	0.889 to 1.000
50 and more	29	0.906	0.785 to 1.000

It was noted from the previous table that the kappa values were exceed 0.8 in all levels of proxy reporter's age group, which indicate that the self- and proxy reports were in almost perfect agreement.

Because all of the confidence intervals did not contain zero and all kappa values were positive, so we conclude that the responses of the proxy- and self-reporters were in agreement in all levels at ($\alpha = 0.05$).

4.2: Agreement coefficient for the quantitative data:

We calculated the Intraclass Correlation Coefficient (ICC) to examine the agreement between the proxy-reports and the self-reports. This coefficient was calculated at each level of many variables such as kinship, proxy reporter's age group and proxy reporter's confidence rating.

Null hypothesis states that there is no agreement between self reporters and proxy-reports at level of ($\alpha = 0.05$).

4.2.1 :The fourth Question:

This question was asked for self-respondent in this format:

How many hours did you work in all jobs last week?

And was asked for proxy-respondent in this format:

How many hours did ..... work in all jobs last week?

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of kinship.

Table (4.2.1.1)

The means and standard deviations of the self- and proxy-responses about the fourth question at each level of kinship

Type of Kinship	Group	Number of pairs	Mean	Standard deviation
Spouse	**Selves**	74	42.1757	16.49106
	Proxies		42.2027	16.78223
Parent	**Selves**	23	36.4348	16.15782
	Proxies		34.4348	18.78061
Son/Daughter	**Selves**	40	48.4250	20.06641
	Proxies		44.1250	15.62409
Brother/Sister	**Selves**	43	45.6279	18.00532
	Proxies		42.4651	17.94747

It was noted from the previous table that when the proxy reporter was a father/mother, son/daughter or brother/sister for self reporter, he tended to give underestimated mean of the number of hours which the self reporter has worked during the reference period. When the proxy reporter was a spouse of self reporter, he tended to give identical mean of the number of hours which the self reporter has worked during the reference period.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC). The following table shows the values of the agreement test (ICC).

Table (4.2.1.2)

The value of the ICC coefficient between self- and proxy-responses about the fourth question according to the various levels of kinship

Type of Kinship	Number of pairs	Value of ICC	p-value
Spouse	74	0.863	0.000
Parent	23	0.817	0.000
Son/Daughter	40	0.790	0.000
Brother/Sister	43	0.761	0.000

When the proxy reporter was a spouse of self-reporter, the value of ICC of agreement was the largest (ICC = 0.863), which indicates that the proxy- and self-reports were in almost perfect agreement.

When the proxy-reporter was a brother/sister of self-reporter, the value of the coefficient of agreement between proxy- and self-reports was the lowest (ICC=0.761), which indicates that the self- and proxy-responses were in a strong agreement.

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's age group.

Table (4.2.1.3)

The means and standard of the self- and proxy-responses about the fourth question at each level of proxy reporter's age group

Proxy reporter's age group	Group	Number of pairs	Mean	Standard deviation
Less than 30	**Selves**	100	47.6700	17.22815
	Proxies		44.9200	15.60218
From 30 to less than 50	**Selves**	59	40.0169	18.65614
	Proxies		38.7966	18.74399
50 and more	**Selves**	22	36.6818	16.08426
	Proxies		36.1364	18.21903

It was noted from the previous table that when the proxy reporter was aged less than 50, he tended to give underestimated mean of the number of hours which the self reporter has worked during the reference period. When the proxy reporter was aged 50 or more, he tended to give identical mean of the number of hours which the self reporter has worked during the reference period.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC) at each level of proxy reporter's age group. The following table shows the value of the agreement test (ICC).

Table (4.2.1.4)

The value of the ICC coefficient between self-responses and proxy-responses about the fourth question at all levels of proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Value of ICC**	**p-value**
Less than 30	100	0.768	0.000
From 30 to less than 50	59	0.895	0.000
50 and more	22	0.732	0.000

It was noted form the previous table that when the proxy was aged from 30 to less than 50, the value of the agreement coefficient was the largest (ICC = 0.895), which indicates that the proxy- and self-reports were in almost perfect agreement.

When the proxy-reporter was aged less than 30, the value of the coefficient of agreement between proxy and self-reports was (ICC=0.761). When the proxy-reporter was aged 50 or more, the value of the coefficient of agreement between proxy- and self-reports was (ICC=0.732), these two values indicate that the self- and proxy-responses were in a strong agreement.

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's confidence rating.

Table (4.2.1.5)

The means and standard deviations of the self- and proxy-responses about the fourth question at each level of proxy reporter's confidence rating

confidence rating	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
High	**Selves**	78	43.6923	15.54408
	Proxies		43.9231	15.73793
moderate	**Selves**	73	46.7671	15.88633
	Proxies		44.5342	16.00181
Low	**Selves**	21	48.8095	21.99459
	Proxies		37.8571	17.85297

It was noted from the previous table that when the proxy reporter rated the confidence of his/her answer as a high, he tended to give identical mean of the number of hours which the self reporter has worked during the reference period. When the proxy reporter rated the confidence of his/her as a moderate or low, he tended to give underestimated mean of the number of hours which the self reporter has worked during the reference period.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC) at each level of proxy reporter's confidence rating, the following table shows the value of the agreement test (ICC).

Table (4.2.1.6)

The value of the ICC coefficient between self and proxy-responses about the fourth question at all levels of proxy confidence rating

confidence rating	**Number of pairs**	**Value of ICC**	**p-value**
High	78	0.874	0.000
Moderate	73	0.726	0.000
low	21	0.721	0.000

When the proxy reporter rated the confidence of his/her answer as a high, the value of ICC was the largest (ICC = 0.874), which indicates that the proxy- and self-reports were in almost perfect agreement.

When the proxy-reporter rated the confidence of his/her answer as a moderate or low, the value of the coefficient of agreement between proxy- and self-reports were (ICC=0.761,0.721) respectively, which indicate that the self- and proxy-responses were in strong agreement.

4.2.2: The Eleventh Question:

This question was asked for self-respondent in this format:
How long are you at this work?
And was asked for proxy-respondent in this format:
How long is he\she at this work?

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at all levels of kinship.

Table (4.2.2.1)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the eleventh question at each level of kinship

Type of Kinship	Group	Number of pairs	Mean	Standard deviation
Spouse	**Selves**	59	110.4068	77.05509
	Proxies		108.4746	89.2531
Parent	**Selves**	21	45.8571	48.21648
	Proxies		38.4286	44.53041
Son/Daughter	**Selves**	25	178.0000	112.45444
	Proxies		140.5600	83.12294
Brother/Sister	**Selves**	36	41.1111	42.77768
	Proxies		34.0556	40.96475

It was noted from the previous table that when the proxy reporter was a father/mother, son/daughter or brother/sister for self reporter, he tended to give underestimated mean of the number of months which the self reporter has been spent in the current work. And when the proxy reporter was a spouse of self reporter, he tended to give a fairly identical mean of the number of months which the self reporter has been spent in current work.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC), the following table shows the value of the agreement test (ICC) at all levels of kinship.

Table (4.2.2.2)

The value of the ICC coefficient between self- and proxy-responses about the eleventh question according to the various levels of kinship.

Type of Kinship	**Number of pairs**	**Value of ICC**	**p-value**
Spouse	59	0.972	0.000
Parent	21	0.903	0.000
Son/Daughter	25	0.805	0.000
Brother/Sister	35	0.961	0.000

The previous table showed that the value of ICC was almost perfect in all levels of kinship. When the proxy was either a spouse, father/mother or brother/sister of self reporter, the value of ICC exceeded 0.9.

Also, when the proxy was son/daughter of the self reporter, the value of ICC was the lowest , it was 0.805.

The following table shows the means and standard deviations of responses for the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's age group.

Table (4.2.2.3)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the eleventh question at each level of proxy reporter's age group

Proxy reporter's age group	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
Less than 30	**Selves**	73	92.2192	96.97999
	Proxies		74.8767	76.76659
From 30 to less than 50	**Selves**	50	104.9800	70.44045
	Proxies		100.5800	70.51765
50 and more	**Selves**	19	94.0000	116.49368
	Proxies		91.8947	135.42316

It was noted from the previous table that when the proxy reporter was aged less than 30, he tended to give a serious underestimated mean of the number of months which the self reporter has been spent in the current work. And when the proxy reporter was aged 30 and more, he tended to give a fair underestimated mean of the number of months which the self reporter have been spent in current work.

Agreement between self- and proxy response has been examined by the intraclass correlation coefficient (ICC). The following table shows the value of the agreement test (ICC) at each level of proxy reporter's age group.

Table (4.2.2.4)

The value of the ICC coefficient between self- and proxy-responses about the eleventh question at each level of proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Value of ICC**	**p-value**
Less than 30	73	0.897	0.000
From 30 to less than 50	50	0.963	0.000
50 and more	19	0.927	0.000

Previous table illustrated that when the proxy-reporter was aged less than 30, the value of the coefficient of agreement between proxy and self-reports was (ICC=0.897). When the proxy-reporter was aged 50 years or more , the value of the coefficient of agreement between proxy and self-reports exceeded 0.9, these values indicate that the self- and proxy-responses were in almost perfect agreement.

The following table shows the means and standard deviations for responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's confidence rating.

Table (4.2.2.5)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the eleventh question at each level of proxy reporter's confidence rating

Proxy confidence rating	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
High	**Selves**	58	85.5690	81.70574
	Proxies		84.9310	83.13018
Moderate	**Selves**	48	81.2500	71.21424
	Proxies		76.7500	88.03541
Low	**Selves**	31	138.7419	113.96022
	Proxies		100.9355	79.88781

It was noted through the previous table that when the proxy reporter rated the confidence of his/her answer as a high ,he tended to give identical mean of number of months which the self reporter have been spent in current work. When the proxy reporter rated the confidence of his/her as moderate or low , he tended to give underestimated mean of the number of months which the self reporter have been spent in current work.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC), the following table shows the values of the agreement test (ICC) at each level of proxy reporter's confidence rating.

Table (4.2.2.6)

The value of the ICC coefficient between self- and proxy-responses about the eleventh question at each level of proxy reporter's confidence rating

confidence rating	**Number of pairs**	**Value of ICC**	**p-value**
High	58	0.992	0.000
Moderate	48	0.904	0.000
low	31	0.824	0.000

The previous table showed that the value of ICC was almost perfect in all levels of proxy reporter's confidence rating. When the proxy reporter rated the confidence of his/her answer as a high or moderate, the value of ICC exceeded 0.9.

In addition, when the proxy reporter rated the confidence of his/her answer as a low, the value of ICC was the lowest, it was 0.824.

4.2.3: The Twelfth Question:

This question was asked for self-respondent in this format:
How many days did you work for wage last month?
And was asked for proxy-respondent in this format:
How many days did ….. work for wage last month?

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of kinship.

Table (4.2.3.1)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the twelfth question at all levels of kinship

Type of Kinship	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
Spouse	**Selves**	59	25.1017	6.38072
	Proxies		24.0339	7.73252
Parent	**Selves**	21	21.8095	8.86352
	Proxies		20.0952	9.59117
Son/Daughter	**Selves**	25	21.9600	8.32907
	Proxies		23.0800	9.16933
Brother/Sister	**Selves**	36	24.0556	7.62306
	Proxies		25.1389	7.89268

It was noted from the previous table that when the proxy reporter was a spouse or father/mother for the self reporter, he tended to give a fair underestimated mean of the number of days which self reporter has worked for wage last month. When the proxy reporter was a son/daughter or brother/sister for the self reporter, he tended to give a fair overestimated mean of the number of days which self reporter has worked for wage last month.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC), the following table shows the value of the agreement test (ICC) at each level of kinship.

Table (4.2.3.2)

The value of the ICC coefficient between self- and proxy-responses about the twelfth question according to the various levels of kinship

Type of Kinship	Number of pairs	Value of ICC	p-value
Spouse	59	0.673	0.000
Parent	21	0.835	0.000
Son/Daughter	25	0.828	0.000
Brother/Sister	36	0.762	0.000

Previous table illustrated that when the proxy reporter was a father/mother or son/daughter of self-reporter, the value of ICC of agreement exceeded 0.8, which indicates that the proxy- and self-reports were almost exactly the same.

The table also illustrated that when the proxy-reporter was a brother/sister of self-reporter, the value of the coefficient of agreement between proxy- and self-reports was (ICC=0.761), which indicates that the self and proxy-responses were in a strong agreement.

Moreover, when the proxy-reporter was a spouse of self-reporter, the value of the coefficient of agreement between proxy- and self-reports was the lowest (ICC=0.673), which indicates that the self- and-proxy responses were in substantial agreement.

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's age group.

Table (4.2.3.3)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the twelfth question at each level of proxy reporter's age group

Proxy reporter's age group	Group	Number of pairs	Mean	Standard deviation
Less than 30	**Selves**	73	23.9726	7.54610
	Proxies		24.3836	8.11656
From 30 to less than 50	**Selves**	50	22.8200	8.03231
	Proxies		22.0200	8.99771
50 and more	**Selves**	19	24.6316	7.18958
	Proxies		23.4737	8.60470

It was noted from the previous table that the proxy reporter tended to give identical mean of the number of days which self reporter has worked in return for wage last month at each level of proxy reporter 's age group.

Agreement between self- and proxy-responses have been examined by intraclass correlation coefficient (ICC), the following table shows the value of the agreement test (ICC) at each level of proxy reporter's age group.

Table (4.2.3.4)

The value of the ICC coefficient between self- and proxy-responses about the twelfth question at all levels of proxy reporter's age group

Proxy reporter's age group	Number of pairs	Value of ICC	p-value
Less than 30	73	0.691	0.000
From 30 to less than 50	50	0.863	0.000
50 and more	19	0.797	0.000

Previous table showed that when the proxy-reporter was aged less than 30, the value of the agreement coefficient between proxy- and self-reports was (ICC=0.691), which indicates that the self- and proxy-reports were in a substantial agreement.

The table also showed that when the proxy-reporter was aged from 30 to less than 50, the value of the coefficient of agreement between proxy- and self-reports was (ICC = 0.863), which indicates that the proxy- and self-reports were almost exactly the same.

Moreover, the table also showed that when the proxy-reporter was aged 50 years or more, the value of the coefficient of agreement between proxy- and self-reports was (ICC = 0.797), which indicates that the self- and proxy-responses were in a strong agreement.

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's confidence rating.

Table (4.2.3.5)

The means and standard deviations for the two groups (self-respondents and proxy-respondents) about the twelfth question at each level of proxy reporter's confidence rating

Proxy confidence rating	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
High	**Selves**	70	26.3143	7.12933
	Proxies		26.1286	8.12033
moderate	**Selves**	50	22.2200	6.36088
	Proxies		22.2400	7.70783
Low	**Selves**	17	20.0588	6.69394
	Proxies		18.8824	6.79046

It was noted from the previous table that when the proxy reporter rated the confidence of his/her answer as a high or moderate, he tended to give identical mean of the number of days which self reporter has worked in return for wage last month. When the proxy reporter rated the confidence of his/her as a low, he tended to give underestimated mean of the number of days which self reporter has worked in return for wage last month.

Agreement between self- and proxy-responses have been examined by intraclass correlation coefficient (ICC). The following table shows the value of the agreement test (ICC) at each level of proxy reporter's confidence rating.

Table (4.2.3.6)

The value of the ICC coefficient between self- and proxy-responses about the twelfth question at each level of proxy reporter's confidence rating

confidence rating	**Number of pairs**	**Value of ICC**	**p-value**
High	70	0.840	0.000
Moderate	50	0.591	0.000
low	17	0.414	0.047

When the proxy reporter rated the confidence of his/her answer as a high, the value of the coefficient of agreement between proxy- and self-reports (ICC = 0.840), which indicates that the proxy- and self-reports were almost exactly the same.

When the proxy reporter rated the confidence of his/her answer as a moderate or low, the value of the coefficient of agreement between proxy- and self-reports (ICC = 0.591, 0.414) respectively, which indicate that the self- and proxy-responses were in a moderate agreement.

4.2.4: The Thirteenth Question:

This question was asked for self-respondent in this format:
What is the amount of your wage (daily, weekly, or monthly)?
And was asked for proxy-respondent in this format:
What is the amount of (……) wage (daily, weekly, or monthly)?

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of kinship.

Table (4.2.4.1)

The means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) about the thirteen question at each level of kinship

Type of Kinship	Group	Number of pairs	Mean	Standard deviation
Spouse	**Selves**	59	2057.7966	1373.21554
	Proxies		1986.3898	1379.89542
Parent	**Selves**	21	1060.1905	972.81384
	Proxies		894.6667	881.60543
Son/Daughter	**Selves**	25	1659.2000	2012.83573
	Proxies		1444.4000	1938.98616
Brother/Sister	**Selves**	36	1350.0000	1053.82297
	Proxies		1171.3889	962.93051

It was noted from the previous table that when the proxy reporter was a spouse of self reporter, he tended to give a fair underestimated mean of the amount of self reporter's wage. When the proxy reporter was a father/mother, son/daughter or brother/sister of self reporter, he tended to give more clearly underestimated mean of the amount of self reporter's wage.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC). The following table shows the value of the agreement test (ICC) at each level of kinship.

Table (4.2.4.2)

The value of the ICC coefficient between self- and proxy-responses about the thirteen question according to the various levels of kinship

Type of Kinship	**Number of pairs**	**Value of ICC**	**p-value**
Spouse	59	0.981	0.000
Parent	21	0.944	0.000
Son/Daughter	25	0.982	0.000
Brother/Sister	36	0.933	0.000

From previous table, we can note that the values of ICC of agreement were very high in all levels of kinship, which indicate that the proxy- and self-reports were almost exactly the same. When the proxy reporter was a spouse or son/daughter of the self-reporter, the values of ICC of agreement were the largest (ICC= 0.981, 0.982 respectively). In addition, when the proxy-reporter was a brother/sister of self-reporter, the value of the coefficient of agreement between proxy- and self-reports was the lowest (ICC=0.933).

The following table shows the means and standard deviations for the responses of the two groups (self-respondents and proxy-respondents) at each level of proxy reporter's age group.

Table (4.2.4.3)

The means and standard deviations for responses of the two groups (self-respondents and proxy-respondents) about the thirteenth question at each level of proxy reporter's age group

Proxy reporter's age group	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
Less than 30	**Selves**	73	1585.8904	1567.53242
	Proxies		1422.7397	1516.56159
From 30 to less than 50	**Selves**	50	1717.8800	1176.69141
	Proxies		1637.1800	1167.69575
50 and more	**Selves**	19	1691.5789	1527.51164
	Proxies		1504.5263	1538.96225

It was noted from the previous table that the proxy reporter tended to give a fair underestimated mean of the amount of self reporter's wage in all levels of proxy reporter's age group.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC). The following table shows the value of the agreement test (ICC) at each level of proxy reporter's age group.

Table (4.2.4.4)

The value of the ICC coefficient between self- and proxy responses about the thirteen question at each level of proxy reporter's age group

Proxy reporter's age group	**Number of pairs**	**Value of ICC**	**p-value**
Less than 30	73	0.975	0.000
From 30 to less than 50	50	0.970	0.000
50 and more	19	0.977	0.000

From the previous table, we can note that the values of ICC of agreement were very high in all levels of proxy reporter's age group, which indicate that the proxy- and self-reports were almost exactly the same in this question.

The following table shows the means and standard deviations of responses for the two groups (self-respondents and proxy-respondents) at each level of proxy confidence rating.

Table (4.2.4.5)

The means and standard deviations for the two groups (self-respondents and proxy-respondents) about the thirteenth question at all levels of proxy confidence rating

Proxy confidence rating	**Group**	**Number of pairs**	**Mean**	**Standard deviation**
High	**Selves**	83	1876.1446	1491.32846
	Proxies		1828.1566	1476.93894
moderate	**Selves**	40	1564.0000	1394.33065
	Proxies		1258.0000	1280.76139
Low	**Selves**	14	1049.5714	798.72559
	Proxies		826.4286	703.95156

We note from the previous table that when the proxy reporter rated the confidence of his/her answer as a high, he tended to give identical mean of the amount of self reporter's wage. And when the proxy reporter rated the confidence of his/her as a low, he tended to give underestimated mean of the amount of self reporter's wage.

Agreement between self- and proxy-responses have been examined by the intraclass correlation coefficient (ICC), the following table shows the value of the agreement test (ICC) at each level of proxy reporter's confidence rating.

Table (4.2.4.6)

The value of the ICC coefficient between self- and proxy responses about the thirteen question at each level of proxy reporter's confidence rating

confidence rating	Number of pairs	Value of ICC	p-value
High	83	0.993	0.000
Moderate	40	0.927	0.000
low	14	0.993	0.000

From previous table, we can note that the values of ICC of agreement were very high in all levels of proxy confidence rating, which indicate that the proxy- and self-reports were almost exactly the same in this question.

4.3: Test of marginal symmetry for the qualitative data:

McNemar's and Stuart Maxwell Test were used to determine the statistical significance for the categorical measure of the percentage of bias. In other words, it was used to determine if the marginal proportion of self reports for each category was significantly different from the marginal proportion of proxy reports for the corresponding categories.

$H_{\circ}$: *The marginal distribution of self reports was the same as the marginal distribution of proxy reports (* $P_{i\bullet} = P_{\bullet j}$ *).*

H_1 *: The marginal distribution of self reports was the same as the marginal distribution of proxy reports.*

PCBS usually estimates some basic labor force indicators by relying on the sample of respondents, where it includes self-reporters and proxy reporters, so the researcher made a comparison between the indicators which calculated by using self-reports and indicators which calculated by using proxy reports.

$H_{\circ}$ *: The Two marginal distributions of in labor force indicator which obtained by self- and proxy reporters were identical.*

H_1 *: The Two marginal distributions of in labor force indicator which obtained by self- and proxy reporters were not identical.*

It should be noted that the marginal homogeneity between self- and proxy-responses was not examined at each level of proxy reporter's confidence rating, due to the lack of data in some levels of this variable.

Table (4.3.1)

McNemar's test of marginal symmetry : self- and proxy-reports in labor force indicator at each level of kinship and proxy reporter's age.

Independent Variable	**Level of independent variable**	**Number of cases**	**P-value**
Kinship	Spouse	110	0.5
	Parent	55	1
	Son/daugter	67	0.375
	Brother/Sister	74	0.5
Proxy reporter's age group	Less than 30	151	0.219
	From 30 to less than 50	114	0.375
	50 or more	45	0.25
Total			0.013 **
** : Test is significant at α = 0.5 (Binomial distribution used)			

McNemar test illustrated that the two marginal distributions of in labor force indicator which obtained by self- and proxy reports were identical at each level of kinship and proxy reporter's (P-value > 0.05).

McNemar's test also showed that the marginal distribution of in labor force indicator which obtained by self reports was not the same as the distribution of in

labor force indicator which obtained by proxy reports at aggregate level (p-value < 0.05).

The percentage of difference between two marginal proportions for the individuals in the labor force which were obtained by self-reports and proxy reports was 3.23%.

The following table shows the p-values of McNemar's statistics for the first question about the working status of self-employment in the reference period at each level of kinship and proxy reporter's age group.

Table (4.3.2)

McNemar's test of marginal symmetry: self - and proxy-reports for the first question about "the working status of self-employment in the reference period" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Number of cases**	**p-value**
Kinship	Spouse	110	0.5
	Parent	55	1
	Son/daugter	67	0.5
	Brother/Sister	74	1
Proxy reporter's age group	Less than 30	151	0.375
	From 30 to less than 50	114	0.5
	50 or more	5	1
Total		310	0.07 *
*: significant at $\alpha = 0.1$			

It was noted form the previous table that all of probabilities satisfied marginal symmetry (P-value > 0.05) at each levels of kinship and proxy reporter's age group. McNemar's test also showed that the marginal distribution of proxy reports was the same as self-reports at the aggregate level (p-value > 0.05).

Although the test was not statistically significant at aggregate level at $\alpha = 0.05$,but this would require us to be cautious in accepting a proxy response about this question.

Moreover, the marginal distribution of proxy-reports was not the same as for the marginal distribution of self-reports at aggregate level at $\alpha = 0.1$.

The following table shows the p-values of Stuart-Maxwell statistic for the second question about "assistance in any work including casual activities" at each level of kinship and proxy reporter's age group.

Table (4.3.3)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the second question about "assistance in any work including casual activities" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**p-value**
Kinship	Spouse	2	0.0821*
	Parent	1	0.3173
	Son/daugter	1	0.1573
	Brother/Sister	2	0.6065
Proxy reporter's age group	Less than 30	2	0.3679
	From 30 to less than 50	2	0.0821*
	50 or more	1	0.3173
Total		2	0.0405**
** : significant at $\alpha = 0.05$ * : significant at $\alpha = 0.1$			

Stuart-Maxwell test showed that the marginal distribution of proxy reports and the marginal distribution of self-reports was not a symmetric at aggregate level at $\alpha = 0.05$ (P-value < 0.05).

It was also noted that when the proxy reporter was a spouse of self reporter or he was aged from 30 to less than 50 years, the marginal distribution of proxy reports was not identical with the marginal distribution of self-reports at $\alpha = 0.1$ (p-value <0.1). This would require us to be cautious in accepting a proxy response about this question.

The following table shows the p-values of Stuart-Maxwell statistic for the third question about "absence from any work or enterprise last week" at each level of kinship and proxy reporter's age group.

Table (4.3.4)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the third question about "absence from any work or enterprise last week" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	2	0.0654*
	Parent	2	0.3679
	Son/daugter	2	0.2231
	Brother/Sister	2	0.3679
Proxy reporter's age group	Less than 30	2	0.5647
	From 30 to less than 50	2	0.0654*
	50 or more	2	0.2231
Total		2	0.0158**
** : significant at $\alpha = 0.05$ * : significant at $\alpha = 0.1$			

It was noted form previous table that the marginal probabilities did not satisfy the symmetry (P-value < 0.05) at aggregate level at $\alpha = 0.05$.

It was also noted that when the proxy reporter was a spouse of self reporter or he was aged from 30 to less than 50 years, the marginal distribution of proxy

reports was not identical with the marginal distribution of self-reports at $\alpha = 0.1$ (p-value <0.1). This would require us to be cautious in accepting a proxy response about this question.

The following table shows the p-values of Stuart-Maxwell statistic for the sixth question about "self reporter's readiness for the work last week" at each level of kinship and proxy reporter's age group.

Table (4.3.5)

Stuart-Maxwell test of marginal symmetry: self and proxy-reports for the sixth question about "self reporter's readiness for the work last week" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	5	0.2645
	Parent	4	0.1359
	Son/daugter	3	0.5724
	Brother/Sister	4	0.4337
Proxy reporter's age group	Less than 30	4	0.2786
	From 30 to less than 50	5	0.0633*
	50 or more	5	0.4159
Total		5	0.0037**
** : significant at $\alpha = 0.05$ * : significant at $\alpha = 0.1$			

Stuart-Maxwell test illustrated that the marginal distribution of proxy reports and marginal distribution of self-reports was not identical at aggregate level at $\alpha = 0.05$ (P-value < 0.05).

When the proxy reporter was aged from 30 to less than 50, the test was statistically significant at $\alpha = 0.1$. This would require us to be cautious in accepting a proxy response about this question.

The following table shows the p-values of Stuart-Maxwell statistic for the seventh question about "presence any reason that prevented the self reporter from getting a job if he was offered on last week" at each level of kinship and proxy reporter's age group.

Table (4.3.6)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the seventh question about "presence any reason that prevented the self reporter from getting a job if he was offered on last week" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	1	0.6547
	Parent	1	0.4142
	Son/daugter	1	0.5637
	Brother/Sister	1	0.4346
Proxy reporter's age group	Less than 30	2	0.3679
	From 30 to less than 50	1	0.4795
	50 or more	1	0.5637
Total		2	0.4066

Stuart-Maxwell test showed that the marginal distribution of proxy reports and the marginal distribution of self-reports was a symmetric at each level of kinship and proxy reporter's age group, and aggregate level (P-value > 0.05).

The following table shows the p-values of Stuart-Maxwell statistic for the eighth question about "seeking for a work last week" at each level of kinship and proxy reporter's age group.

Table (4.3.7)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the eight question about "seeking for a work last week" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	2	0.3314
	Parent	2	0.5236
	Son/daughter	2	0.3114
	Brother/Sister	2	0.9260
Proxy reporter's age	Less than 30	2	0.7332
	From 30 to less than 50	2	0.3679
	50 or more	2	0.8187
Total		2	0.6635

Stuart-Maxwell test showed that the marginal distribution of proxy reports and the marginal distribution of self-reports was a symmetric at each level of kinship and proxy reporter's age, and aggregate level (P-value > 0.05).

The following table shows the p-values of Stuart-Maxwell statistic for the ninth question about "working in the past for at least two weeks regularly" at each level of kinship and proxy reporter's age group.

Table (4.3.8)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the ninth question about "working in the past for at least two weeks regularly" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	4	0.2548
	Parent	4	0.6151
	Son/daughter	4	0.1359
	Brother/Sister	4	0.4060
Proxy reporter's age group	Less than 30	4	0.0447*
	From 30 to less than 50	3	0.2035
	50 or more	4	0.3309
Total		4	0.0013**
** : significant at $\alpha = 0.05$ * : significant at $\alpha = 0.1$			

It was noted that when the proxy reporter was aged less than 30, the marginal distribution of proxy reports was not identical with the marginal distribution of self-reports at $\alpha = 0.05$ (p-value <0.05).

The previous table also showed that the marginal distribution of proxy reports was not identical with the marginal distribution of self-reports at aggregate level at $\alpha = 0.05$ (p-value <0.05).

The following table shows the p-values of Stuart-Maxwell test values for the tenth question about "the employment type for self-reporter" at each level of kinship and proxy reporter's age group.

Table (4.3.9)

Stuart-Maxwell test of marginal symmetry: self- and proxy-reports for the tenth question about "the employment type of self-reporter" at each level of kinship and proxy reporter's age group

Independent Variable	**Level of independent variable**	**Degrees of freedom**	**P-value**
Kinship	Spouse	8	0.7993
	Parent	6	1
	Son/daughter	6	0.5438
	Brother/Sister	7	0.6600
Proxy reporter's age group	Less than 30	7	0.2700
	From 30 to less than 50	8	0.9344
	50 or more	7	0.9598
Total		9	0.1476

Stuart-Maxwell test showed that the marginal distribution of proxy reports and the marginal distribution of self-reports was a symmetric at each level of kinship and proxy reporter's age, and aggregate level (P-value > 0.05).

4.4: Test of differences between the two means:

The paired *t* test was used to assess the statistical significance of bias for the continuous measure.

The following table shows the paired t-test values for the question about "the self-respondent's working hours" at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating.

Table (4.4.1)

Paired t-test for the difference between the two means of the "self-respondent working hours which self reporters and proxy reporters gave them" at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating

Independent Variable	**Level of independent variable**	**t-value**	**P-value**
Kinship	Spouse	-0.027	0.979
	Parent	0.902	0.377
	Son/daugter	2.449	.019**
	Brother/Sister	1.697	0.097*
Proxy reporter's age	Less than 30	2.504	0.014**
	From 30 to less than 50	1.096	0.277
	50 or more	.200	0.843
Proxy confidence rating	High	-0.258	0.797
	Moderate	1.630	0.107
	Low	4.202	0.000**
Total		2.547	0.012**
** : Statistically significant at α =0.05 * : Statistically significant at α =0.01			

Previous table showed that when proxy reporter rated the confidence of his/her answer as a low, there were statistically significant differences at α=0.05 between two means of self-respondent's working hours, which were obtained them by the two reports .

Previous table also showed that when proxy reporter was a son/daughter for self reporter or he/she was aged less than 30, there were statistically significant differences at α = 0.05 between two means of self-reporter's working hours, which were obtained them by the two reports.

At the aggregate level, the differences between two means of self-respondent's working hours which were obtained them by the two reports were statistically significant at $\alpha=0.05$.

Figure(4.4.1, appendix II) illustrates the differences between the two estimated marginal means of self-reporter's working hours, which were obtained them by the two reports at each level of kinship.

Figure (4.4.2, appendix II) illustrates the differences between the two estimated marginal means of self-reporter's working hours, which were obtained them by the two reports at each level of proxy reporter's age group.

Figure (4.4.3, appendix II) illustrates the differences between the two estimated marginal means of self-reporter's working hours, which were obtained them by the two reports at each level of proxy reporter's confidence rating.

The following table shows the t-test values for the eleventh question about the number of months which the self reporter have spent in current work at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating.

Table (4.4.2)

Paired t-test for the difference between two means of "the number of months which self reporter have spent in current work" at each level of kinship, proxy reporter's age and proxy reporter's confidence rating

Independent Variable	**Level of independent variable**	**t-value**	**P-value**
Kinship	Spouse	.464	0.644
	Parent	1.732	0.099*
	Son/daugter	3.557	0.002**
	Brother/Sister	4.434	0.000**
Proxy reporter's age group	Less than 30	4.088	0.000**
	From 30 to less than 50	1.656	0.104
	50 or more	.185	0.855
Proxy confidence rating	High	.476	0.636
	Moderate	.889	0.379
	Low	4.517	0.000**
Total		3.768	0.000**
** : Statistically significant at α =0.05 * : Statistically significant at α =0.01			

Previous table showed that when proxy reporter rated the confidence of his/her answer as a low, there were statistically significant differences at α=0.05 between two means of the number of months that have been spent by self reporter in the current work, which were obtained them by the two reports.

Previous table also showed that when proxy reporter was son/daughter or brother/sister of self reporter, there were statistically significant differences at α=0.05 between two means of the number of months that have been spent by self reporter in current work, which were obtained them by the two reports.

Previous table also showed that when proxy reporter was aged less than 30, there were statistically significant differences at $\alpha=0.05$ between two means of the number of months that have been spent by self reporter in current work, which were obtained them by the two reports.

At the aggregate level, the differences between two means of means of number of months have been spent by self reporter in current work which were obtained them by the two reporters are statistically significant at $\alpha=0.05$.

Figure(4.4.4, Appendix II) illustrates the differences between the two estimated marginal means of the number of months that have been spent by self reporter in current work, which were obtained them by the two reports at each level of kinship.

Figure (4.4.5, Appendix II) illustrates the differences between the two estimated marginal means of the number of months that have been spent by self reporter in current work, which were obtained them by the two reports at each level of proxy reporter's age group.

Figure (4.4.6, Appendix II) illustrates the differences between two estimated marginal means of the number of months that have been spent by self reporter in current work, which were obtained them by the two reports at each level of proxy reporter's confidence rating.

The following table shows the t-test values for the question about the number of workdays which self reporter worked for wage last month at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating.

Table (4.4.3)

Paired t-test for the difference between two means of "the number of workdays which self reporter worked for wage last month" at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating

Independent Variable	**Level of independent variable**	**t-value**	**P-value**
Kinship	Spouse	1.440	0.155
	Parent	1.520	0.144
	Son/daugter	-1.094	0.285
	Brother/Sister	-1.219	0.231
Proxy reporter's age group	Less than 30	-.568	0.572
	From 30 to less than 50	1.275	0.208
	50 or more	.998	0.332
Proxy confidence rating	High	.357	0.722
	Moderate	-.022	0.983
	Low	.660	0.519
Total		.490	0.625

Previous table showed that the differences between two means of the number of workdays for wage last month -which were obtained them by the self- and proxy reports- were not statistically significant at $\alpha=0.05$ at each level of all variables. They also were not statistically significant differences at $\alpha=0.05$ at aggregate level.

Figure (4.4.7, Appendix II) illustrates the differences between the two estimated marginal means of the number of workdays for wage last month, which were obtained them by the two reports at each level of kinship.

Figure (4.4.8, Appendix II) illustrates the two estimated marginal means of the number workdays for wage last month, which were obtained them by the two reports at each level of proxy reporter's age group.

Figure (4.4.9, Appendix II) illustrates the differences between the two estimated marginal means of the number of workdays for wage last month, which were obtained them by the two reports at each level of proxy reporter's confidence rating.

The following table shows the t-test values for the question about the amount of the self reporter's wage at each level of kinship, proxy reporter's age group and proxy reporter's confidence rating.

Table (4.4.4)

Paired t-test for the difference between two means of " the amount of he self reporter's wage" at each level of kinship, proxy reporter's age and proxy confidence rating

Independent Variable	**Level of independent variable**	**t-value**	**P-value**
Kinship	Spouse	2.108	0.039**
	Parent	2.805	0.011**
	Son/daugter	3.363	0.003**
	Brother/Sister	3.242	0.003**
Proxy reporter's age	Less than 30	4.562	0.000**
	From 30 to less than 50	2.047	0.046**
	50 or more	2.946	0.009**
Proxy confidence rating	High	2.594	0.011**
	Moderate	4.588	0.000**
	Low	3.120	0.008**
Total		5.571	0.000**
** : Statistically significant at α =0.05			

Previous table showed that the differences between two means of the amount of the self reporter's wage were statistically significant at α=0.05 at each level of all variables. They were also statistically significant at α=0.05 at aggregate level.

Figure (4.4.10, Appendix II) illustrates the two estimated marginal means of the amount of self reporter's wage, which were obtained them by the two reports at each level of kinship.

Figure (4.4.11, Appendix II) illustrates the two estimated marginal means of the amount of self reporter's wage, which were obtained them by the two reports at each level of proxy reporter's age group.

Figure (4.4.12, Appendix II) illustrates the two estimated marginal means of the amount of self reporter's wage, which were obtained them by the two reports at each level of proxy reporter's confidence rating.

Chapter Five

Conclusion and Recommendations

5.1: Conclusion:

The present study contains some initial findings about the quality of proxy reports on PLFS survey. We sought to examine the agreement between self- and proxy reports, and to compare between the two distributions of self- and proxy reports for a variety of important questions of PLFS at each level of some possible factors.

The variables requiring less straight-forward information such as employment status showed a nearly perfect agreement between proxy- and self- responses. This result is consistent with Dawe and Knight (1997) study results.

Among other categorical data, the variation in agreement values were wobbling, but we can draw some results about the effect of kinship and proxy reporter's age group variable.

In some questions, we found that the agreement coefficient between self reports and proxy reports was the largest when the proxy reporter was a spouse of self reporter.

However, whilst spouse proxies reports were better for some questions, they were worse for others, such as when they answered about the second and twelfth question. In these two questions the spouse proxies' reports have the least agreement with self reports. This may due to the previous misconceptions about assistance in work and causal activities. There are also some spouses think that the result of these two questions is correlated with aid which it is given by institutions of social affairs. In general, no single type of household member is

able to supply reliable information for all questions, though as suggested earlier the answers of some questions would be more reliable if restricted to spouse proxies. This results are consistent with Dawe and Knight (1997) study results, and it is not consistent with Demisse et al.(2001) and Lee (2004) results.

When the impact of proxy reporter's age group on the quality of proxy reports was examined, we found in most questions that the agreement between self reports and proxy reports was the largest when the proxy reporters were a aged 30 or more. This result is not consistent with Lee (2004) study results.

The distinctive result is the clear relationship between the level of proxy reporter's confidence rating and agreement between self- and proxy reports. The results showed that the proxy reporters who rated the confidence of their responses as a high or moderate tended to give identical responses with the self reporters. This result is not consist with Boehm (1989) study results.

In some questions, the value of the kappa coefficient was negative, such as the agreement value for the responses about the seventh question, this means that the agreement between self- and proxy–reports worse than that expected by chance.

Agreement values were the largest in the questions of wage, the question of the number of months spent in the current work and the question of self reporter's work status. This result is not consistent with Martin and Butcher (1982) results.

Marginal symmetry tests were not satisfactory in some questionnaire's questions - such as second, third, sixth and ninth question- at aggregate level and some variables' levels. The presence of statistical significance means that the population estimates will be biased.

In most quantitative questions, proxies consistently underestimated the means comparing with which were obtained by self reporters, such as the means for the

proxies' responses about the fourth and thirteenth question. Thus the use of proxies in PLFS introduces a systematic biases, affecting national labor force estimates, so we suggest caution when using proxy respondents in PLFS, especially those measuring fundamental indicators. This result is consistent with Boehm (1989) and Dillon et al. (2010) results.

The results of this study indicate that there are hidden factors -such as the discussion level about the activity and gender- which they affect the proxy reports, but this study did not take them into consideration. Differences in means at aggregate level (in the case of continuous data) and differences in proportions between the proxy- and self-reports at aggregate level (in the case of categorical data) with no differences at each level of the studied factors confirm this claim.

The reliability of proxy data for the areas which were required to provide precise numerical answers depend on the studied factors more than the areas which was required to provide qualitative answer.

A modification in the response rules may increase the quality of the data which would be obtained by proxies. The results of this study suggest that the use of theses variables (the type of kinship, proxy reporter's age group, and proxy reporter's confidence rating) may be useful in choosing the proxy reporter. This will be achieved by restricting the answer to specific types of proxies.

One of the solutions for the problem of quality is dropping the proxy reports about the questions that found to be difficult for proxy reporters to give an accurate answers.

5.2: Recommendations:

Based on the results, the researcher proposed the following recommendations:

1. Take the studied variables into consideration before choosing the proxy reporter, by checking these variables in advance.
2. It is preferred that the proxy reporter is aged more than 30.
3. Ensure that the proxy confidence rating of his/her answers are high or moderate, it is preferred to accept the reports with high confidence rating.
4. Further studies related to the quality of proxy reports and study other independent variables which may be influential, such as a gender, level of education and discussion about activity.
5. Further studies related to the quality of proxy reports about other Palestinian Surveys.
6. Develop a particular correction procedure to reduce the bias in the estimates which are obtained by proxies.

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Appendices

Appendix I (Detailed Tables):

Table (4.1.1.1)

Numbers and percentages of agreement cases between self- and proxy-responses for the first question according to the various levels of kinship

Type of kinship			Proxy answer		Total
			yes	no	
Spouse	Self answer	yes	68	2	70
			97.1%	2.9%	100.0%
		no	0	40	40
			.0%	100.0%	100.0%
	Total		68	42	110
			61.8%	38.2%	100.0%
parent	Self answer	yes	18	1	19
			94.7%	5.3%	100.0%
		no	0	36	36
			0%	100.0%	100.0%
	Total		18	37	55
			32.7%	67.3%	100.0%
son/daughter	Self answer	yes	38	2	40
			95%	5%	100.0%
		no	0	27	27
			0%	100.0%	100.0%
	Total		38	29	67
			56.7%	43.3%	100.0%
brother/sister	Self answer	yes	37	2	39
			94.9%	5.1%	100.0%
		no	1	34	35
			2.9%	97.1%	100.0%
	Total		38	36	74
			51.4%	48.6%	100.0%

Table (4.1.1.3)

Number and percentages of agreement cases between self- and proxy-responses for the first question according to the proxy reporter's age group

Proxy reporter's age group			Proxy answer		Total
			yes	no	
less than 30	Self answer	yes	92	4	96
			95.8%	4.2%	100.0%
		no	1	54	55
			1.8%	98.2%	100.0%
	Total		93	58	151
			61.6%	38.4%	100.0%
from 30 to less than 50	Self answer	yes	52	2	54
			96.3%	3.7%	100.0%
		no	0	60	60
			.0%	100.0%	100.0%
	Total		52	62	114
			45.6%	54.4%	100.0%
50 or more	Self answer	yes	18	1	19
			94.7%	5.3%	100.0%
		no	0	26	26
			.0%	100.0%	100.0%
	Total		18	27	45
			40.0%	60.0%	100.0%

Table (4.1.2.1)

Number and percentages of agreement cases between self- and proxy-responses for the second question according to the various levels of kinship

Type of kinship			Proxy Answer			Total
			no answer	yes	no	
spouse	Self Answer	no answer	0	0	2	2
			.0%	.0%	100.0%	100.0%
		yes	0	2	3	5
			.0%	40.0%	60.0%	100.0%
		no	0	0	35	35
			.0%	.0%	100.0%	100.0%
		Total	0	2	40	42
			.0%	4.7%	95.2%	100.0%
parent	Self Answer	yes	0	4	1	5
			.0%	80.0%	20.0%	100.0%
		no	0	0	32	32
			.0%	.0%	100.0%	100.0%
		Total	0	4	33	37
			.0%	10.8%	89.2%	100.0%
son/daughter	Self Answer	no answer	0	0	2	2
			.0%	.0%	100.0%	100.0%
		no	0	0	27	27
			.0%	.0%	100.0%	100.0%
		Total	0	0	29	29
			.0%	.0%	100.0%	100.0%
brother/sister	Self Answer	no answer	0	1	1	2
			.0%	50.0%	50.0%	100.0%
		yes	0	3	0	3
			.0%	100.0%	.0%	100.0%
		no	1	0	31	32
			3.1%	.0%	96.9%	100.0%
		Total	1	4	32	37
			2.7%	10.8%	86.5%	100.0%

Table (4.1.2.3)

Number and percentages of agreement cases between self- and proxy-responses for the second question according to the each level of proxy reporter's age group

Proxy reporter's age group			Proxy answer			Total
			no answer	yes	no	
less than 30	Self answer	no answer	0	1	3	4
			.0%	25.0%	75.0%	100.0%
		yes	0	3	0	3
			.0%	100.0%	.0%	100.0%
		no	1	0	51	52
			1.9%	.0%	98.1%	100.0%
	Total		1	4	54	59
			1.7%	6.8%	91.5%	100.0%
from 30 to less than 50	Self answer	no answer	0	0	2	2
			.0%	.0%	100.0%	100.0%
		yes	0	3	3	6
			.0%	50.0%	50.0%	100.0%
		no	0	0	54	54
			.0%	.0%	100.0%	100.0%
	Total		0	3	59	62
			.0%	4.8%	95.2%	100.0%
50 or more	Self answer	yes	0	3	1	4
			.0%	75.0%	25.0%	100.0%
		no	0	0	23	23
			.0%	.0%	100.0%	100.0%
	Total		0	3	24	27
			.0%	11.1%	88.9%	100.0%

Table (4.1.3.1)

Number and percentages of agreement cases between self- and proxy-responses for the third question according to the various levels of kinship

Type of kinship			Proxy Answer			Total
			no answer	yes	no	
spouse	Self Answer	No answer	0	2	3	5
			.0%	40.0%	60.0%	100.0%
		yes	0	6	1	7
			.0%	85.7%	14.3%	100.0%
		no	0	0	28	28
			.0%	.0%	100.0%	100.0%
	Total		0	8	32	40
			.0%	20%	80%	100.0%
parent	Self Answer	No answer	0	0	1	1
			.0%	.0%	100.0%	100.0%
		yes	0	1	1	2
			.0%	50.0%	50.0%	100.0%
		no	0	0	30	30
			.0%	.0%	100.0%	100.0%
	Total		0	1	32	33
			.0%	3.0%	97.0%	100.0%
son/daughter	Self Answer	No answer	0	0	2	2
			.0%	.0%	100.0%	100.0%
		no	0	1	26	27
			.0%	3.7%	96.3%	100.0%
	Total		0	1	28	29
			.0%	3.4%	96.6%	100.0%
brother/sister	Self Answer	No answer	0	0	1	1
			.0%	.0%	100.0%	100.0%
		yes	1	1	0	2
			50.0%	50.0%	.0%	100.0%
		no	0	0	30	30
			.0%	.0%	100.0%	100.0%
	Total		1	1	31	33
			3.0%	3.0%	93.9%	100.0%

Table (4.1.3.3)

Number and percentages of agreement cases between self- and proxy-responses for the third question according to each level of proxy reporter's age group

Proxy reporter's age group			Proxy reporter			Total
			no answer	yes	no	
less than 30	Self reporter	no answer	0	0	3	3
			.0%	.0%	100.0%	100.0%
		yes	1	1	0	2
			50.0%	50.0%	.0%	100.0%
		no	0	1	49	50
			.0%	2.0%	98.0%	100.0%
	Total		1	2	52	55
			1.8%	3.6%	94.5%	100.0%
from 30 to less than 50	Self reporter	no answer	0	2	3	5
			.0%	40.0%	60.0%	100.0%
		yes	0	6	1	7
			.0%	85.7%	14.3%	100.0%
		no	0	0	47	47
			.0%	.0%	100.0%	100.0%
	Total		0	0	51	59
			.0%	.0%	86.4%	100.0%
50 or more	Self reporter	no answer	0	0	1	1
			.0%	.0%	100.0%	100.0%
		yes	0	1	2	3
			.0%	33.3%	66.7%	100.0%
		no	0	0	20	20
			.0%	.0%	100.0%	100.0%
	Total		0	1	23	24
			.0%	4.2%	95.8%	100.0%

Table (4.1.4.1)

Number and percentages of agreement cases between self- and proxy-responses for the sixth question according to the various levels of kinship

Type of kinship			Proxy response						Total
			No answer	yes	No, due to old age	No, due to the studying	No, due to household chores	No, due to the another reason	
spouse	Self response	No answer	0	3	0	0	1	0	4
			.0%	75.0%	.0%	.0%	25.0%	.0%	100.0%
		yes	0	3	0	0	2	0	5
			.0%	60.0%	.0%	.0%	40.0%	.0%	100.0%
		No, due to old age	0	0	5	0	0	0	5
			.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		No, due to the studying	0	0	0	1	0	0	1
			.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		No, due to household chores	0	0	0	0	16	0	16
			.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
		No, due to the another reason	0	0	0	0	1	0	1
			.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
	Total		0	6	5	1	20	0	32
			.0%	18.8%	15.6%	3.1%	62.5%	.0%	100.0%
parent	Self response	No answer	0	2	0	0	0	0	2
			.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		yes	0	8	0	3	1	0	12
			.0%	66.7%	.0%	25.0%	8.3%	.0%	100.0%
		No, due to old age	0	0	1	0	0	0	1
			.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		No, due to the studying	0	0	0	14	0	0	14
			.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		No, due to household chores	0	0	1	0	1	0	2
			.0%	.0%	50.0%	.0%	50.0%	.0%	100.0%
	Total		0	10	2	17	2	0	31
			.0%	32.3%	6.5%	54.8%	6.5%	.0%	100.0%

relation			Proxy response						Total
			No answer	yes	No, due to old age	No, due to the studying	No, due to household chores	No, due to the another reason	
son/daughter	Self response	No answer	0 .0%	1 50.0%	0 .0%	0 .0%	1 50.0%	0 .0%	2 100.0%
		yes	1 25.0%	2 50.0%	0 .0%	0 .0%	1 25.0%	0 .0%	4 100.0%
		No, due to old age	0 .0%	0 .0%	2 100.0%	0 .0%	0 .0%	0 .0%	2 100.0%
		No, due to household chores	0 .0%	0 .0%	0 .0%	0 .0%	20 100.0%	0 .0%	20 100.0%
	Total		1 3.6%	3 10.7%	2 7.1%	0 .0%	22 78.6%	0 .0%	28 100.0%
brother/sister	Self response	No answer	0 .0%	1 100.0%	0 .0%	0 .0%	0 .0%	0 .0%	1 100.0%
		yes	0 .0%	7 63.6%	0 .0%	4 36.4%	0 .0%	0 .0%	11 100.0%
		No, due to the studying	0 .0%	1 9.1%	0 .0%	9 81.8%	0 .0%	1 9.1%	11 100.0%
		No, due to household chores	0 .0%	0 .0%	0 .0%	0 .0%	7 100.0%	0 .0%	7 100.0%
	Total		0 .0%	9 30.0%	0 .0%	13 43.3%	7 23.3%	1 3.3%	30 100.0%

Table (4.1.4.3)

Number and percentages of agreement cases between self- and proxy-responses for the sixth question at all levels of proxy reporter's age group.

Proxy reporter's Age group			Proxy response						Total
			No answer	yes	No, due to old age	No, due to the studying	No, due to household chores	No, due to the another reason	
Less than 30	Self response	No answer	0	2	0	0	1	0	3
			.0%	66.7%	.0%	.0%	33.3%	.0%	100.0%
		yes	1	7	0	4	1	0	13
			7.7%	53.8%	.0%	30.8%	7.7%	.0%	100.0%
		No, due to the studying	0	1	0	8	0	1	10
			.0%	10.0%	.0%	80.0%	.0%	10.0%	100.0%
		No, due to household chores	0	0	0	0	26	0	26
			.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
	Total		1	10	0	12	28	1	52
			1.9%	19.2%	.0%	23.1%	53.8%	1.9%	100.0%
From 30 to less than 50	Self response	No answer	0	3	0	0	1	0	4
			.0%	75.0%	.0%	.0%	25.0%	.0%	100.0%
		yes	0	11	0	4	2	0	17
			.0%	64.7%	.0%	23.5%	11.8%	.0%	100.0%
		No, due to old age	0	0	2	0	0	0	2
			.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		No, due to the studying	0	0	0	12	0	0	12
			.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		No, due to household chores	0	0	0	0	14	0	14
			.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
		No, due to the another reason	0	0	0	0	1	0	1
			.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
	Total		0	14	2	16	18	0	50
			.0%	28.0%	4.0%	32.0%	36.0%	.0%	100.0%

Proxy reporter's age group			Proxy response						
			No answer	yes	No, due to old age	No, due to the studying	No, due to household chores	No, due to the another reason	Total
More than 50	Self response	No answer	0	2	0	0	0	1	3
			.0%	66.7%	.0%	.0%	.0%	33.3%	100.0%
		yes	0	2	0	0	1	0	3
			.0%	66.7%	.0%	.0%	33.3%	.0%	100.0%
		No, due to old age	0	0	6	0	0	0	6
			.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		No, due to the studying	0	0	0	5	0	0	5
			.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		No, due to household chores	0	0	1	0	4	0	5
			.0%	.0%	20.0%	.0%	80.0%	.0%	100.0%
	Total		0	4	7	5	5	1	22
			.0%	18.2%	31.8%	22.7%	22.7%	4.5%	100.0%

Table (4.1.5.1)

Number and percentages of agreement cases between self- and proxy-responses for the seventh question

		Proxy response						
		No answer	No	Yes, due to the studying	Yes, due to household chores	Yes, due to old age	Yes, due to another reason.	Total
Self response	No answer	0	8	0	0	0	0	8
		.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
	No	11	19	0	0	0	0	30
		36.7%	63.3%	.0%	.0%	.0%	.0%	100.0%
	Yes, due to the studying	0	0	0	0	0	0	0
		.0%	.0%	.0%	.0%	.0%	.0%	.0%
	Yes, due to household chores	0	0	0	0	0	0	0
		.0%	.0%	.0%	.0%	.0%	.0%	.0%
	Yes, due to another reason.	0	0	0	0	0	0	0
		.0%	.0%	.0%	.0%	.0%	.0%	.0%
	Yes, due to another reason.	0	1	0	0	0	0	1
		.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
Total		11	28	0	0	0	0	39
		28.2%	71.8%	.0%	.0%	.0%	.0%	100.0%

Table (4.1.6.1)

Numbers and percentages of agreement cases between self- and proxy-responses for the ninth question according to the various levels of kinship

relation			Proxy response			
			No answer	yes	no	Total
spouse	Self response	No answer	0	2	1	3
			.0%	66.7%	33.3%	100.0%
		yes	0	2	0	2
			.0%	100.0%	.0%	100.0%
		no	2	0	1	3
			66.7%	.0%	33.3%	100.0%
	Total		2	4	2	8
			25.0%	50.0%	25.0%	100.0%
parent	Self response	No answer	0	1	1	2
			.0%	50.0%	50.0%	100.0%
		yes	0	3	1	4
			.0%	75.0%	25.0%	100.0%
		no	4	1	3	8
			50.0%	12.5%	37.5%	100.0%
	Total		4	5	5	14
			28.6%	35.7%	35.7%	100.0%
son/daughter	Self response	No answer	0	0	1	1
			.0%	.0%	100.0%	100.0%
		yes	0	0	2	2
			.0%	.0%	100.0%	100.0%
		no	2	0	0	2
			100.0%	.0%	.0%	100.0%
	Total		2	0	3	5
			40.0%	.0%	60.0%	100.0%
brother/sister	Self response	No answer	0	1	2	3
			.0%	33.3%	66.7%	100.0%
		yes	0	2	1	3
			.0%	66.7%	33.3%	100.0%
		no	4	0	3	7
			57.1%	.0%	42.9%	100.0%
	Total		4	3	6	13
			30.8%	23.1%	46.2%	100.0%

Table (4.1.6.3)

Numbers and percentages of agreement cases between self- and proxy responses for ninth question according to the various levels of proxy reporter's age group

Proxy reporter's age group			Proxy answer			
			No answer	Yes	No	Total
less than 30 years	Self answer	No answer	0	1	3	4
			.0%	25.0%	75.0%	100.0%
		Yes	0	1	2	3
			.0%	33.3%	66.7%	100.0%
		No	6	0	3	9
			66.7%	.0%	33.3%	100.0%
	Total		6	2	8	16
			37.5%	12.5%	50.0%	100.0%
from 30 to less than 50 years	Self answer	No answer	0	2	1	3
			.0%	66.7%	33.3%	100.0%
		Yes	1	6	1	8
			12.5%	75.0%	12.5%	100.0%
		No	5	1	3	9
			55.6%	11.1%	33.3%	100.0%
	Total		6	9	5	20
			30.0%	45.0%	25.0%	100.0%
50 years or more	Self answer	No answer	0	1	1	2
			.0%	50.0%	50.0%	100.0%
		Yes	0	0	1	1
			.0%	.0%	100.0%	100.0%
		No	1	0	1	2
			50.0%	.0%	50.0%	100.0%
	Total		1	1	3	5
			20.0%	20.0%	60.0%	100.0%

Table (4.1.7.1)

Numbers and percentages of agreement cases between self- and proxy-responses for the tenth question according to the various levels of kinship

relation			Proxy reporter										Total
			No answer	Employer	Self-employed	household member	employee of a national government	Employee of UNRWA	Employee of an international body	Employees in the non-profit organization	Regular employee in the private sector	irregular employee in the private sector	
spouse	Self reporter	Employer	0	4	0	0	0	0	0	0	0	0	4
			.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Self-employed	1	0	17	1	0	0	0	0	0	0	19
			5.3%	.0%	89.5%	5.3%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		household member	2	0	0	2	0	0	0	0	0	0	4
			50.0%	.0%	.0%	50.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	1	0	0	0	21	0	0	0	0	0	22
			4.5%	.0%	.0%	.0%	95.5%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of an international body	0	0	0	0	0	0	1	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		Regular employee in the private sector	0	0	0	0	0	0	0	0	36	0	36
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
		irregular employee in the private sector	0	0	0	0	0	0	0	0	0	2	2
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	Total		4	4	17	3	21	1	1	0	0	2	89
			4.5%	4.5%	19.1%	3.4%	23.6%	1.1%	1.1%	.0%	.0%	2.2%	100.0%

relation			Proxy response										
			No answer	**Employer**	**Self-employed**	**household member**	**employee of a national government**	**Employee of UNRWA**	**Employee of an international body**	**Employees in the non-profit organization**	**Regular employee in the private sector**	**irregular employee in the private sector**	**Total**
parent	Self response	Self-employed	0	0	2	0	0	0	0	0	0	0	2
			.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		household member	0	0	0	4	0	0	0	0	0	0	4
			.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	0	0	0	0	3	0	0	0	0	0	3
			.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of an international body	0	0	0	0	0	0	1	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		Employees in the non-profit organization	0	0	0	0	0	0	0	1	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		Regular employee in the private sector	0	0	0	0	0	0	0	0	17	0	17
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	0%	100.0%
	Total		0	0	0	4	3	1	1	1	17	0	29
			.0%	.0%	.0%	13.8%	10.3%	3.4%	3.4%	3.4%	58.6%	.0%	100.0%
son/daughter	Self response	Employer	0	4	0	0	0	0	0	0	0	0	4
			.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%

relation			Proxy response										
			No answer	**Employer**	**Self-employed**	**household member**	**employee of a national government**	**Employee of UNRWA**	**Employee of an international body**	**Employees in the non-profit organization**	**Regular employee in the private sector**	**irregular employee in the private sector**	**Total**
	Self response	Self-employed	1	0	10	0	0	0	0	0	0	0	11
			9.1%	.0%	90.9%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		household member	3	0	0	2	0	0	0	0	0	0	5
			60.0%	.0%	.0%	40.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	0	0	0	0	7	0	0	0	0	0	7
			.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Regular employee in the private sector	1	0	0	0	0	0	0	0	0	0	19
			5.3%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
	Total		5	4	10	2	7	1	0	0	0	0	47
			10.6%	8.5%	21.3%	4.3%	14.9%	2.1%	.0%	.0%	.0%	.0%	100.0%
brother/sister	Self response	Employer	0	1	0	0	0	0	0	0	0	0	1
			.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Self-employed	0	0	5	0	0	0	0	0	1	0	6
			.0%	.0%	83.3%	.0%	.0%	.0%	.0%	.0%	16.7%	.0%	100.0%
		household member	0	0	0	3	0	0	0	0	0	0	3
			.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%

relation			Proxy response										Total
			No answer	Employer	Self-employed	household member	employee of a national government	Employee of UNRWA	Employee of an international body	Employees in the non-profit organization	Regular employee in the private sector	irregular employee in the private sector	
		employee of a national government	0	0	0	0	9	0	0	0	0	0	9
			.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Regular employee in the private sector	2	0	0	1	0	0	0	0	25	0	28
			7.1%	.0%	.0%	3.6%	.0%	.0%	.0%	.0%	89.3%	.0%	100.0%
		irregular employee in the private sector	0	0	0	0	0	0	0	0	1	1	2
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	50.0%	50.0%	100.0%
	Total		2	1	5	4	9	1	0	0	0	1	50
			4.0%	2.0%	10.0%	8.0%	18.0%	2.0%	.0%	.0%	.0%	2.0%	100.0%

Table (4.1.7.3)
Numbers and percentages of agreement cases between self- and proxy- responses for tenth question according to the various levels of kinship

Proxy reporter's age group			Proxy response										
			No answer	Employer	Self-employed	household member	employee of a national government	Employee of UNRWA	Employee of an international body	Employees in the non-profit organization	Regular employee in the private sector	irregular employee in the private sector	Total
less than 30 years	Self response	Employer	0	6	0	0	0	0	0	0	0	0	6
			.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Self-employed	1	0	18	0	0	0	0	0	1	0	20
			5.0%	.0%	90.0%	.0%	.0%	.0%	.0%	.0%	5.0%	.0%	100.0%
		household member	3	0	0	5	0	0	0	0	0	0	8
			37.5%	.0%	.0%	62.5%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	0	0	0	0	18	0	0	0	0	0	18
			.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Regular employee in the private sector	3	0	0	1	0	0	0	0	53	0	57
			5.3%	.0%	.0%	1.8%	.0%	.0%	.0%	.0%	93.0%	.0%	100.0%
		irregular employee in the private sector	0	0	0	0	0	0	0	0	1	1	2
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	50.0%	50.0%	100.0%
	Total		7	6	18	6	18	1	0	0	0	1	112
			6.3%	5.4%	16.1%	5.4%	16.1%	.9%	.0%	.0%	.0%	.9%	100.0%
from 30 to less than 50 years	Self response	Employer	0	3	0	0	0	0	0	0	0	0	3
			.0%	100.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Self-employed	0	0	13	1	0	0	0	0	0	0	14
			.0%	.0%	92.9%	7.1%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		household member	1	0	0	4	0	0	0	0	0	0	5
			20.0%	.0%	.0%	80.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	1	0	0	0	17	0	0	0	0	0	18
			5.6%	.0%	.0%	.0%	94.4%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	2	0	0	0	0	2
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of an international body	0	0	0	0	0	0	1	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		Regular employee in the private sector	0	0	0	0	0	0	0	0	31	0	31
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
		irregular employee in the private sector	0	0	0	0	0	0	0	0	0	2	2
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	100.0%
	Total		2	3	13	5	17	2	1	0	31	2	76
			2.6%	3.9%	17.1%	6.6%	22.4%	2.6%	1.3%	.0%	40.8%	2.6%	100.0%
50 years or more	Self response	Self-employed	1	0	4	0	0	0	0	0	0	0	5
			20.0%	.0%	80.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		household member	1	0	0	2	0	0	0	0	0	0	3
			33.3%	.0%	.0%	66.7%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		employee of a national government	0	0	0	0	5	0	0	0	0	0	5
			.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of UNRWA	0	0	0	0	0	1	0	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	.0%	100.0%
		Employee of an international body	0	0	0	0	0	0	1	0	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	.0%	100.0%
		Employees in the non-profit organization	0	0	0	0	0	0	0	1	0	0	1
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	.0%	100.0%
		Regular employee in the private sector	0	0	0	0	0	0	0	0	13	0	13
			.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	100.0%	.0%	100.0%
	Total		2	0	0	2	5	1	1	1	13	0	29
			6.9%	.0%	.0%	6.9%	17.2%	3.4%	3.4%	3.4%	44.8%	.0%	100.0%

Appendix II (Figures):

Figure (4.4.1)

Two estimated marginal means of self-reporter's working hours which was obtained by the two reporters at each level of kinship

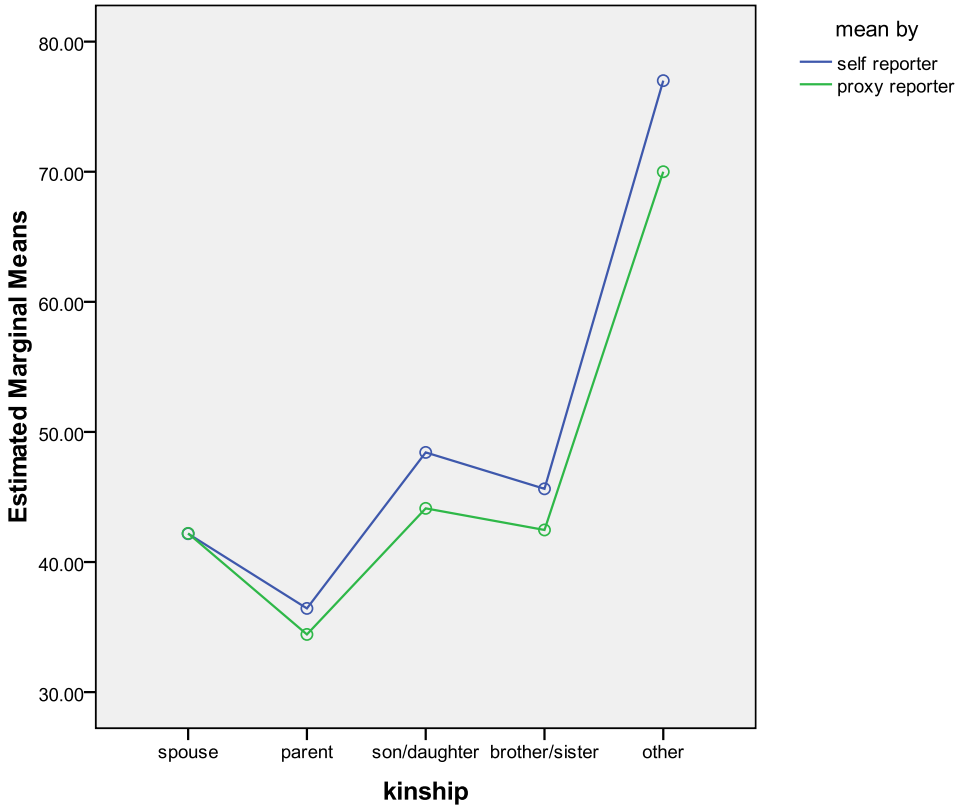


Figure (4.4.2)

Two estimated marginal means of self-reporter's working hours which was obtained by the two reporters at each level of proxy reporter's age group

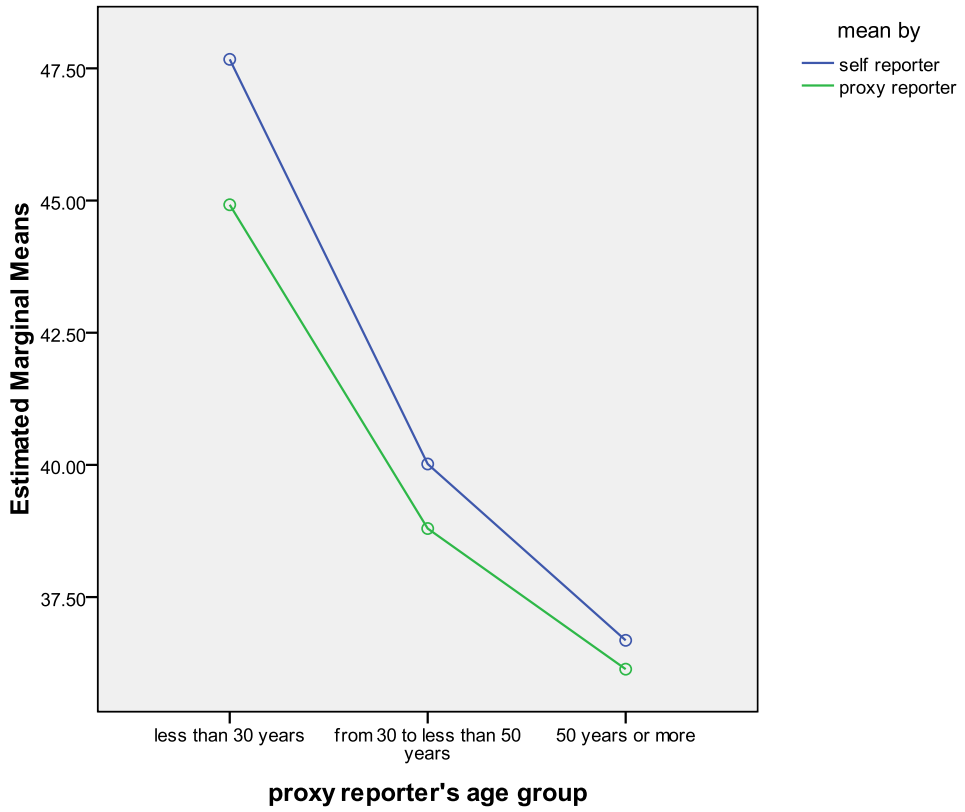


Figure (4.4.3)

Two estimated marginal means of self-reporter's working hours which was obtained by the two reporters at each level of proxy reporter's confidence rating

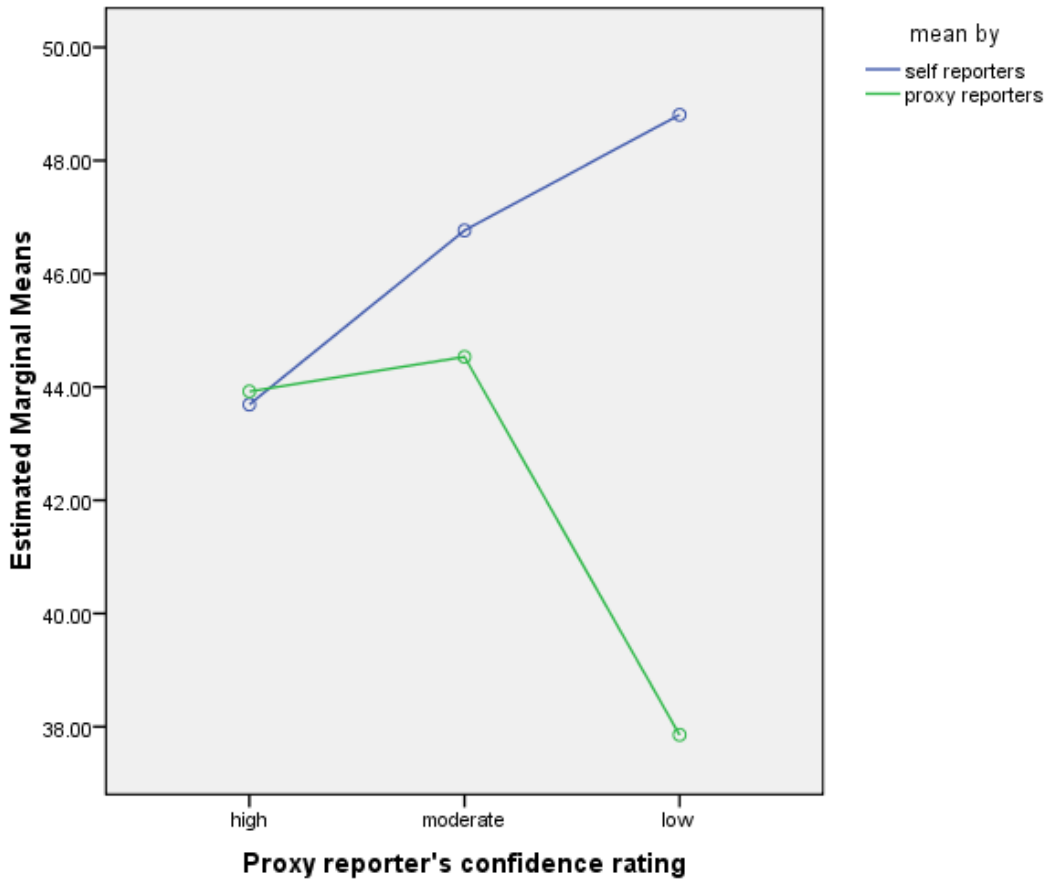


Figure (4.4.4)

Two estimated marginal means of the number of months have been spent by self reporter in current work, which were obtained by the two reporters at each level of kinship

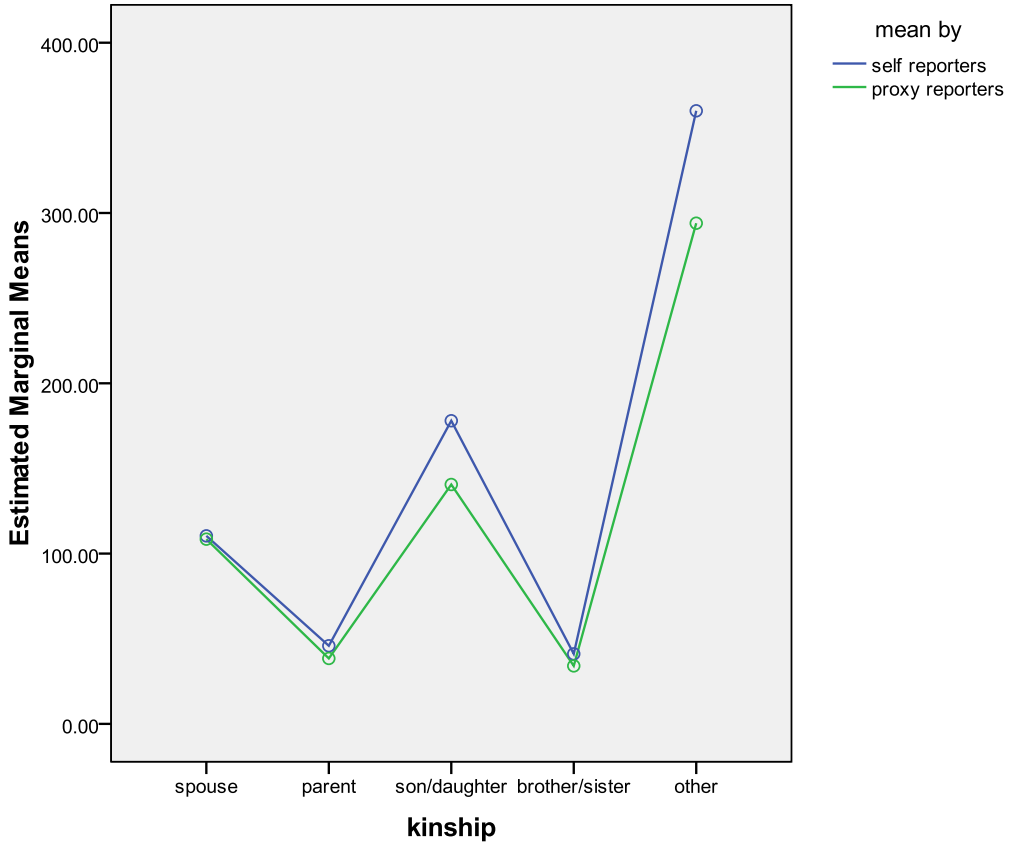


Figure (4.4.5)

Two estimated marginal means of the number of months have been spent by self reporter in current work, which were obtained by the two reporters at each level of proxy reporter's age group

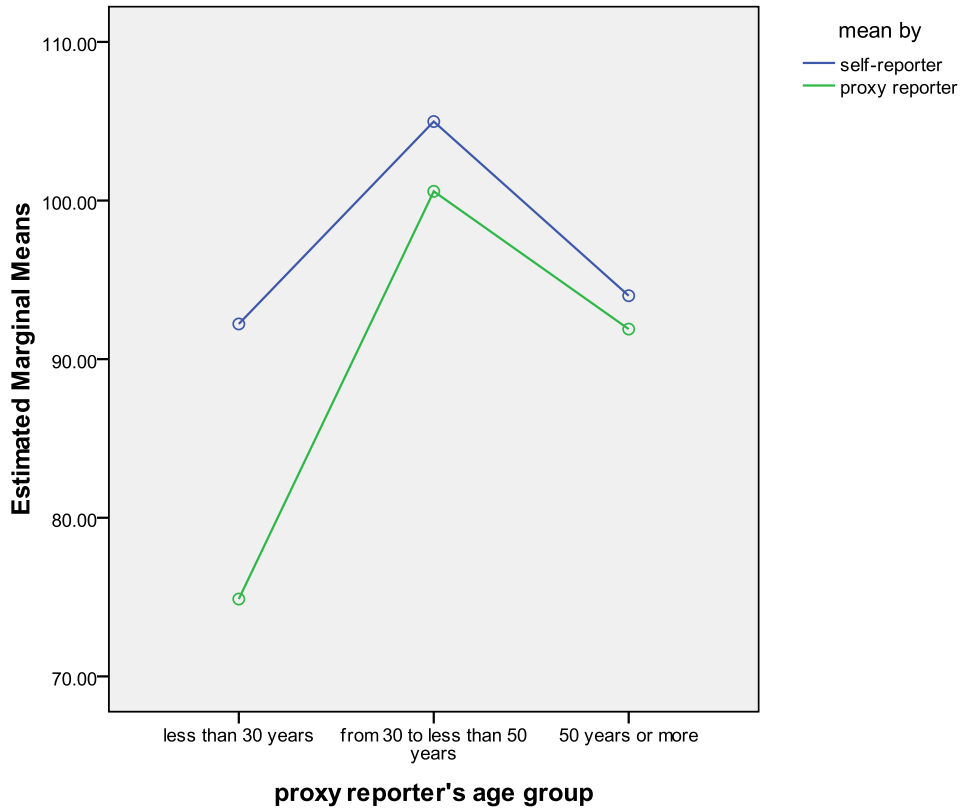


Figure (4.4.6)

Two estimated marginal means of the number of months have been spent by self reporter in current work, which were obtained by the two reporters at each level of proxy reporter's confidence rating

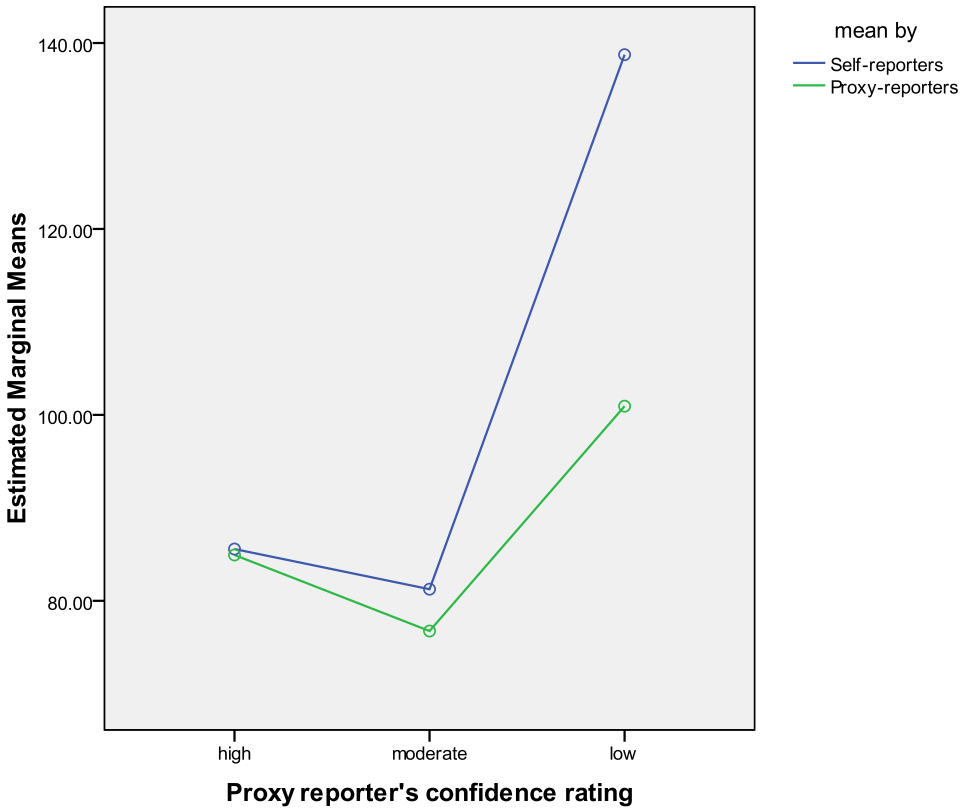


Figure (4.4.7)

Two estimated marginal means of the number of workdays for wage last month, which were obtained by the two reporters at each level of kinship

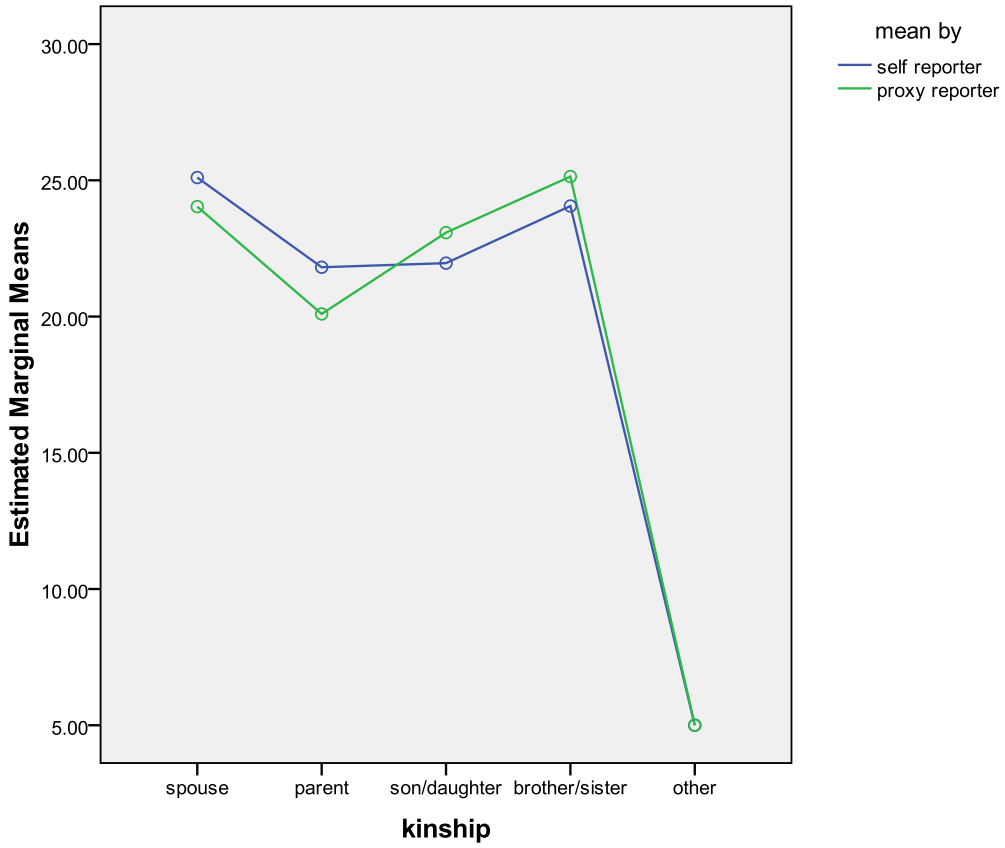


Figure (4.4.8)

Two estimated marginal means of the number of workdays for wage last month, which were obtained by the two reporters at each level of proxy reporter's age group

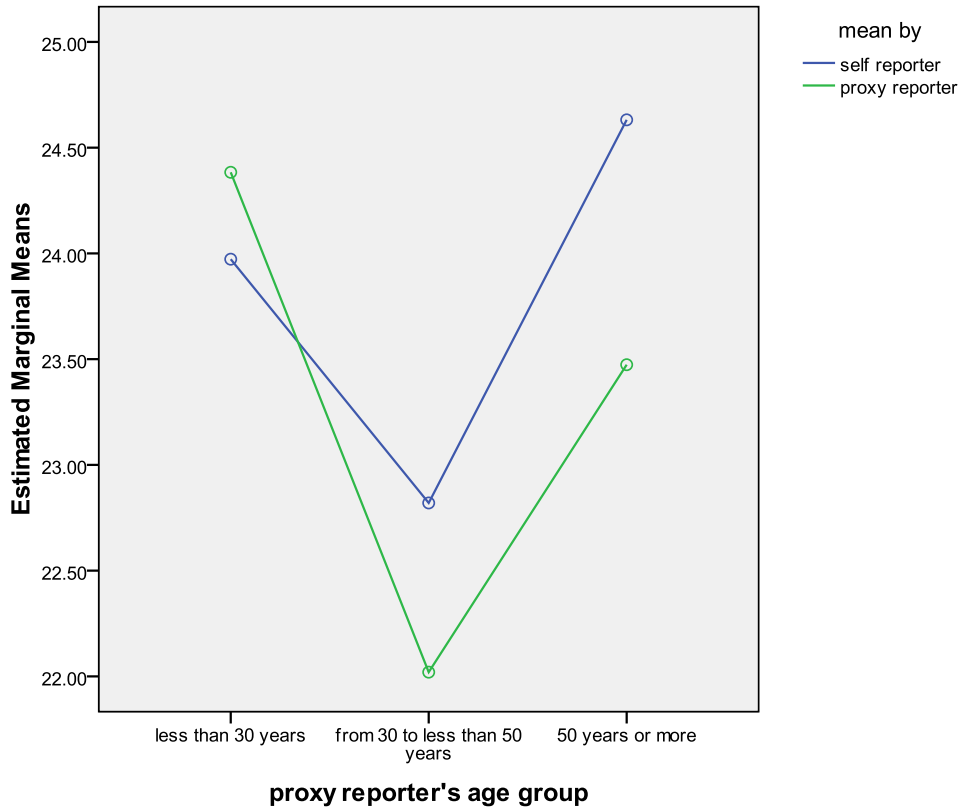


Figure (4.4.9)

Two estimated marginal means of the number of workdays for wage last month, which were obtained by the two reporters at each level of proxy reporter's confidence rating

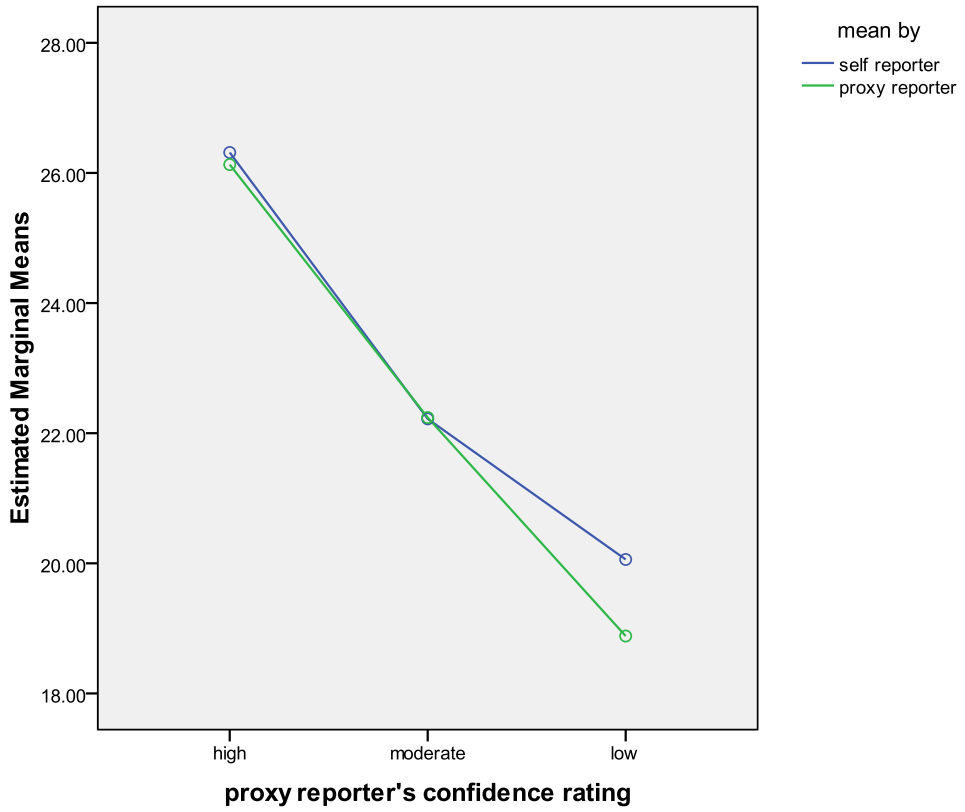


Figure (4.4.10)

Two estimated marginal means of the amount of self reporter's wage, which were obtained by the two reporters at each level of kinship

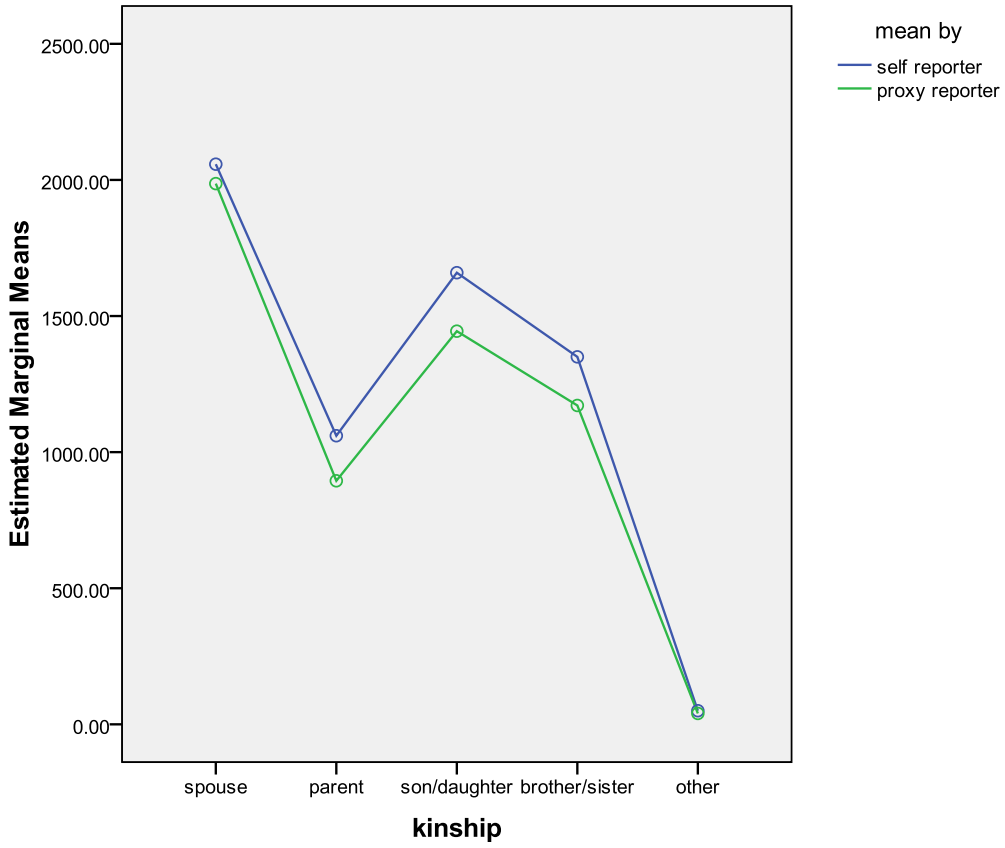


Figure (4.4.11)

Two estimated marginal means of the amount of self reporter's wage, which were obtained by the two reporters at each level of proxy reporter's age group

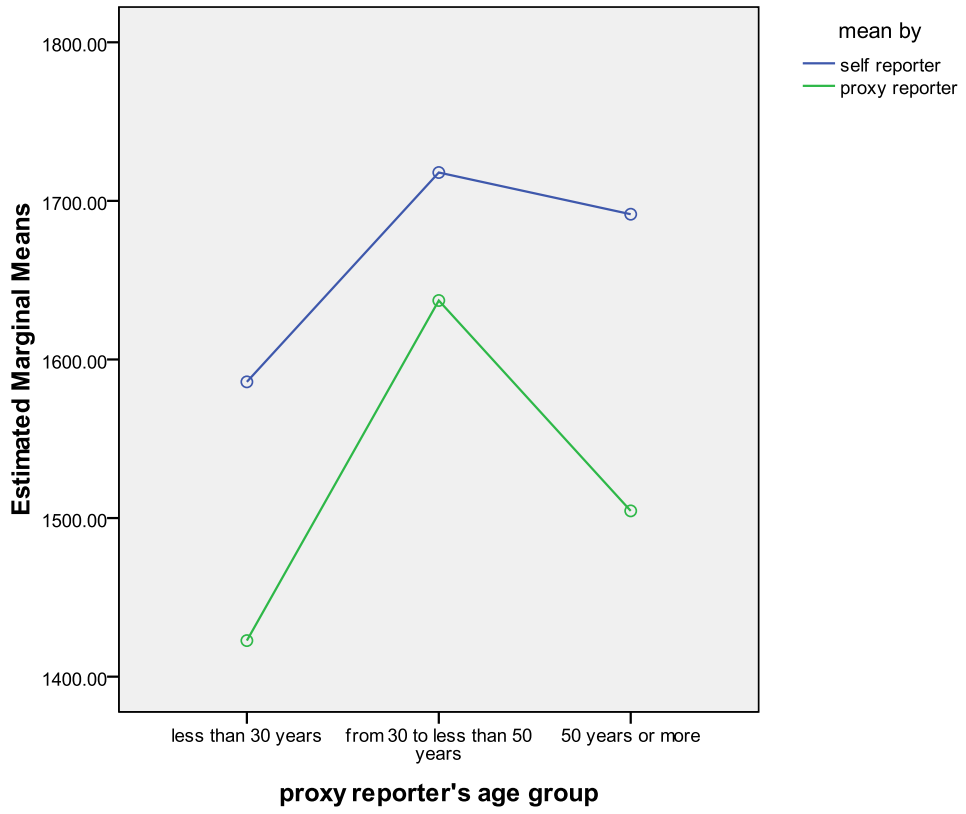
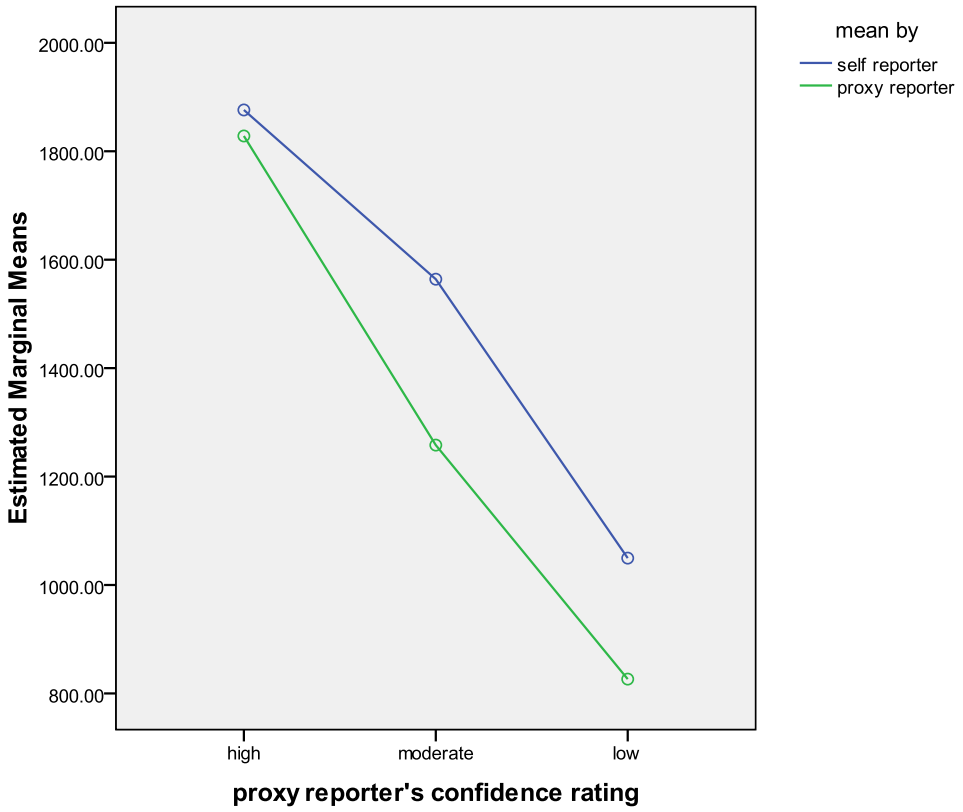


Figure (4.4.12)

Two estimated marginal means of the amount of self reporter's wage, which were obtained by the two reporters at each level of proxy reporter's confidence rating



Appendix III

Questionnaire

شهر الزيارة ☐☐

التجمع: _____

اسم رب الأسرة: _____ رقم الأسرة ☐☐

gender	جنس الوكيل	☐ 1 ذكر 2 أنثى	Locality: نوع التجمع ☐ (تعبأ من قبل الباحث) 1 حضر 2 ريف 3 مخيم
age	العمر عند آخر عيد ميلاد للوكيل	☐☐	رقم الحي ضمن التجمع ☐☐
study	الحالة التعليمية للوكيل	☐☐	1.أمي 2. ملم 3. ابتدائي 4.إعدادي 5.ثانوي 6.دبلوم متوسط 7. بكالوريوس 8. دبلوم عالي 9ماجستير 10.دكتوراه
Pr1	العمر عند آخر عيد ميلاد للشخص المستهدف	☐☐	relation: صلة القرابة بالشخص المستهدف ☐ 1 زوج/زوجة. 2 أب/أم. 3 ابن/ابنة 4 أخ/أخت 5 غير ذلك
Pr2	جنس الشخص المستهدف	☐ 1 ذكر 2 أنثى	

		الشخص ذاته	الوكـــيـــل	
Pr 4	الحالة التعليمية (المؤهل العلمي)	☐☐	☐☐	1.أمي 2. ملم 3. ابتدائي 4.إعدادي 5.ثانوي 6.دبلوم متوسط 7. بكالوريوس 8. دبلوم عالي 9ماجستير 10.دكتوراه ***(إذا كانت الإجابة أحد الخيارات 1- 4) انتقل الى سؤال Pr5***
PW01	خلال الأسبوع الماضي، قام... بالعمل مقابل أجرة او المساعدة في في أي نوع من الشغل ولو لساعة واحدة؟	1 2 3 4	1 نعم ← انتقل الى PW04 2 مسافر/ معاق لا يستطيع العمل ← انتقل الى PW09 3 مسجون 4 لا ← تابع السؤال الثاني	
X01	قديش نسبة ثقتك بإجابتك		☐	1.عالية 2. متوسطة 3- متدنية
PW02	مع ان ...ما عمل بأجرة خلال الأسبوع الماضي، هل قام بالمساعدة او العمل في مصلحة للأسرة سواء كان لحساب جمعية او تاجر او للتسويق الذاتي أو الاستهلاك الأسري بما في ذلك الأعمال غير المنتظمة مثل:	1 2	1 نعم ← انتقل الى PW04 2 لا	**العناية بالحيوانات كالماعز والأبقار والدجاج، المساعدة في مزرعة، دكان للاسرة، خياطة الملابس أو التطريز لاستخدام أفراد الأسرة أو للبيع الشخصي.**
PW03	في عند.... عمل او مزرعة او مشروع كان غايب عنه الأسبوع الماضي؟ (وكان له المقدرة للعودة للعمل سواء بأجر او بدون اجر)	1 2	1 نعم ← انتقل الى PW10 2 لا ← انتقل الى PW06	
PW04	قديش مجموع الساعات اللى اشتغلها فى جميع المحلات الأسبوع الماضي؟ (فصل بين العمل الرئيسي والثانوي "إن وجد")	☐☐ ☐☐	☐☐ العمل الرئيسي ☐☐ العمل الثانوي (إن وجد)	إذا كان مجموع الساعات أقل من 35 انتقل إلى السؤال التالى أما إذا كان غير ذلك، فانتقل إلى PW10
X04	قديش نسبة ثقتك بإجابتك		☐	1.عالية 2. متوسطة 3- متدنية
PW05	ليش كان عدد الساعات اللى اشتغلها ... اقل من 35 ساعة خلال الأسبوع الماضي؟	☐	☐ انتقل الى PW10	1.أسباب شخصية (كبر السن، شغل البيت، إجازة،...) 2.عدم الرغبة فى العمل 3.طبيعة ساعات الشغل الاعتيادية هكذا 4.إضراب 5.إغلاق 6. لم يجد عمل إضافي 7.غير ذلك/ حدد.....
PW06	كان ... مستعد للعمل في الأسبوع الماضي؟	1 2 3 4 5	1 نعم 2 لا- كبر السن/ العجز 3 لا- الدراسة 4 لا- شغل البيت 5 لا- غير ذلك ← انتقل الى PW09	
X06	قديش نسبة ثقتك بإجابتك		☐	1.عالية 2. متوسطة 3- متدنية
PW07	كان في أي سبب يمنع ... من العمل لو عرض عليه في الأسبوع الماضي؟	1 2 3 4 5	1 لا 2 نعم- الدراسة 3 نعم- شغل البيت 4 نعم- كبر السن/ المرض 5 نعم- غير ذلك ← انتقل الى PW09	
X07	قديش نسبة ثقتك بإجابتك		☐	1.عالية 2. متوسطة 3- متدنية
PW08	بحث.... عن عمل في الأسبوع الماضي؟	a. ☐ b. ☐	a. ☐ a. خلال الأسبوع الماضي b. ☐ b. خلال الأربعة أسابيع الماضية	1. نعم 2. لا
X08	قديش نسبة ثقتك بإجابتك		☐	1.عالية 2. متوسطة 3- متدنية
PW09	عمل ..في أي فترة سابقة (لمدة أسبوعين على الأقل بانتظام) ؟	1 2 3 4	1 نعم : خلال 12 شهر الماضية ← انتقل للسؤال التالي 2 نعم : اكثر من سنة واقل من 3 3 نعم : من 3 - 5 سنوات ← انتقل للشخص التالي 4 لا	
PW10	**للباحث:** يرجى الاستفصاء عن مكانة .... في العمل من حيث كونه رب عمل (يشغل اخرين بأجر) او يعمل لحسابه او مستخدم او عضو اسرة غير مدفوع الاجر؟	☐☐	☐☐	1 صاحب عمل (يوظف اخرين) 2.يعمل لحسابه 3.عضو اسرة غير مدفوع الاجر 4. مستخدم/ حكومة وطنية 5.مستخدم/ حكومة اجنبية 6. مستخدم/ وكالة غوث 7.مستخدم/ هيئة دولية 8.مستخدم/ مؤسسة لا تهدف للربح 9.مستخدم منتظم/قطاع خاص 10. مستخدم غير منتظم/ قطاع خاص 11.غير ذلك/ حدد .....

الاجرة وساعات العمل والثبات فيه	فقط للمستخدمين الذين اجابوا على PW23 الفئات 4-10 والذين لم يجيبوا على PW17	
PW11	قديش عدد الأشهر اللي ..... بيشتغل فيها بهذا الشغل؟	**شهر**
X11	قديش نسبة ثقتك بإجابتك	1.عالية 2. متوسطة 3- متدنية
PW12	قديش عدد الايام اللي اشتغلها .... بأجرة الشهر الماضي؟	**يوم**
X12	قديش نسبة ثقتك بإجابتك	1.عالية 2. متوسطة 3- متدنية
PW13	- بما ان ..... يعمل بأجر فما مقدار أجرته؟ - **الفترة المحددة:** 1.يومي 2. أسبوعي 3. شهري - **المبلغ الذي يتقاضاه:** - **نوع العملة:** 1. شيكل 2. دينار اردني 3. دولار	الفترة المبلغ العملة
X13	قديش نسبة ثقتك بإجابتك	1.عالية 2. متوسطة 3- متدنية