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RESEARCH PAPER

Exploring the Scope of Self-Enumeration among Young Adults in Pakistan's Census of 2023

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ABSTRACT

This study explores the scope of self-enumeration for young adults in Pakistan to actively participate in the digital census process, specifically through self-enumeration in the Census of 2023. Censuses and surveys are very significant statistical exercises. The main objective was to understand the willingness and ability of young adults to actively participate in the digital census process by providing their own information. Secondary objectives of the research were to explore the usability access that could influence young adults' decision to self-enumerate. Totally data was collected from (n) 137 young adults. The study based on a purposive sample of individuals aged 18–35 years. The closed-ended online survey tool was used for data collection. For data analysis, percentage and frequency distribution test was proceeded through SPSS. The study evaluated respondents' perceptions of various characteristics of the census and the self-enumeration portal. Furthermore, the results of the study proved that 44.3% of young adults wanted to enumerate through self-enumeration, but due to improper facilitations and high limitations, only 33.4% of adults were enumerated through a self-enumeration portal. Moreover, respondents' preferences supported self-enumeration, although a notable portion still favored an enumerator taking part in enumeration. These findings support meaningful policy implications, stressing the possibility of growing self-enumeration initiatives among young adults. Based on the preliminary findings, it is recommended that a country-based study of young adults from the various fields and the importance of the census should be conducted.

KEYWORDS Census of Pakistan, Digital Census, Digital Divide, Enumerators, Self-Enumeration, Young Adults

Introduction

The Pakistan Bureau of Statistics (PBS) in 2023, from March 1 to May 30, held the second census, and overall, seventh census of Pakistan in the 21st century, 6 census directed in 2017. The census record is largely politically affected in Pakistan from the other countries reviewing political differentiations since it provides the basis for that, the division of national and provisionally assembly seats between the region and provinces. Essentially, the main problem was had in political groups and government constant arguments with census bearing over the last few years in the country.

Censuses and surveys are very significant statistical exercises. They also have a number of economic information. Make sure that, without reliable data, it is very critical to make the right decision in terms of economic, political, social, and infrastructural development policy. It would also be very critical to know the requirements of people and the right measures to fulfill them. The information makes it possible to monitor and analyze the achievement of objectives. The population census is the basic source of information on demographical characteristics and the size of the population. The census has become a universal practice and undertaking in all countries. Accurate census data is mandatory for the growth and development of any nation. The knowledge of the population of any nation

is very important for its development. The census is one of the very wide sources of statistical information required by a state for effective planning and development.

Every society is changing in every aspect. The social structure of society has become further various, know individuals are much busy, less available and willing to take the scheme to contribute in social surveys and censuses. The 2023 survey is the first digital census in Pakistan. That's major benefits of a digital census should include faster and higher-quality census data. In the digital census, the other primary aspect is self-enumeration by the individual to register her or his complete household information.

Recent technologies as well as their expansion and use in all fields of social and economic life also affected the method of conducting census. Massive changes and alterations can be were used at every step of the census process, and, in notion, they are noted in all around the world (UN, Field Operation, 2012). Various states have elected for an ultimate alteration in the method understood as the limitations of data, so that's others have presented a little improvement for technological data collecting and analysis. A significant motivation for these differences required to save while the enhancing quality of census data (Longva, et al 1998). As noted by Valente (2010) says it is necessary to find out the numbers of individuals, but a successful census is expensive, and an increasing a lot of individuals are unwilling to contribute their participation.

In the year of 2001, in Canada, the online census was the first social survey to introduce the new methodology. There are many challenges in a few areas, such as questionnaire design, data confidentiality, data quality, data processing, and data analysis.

In many countries National Statistical Institutes (NSIs) face a number of problems, including the burden of making larger use of data available somewhere else, lower public collaboration and contribution, varying user requests, and the need to limit or lower expenses (UN, 2011). The valuation of the census characteristic under the new method includes many methodological and applied issues. The group of difficulties interacts with changes in the methods of statistical research assumed for leading the census. Significant difficulties regarding methodological issues, data sources, and error kinds are addressed.

There are two main issues in conducting a census: firstly, the preparation of census; as this, normally these courses are to be followed by PBS:

i. Classifying the house, such as residency places.

ii. The municipal prepares the construction lists.

When these lists are final, they define the houses blocks and provide basic about the houses condition and services that are used by the groups in those blocks. This is considered the framework for the objective of censuses. The second problem is the execution of the census; the composed information should be applied for study of people in the many characteristics, like determining the residents' features, employment rate, age ratio, sex ratio, education rate, and facilities attainable by individuals, etc. In the outdated technique, the whole thing is finished on paper. The enumerators visit every house and gather complete information. The procedure necessitates both collecting numbers on paper and inward bound it into a computer, who's requires a significant huge manpower's

Pakistan's Background

In Pakistan, the census conducted accordingly, first in 1951, second in 1961, third in 1972, fourth in 1981, fifth in 1998, sixth in 2017, and seventh in 2023. The total census conducted in Pakistan is 6th; now 7th is continuing. All the citizens of Pakistan are required to take part in the census. Citizens are enumerated at their residence, regardless of where

they are on the day of the census. In the 2023 census, for the first time, the census was conducted through an online survey and also through the self-enumerated method in Pakistan. Most of the data were collected by official enumerators through house-to-house visits through the web portal, which is managed by PBS.

Shift in Statistics and Population Census Quality

Presently, observing the statistical survey and a number of changing aspects in it (Baffour, 2013), in Netherlands term changes in Statistics as a procedure of reformation of social statistics. For example, they show Social Statistics Bestand, a micro-database achieved for the result of the different documentation of administration records relationships and statistical patterns. An advance in application of facts, the pressure to expand the efficacy of statistical procedures to make savings in expenses and staff assets, statistical surveys claim to decrease the load sited on the respondents, but also the advancement of analyzing, data collection approaches, data proofreading and combination, and approximately methodology. These prospects are often conflicting and force statisticians to deliberate replacements for the outdated survey methodology. The most natural is to see if practical data now exists somewhere else and may be used for statistical objectives.

Self-Enumeration as a Method of Census in Pakistan

The growth rate of education and the development of technology are careful to be the main keys for human growth. Technology developed through teaching; it is consequently not amazing that is compulsory for a schooling created on information, skill, and expertise. Currently, that is known as a development. Still, the quick growing of technology brings about some concerns. Technological development helps us boost the existing system. Generally, inspired from this technological step which allocates numerical steps to achieve necessary societal needs and objectives, namely:

- timeliness of data,
- accuracy,
- relevance, and enrichment of quality as required by international guidelines on the subject.

However, the problem we face in regulating new technologies is holding change back. The use of the internet for data collection is not a new phenomenon; for many years, many countries have used the internet to collect information for the census. As per the characteristics of a web portal, the web application was working 24/7. For data security, PBS ruined sessions with login through a cell phone number and CNIC, which provide a significantly more secure level than what is normally used in websites.

The census of 2023 is the 7th census of Pakistan. In the history of Pakistan, it is the first digital census. The census was the first ever conducted by PBS. The census data were managed by the Federal Institute of PBS. The digital census activity has covered all provinces and ICT in 628 tehsils, comprising 185,000 census blocks. The information collected by using Android-based smart devices with house listing and enumeration applications with GPS and GIS.

To make sure strong social development and for policy formulation, the Pakistan Bureau of Statistics has started the 7th housing and population census on February 23, 2023, with the option of self-enumeration. The self-enumeration process has based on 6 steps to enumerate in census namely:

- Register yourself
- Login
- Enter family member's information

- Enter housing information
- Verification of data
- Submission of census information

Literature Review

The census offers a rare chance to get reliable and widespread estimates of various socio-demographic variables. The recent assessments of mortality and fertility give a reliable picture of demographic improvement in all provinces and territories over the last three decades. International and internal migration rates appear to be the central causes of population change in Pakistan. The change in population has a strong effect on social development and also on the process of policy formulation. The essence of literature more widely reveals the challenges that are faced and the lessons that are learned from the previous censuses.

Lessons Learned and Challenges Faced in the Digital Census

Wazir and Goujan (2021) boarded on an exploratory assessment of Pakistan's census through the lens of demographic analysis. The primary objective of their research was to employ demographic analysis techniques to examine the outcomes of the 2017 census at the provincial level. To achieve this, they utilized data from the 1998 census alongside information extracted from various comprehensive demographic and health surveys. The findings of this study shed light on several key observations. Firstly, it was noted that the provisional data, while valuable, presented some limitations in terms of comparability. Notably, the study focused on life expectancy at birth for both men and women. It revealed that the decline in life expectancy was a gradual phenomenon in provinces such as Punjab, Sindh, and Baluchistan, while other provinces and regions experienced a more rapid decrease. Moreover, the research underscored the significant demographic shifts that occurred during the 1990s and 2000s. A notable trend was the reduction in fertility rates, which had implications for mortality rates across all provinces and areas under consideration. However, it was also observed that fertility rates remained relatively high at the provincial level, with an average of over three children per woman in 2017.

Golata's (2016) research was driven by a methodological shift and an assessment of population census quality. It examined the quality evaluation of both the traditional method (2002 census) and the combined method (2011 census) in Poland. The 2011 census marked a complex procedure where individual data amalgamated from two distinct sources: registers and sample surveys. The analysis of this integrated data necessitated the formulation of new theoretical concepts, as highlighted (Zhang, 2011, 2012). This census relied on diverse data sources, demanding the implementation of contemporary statistical techniques like calibration, statistical data integration, GIS, and inference for small domains, among others. Assessing the effectiveness of the applied methodology is a challenging task, as its impact is multifaceted and difficult to quantify. However, it serves as a critical benchmark for advancing statistical practices in a broader sense, emphasizing the ongoing need for statistical improvements.

Tauber and Hansen (1965) were clearly explaining in their study that self-enumeration is a census method. This paper by Dr. Bogue Went to explain the presumed advantages and disadvantages of the technique by which the United States census might be taken. He compares a census method that has never been accomplished and that we consider cannot be attained with one that is not being considered for future use. In the experiment, which was made of self-enumeration, we used a mixed method. Forms are mailed to respondents to be filled out and restored by mail; these are examined, and those that are recognized as deteriorating to meet the tests of suitability are looked after by

telephone or personal visit in an effort to get acceptable results. Respondents who fail to submit takings are appointed by enumerators to attain a satisfactory outcome.

Bouge (1965) identified the pros and cons of "self-enumeration in his study. Researcher explains that there are two main methods of accessing information of population the "householder" approach and the "canvasser" approach. Using the first, the data required by the census is documented by the household head or anyone he assigned. Using the second method, the documentation is made by an enumerator who appointed each house, raises the questions written on the census schedule, and records the information as it is offered by a respondent who is supposed to be authorized. The explore that neither the householder method nor the canvasser method to enumeration is subsequent in creating data of the accuracy needed and predictable by modern demographic research, and both are declining short by a boundary of the standards outlined in appointed section.

Beltadze (2016) were conducting research on enumeration via internet of Estonian. The results of the study narrated that, the digital census is a new approach of data collection, this approach growing procedure of data collection, other meting out the brings bring out conclusions. Many states experience that, a digital census method gathered rich information. Furthermore, this technique agreement with the confidentiality, it reduce costs of census over one fourth from the whole census.

Bourezgue, (2017) was explore that the using of tablets for the 2018 Algerian census for census data management and quality assessment. This paper mainly focusses on Office for National Statistics (ONS) foresight of census data collection by the use of mobile technology, namely 3G and 4G LTE equipment's. This paper will focus on the question associated with accomplishment for this short key applying a value inference typical which have the classification of items. The items will make sure serviceability in an applied setting. In heaving the different stages, to optimize its supervision, this study already deals with the challenges associated with accomplishment in using mobile skills.

Cote, and Laroche (2009) was explore an overview of Internet data collection in the 2006 Census data evaluations, results, lessons erudite and the methodology that will be used in the next census in 2011. This study explores the difference between the amount of Internet responses in the 2006 Census and the Internet connectivity rate in 2006 propose that a high internet response rate is likely, especially since the IRP method proved very useful. The wave compilation methodology planned for the 2011 Census will use both infrastructures. In the first wave, the IRP method will be used to compute some of the people, and paper questionnaires will be used to compute the rest. This approach will exploit the full potential of both versions while reducing their problem.

Pink and Smith (2006) conducted an analysis with the primary objective of gaining insights into the experiences of offering individuals the option to complete their Census forms online. This study underscored the importance of not only comprehending the full spectrum of benefits and implications of this technology in New Zealand but also its far-reaching consequences. The research outcomes, stemming from the utilization of this technological innovation and its influence on respondent behavior, hold immense value. They are poised to serve as invaluable resources as both the government and the public prepare for the 2011 Census. Therefore, it becomes imperative for Statistics New Zealand to effectively implement the online census initiative in 2006 and harness the knowledge acquired to strategize for a more efficient and user-friendly 2011 Census. This proactive approach ensures that real benefits will be not only anticipated but also well-understood.

Material and Methods

Design and Sampling

A quantitative research design for this study was selected because quantitative methods are particularly useful in testing hypotheses; look at the cause-and-effect relationship (Strauss & Corbin, 1998). Generally, the online survey tool was applied to explore the scope of self-enumeration in the Pakistan census among young adults. The online survey tool was used to collect data from the population. A self-administered online survey questionnaire was developed based on the research objectives. The structured questionnaire consists of closed-ended questions to ensure consistency and ease of analysis. Purposive sampling was used as a sampling technique. The reasons for applying this sampling design were that due to usability access. Also, all young adults were according to the objectives of the research. So, the researcher gathered the information from.

Data Analysis

The structured online questionnaires paper was developed. Data were collected through an online survey. The questionnaire consisted on 17 items. Specifically, six items of sociodemographic characteristics covered gender, age, family type, marital status, educational level, and residency area. In exploring the scope of self-enumeration, 11 items were developed. The responsive scale has four items, from 1 (to a great extent) to 4 (not at all), within the score of 1 to 4. For analysis, SPSS 26 was runed. Analysis was based on, frequencies and percentage in descriptive statistics.

Table 01
Responses Frequency of Respondents According to their Socio-Demographical Information

Variables	Indicators	Frequency	Percentage %
Gender	Male	82	59.9
	Female	55	40.1
Age Category in years	18-24	77	56.2
	25-30	50	36.5
	31-35	10	7.3
Marital Status	Single	86	62.8
	Engaged	13	9.5
	Married	36	26.3
	Divorced/Widow/Widower	2	1.5
Family System	Joint Family	70	51.1
	Nuclear Family	67	48.9
Educational Level	BS Level	61	44.5
	Master Level	51	37.2
	MS/M.Phil. level	22	16.1
	PHD Level	3	2.2
Living Area	Countryside	56	40.9
	Urban side	75	54.7
	Missing Values	6	4.4

According to the statistics in the above table, male respondents were 82 of the total respondents (or 59.9%), while female respondents were 55 of the total respondents (or 40.1%). So, it is clear from the above table data majority of the respondents were male.

The age group from 18 to 24 were 77 respondents, or 56.2% of the total; from 25 to 30 were 50 respondents, or 36.5% of the total; from 31 to 35 were 10 respondents, or 7.3% of the total. Minimum age limit of the respondents that were taken for study were 18 years and maximum age limit were 35 years.

According to the data, 86 respondents were single, accounting for 62.8% of the total, 13 were engaged, accounting for 9.5% of the total, 36 were married, accounting for 26.3% of the total, and 2 were divorced/widow/widower, accounting for 1.5% of the total. So, it is clear from the above table data majority of the respondents were single.

According to the data in the table, 70 respondents were joint family system, accounting for 51.1% of the total, and 67 respondents were nuclear family system, accounting for 48.9% of the total.

Data showed that 61 respondents had a BS Level, accounting for 44.5% of the total, 51 respondents had a Master Level, accounting for 37.2% of the total, 22 respondents had an MS/M.Phil. level, accounting for 16.1% of the total, and 3 respondents had a PhD Level, accounting for 2.2% of the total. As can be seen from the above table data, the vast majority of responders were graduates or master's level. Only a few responders were MS/M.Phil. or Ph.D. level.

According to the table data, 56 respondents were from the country side, accounting for 40.9% of the total, while 75 respondents were from the urban side, accounting for 54.7% of the total. According to the data, the majority of respondents were from the urban side.

Table 02
Frequency of Respondents According to their responses on the Scope of Self-Enumeration on Young Adults in Pakistan's Census

Statement	To a great extent	Somewhat	Very little	Not at all
access to 4G internet	80 (58.4%)	41 (29.9%)	16 (11.7%)	
awareness about that a census was being conducted in Pakistan recently	60 (43.3%)	43 (31.4%)	16 (11.7%)	9 (6.6%)
Familiarity with the census methodology	52 (38.0%)	60 (43.8%)	16 (11.7%)	9 (6.6%)
Knowledge about limitations of digital census	40 (29.2%)	58 (42.3%)	26 (19.0%)	13 (9.5%)
census's self-enumeration portal support	62 (43.3%)	48 (35.0%)	21 (15.3%)	6 (4.4%)
PBS link, watched instructional videos	12 (8.8%)	53 (38.7%)	25 (18.2%)	47 (34.3%)
want to enumerate in census through self-enumeration portal	62 (45.3%)	52 (38.0%)	12 (8.8%)	11 (8.0%)
supported for conducting a digital census	82 (59.9%)	36 (26.3%)	14 (10.2%)	5 (3.6%)
favor of enumerators taking part in the census	23 (16.8%)	32 (23.4%)	36 (26.3%)	46 (33.6%)
enumerated in census	(Yes) 108 (78.8%)		(No) 29 (21.2%)	
enumerate in census	By self-enumeration 43 (31.4%)		By enumerator's 94 (68.6%)	

The table reveals that approximately 58.4% of respondents reported having access to 4G internet to a great extent, 29.9% of respondents had somewhat access, and only 11.7% had very little access. So that most people have access to 4G internet.

According to the data, around 43.3% of respondents were extremely aware of the census being done, 31.4% were somewhat aware, 11.7% were very unaware, and 6.6% were completely unaware. As can be seen from the above table data, the vast majority of

responders were extremely and somewhat aware. Only a few responders were not aware about the census.

According to the table, around 38.0% of respondents were extremely familiar with how the census is done, approximately 43.8% were moderately knowledgeable, 11.7% had very little familiarity, and 6.6% had no knowledge of the census technique at all. According to the data in the table above, the vast majority of respondents were somewhat familiar. Only a few respondents were unaware of the census.

Table narrated that approximately 29.2% of respondents had a good understanding of the limitations of the digital census, around 42.3% had some knowledge,19.0% of respondents had very little knowledge, and 9.5% had no knowledge of digital census limitations. As can be seen from the above table data, the vast majority of responders were somewhat knowledge of limitation. Only a few responders were not aware about the limitations of the digital census.

Table revealed that about 43.3% of respondents supported the census's self-enumeration portal to a great extent, approximately 35.0% supported it somewhat, around 15.3% supported it to a very little extent, and only 4.4% of respondents did not support it at all for the self-enumeration portal. As can be seen from the above table data, the vast majority of respondents were extremely or somewhat supportive. Only a few respondents did not support the self-enumeration portal**.**

Data showed that only 8.8% of respondents watched the instructional videos on the PBS link to a great extent, about 38.7% watched them somewhat, around 18.2% watched them to a very little extent, and 34.3% of respondents did not watch them at all. As can be seen from the above table data, the vast majority of respondents were not watching the instructional videos.

According to the data, approximately 45.3% of respondents wanted to enumerate in the census through self-enumeration to a great extent, about 38.0% preferred it somewhat, only 8.8% preferred it to a very little extent, and 8.0% of respondents did not want to enumerate through self-enumeration at all. As can be seen from the above table data, the vast majority of respondents were extremely or somewhat preferred.

According to the table, 59.9% of respondents supported conducting a digital census to a great extent, about 26.3% supported it somewhat, approximately 10.2% supported it to a very little extent, and only 3.6% did not support a digital census at all. As can be seen from the above table data, the vast majority of respondents were extremely or somewhat supportive. Only a few respondents were against the digital census.

Table's data revealed that 16.8% of respondents were in favor of enumerators taking part in the census to a great extent, about 23.4% were somewhat in favor, approximately 26.3% were in favor to a very little extent, and 33.6% of respondents were not in favor of enumerators participation in the census. As can be seen from the above table data, the vast majority of respondents did not prefer the participation of the enumerators in the census.

According to the above table data, 78.8% of respondents reported being enumerated in the census (yes), while 21.2% were not enumerated in the census. The table revealed that most participants were enumerated in the census of 2023.

Table revealed that 31.4% of respondents chose to enumerate themselves in the census through the self-enumeration portal, while 68.6% were enumerated by enumerators. As can be seen from the above table data, the vast majority of respondents

were enumerated by the enumerator, while only a few respondents were enumerated by the self-enumeration portal.

Conclusion

The study explored the willingness and ability of young adults to actively participate in the digital census process by providing their own information. We found that some (29.9%) respondents understood the limitations, know (43.3%) young adults strongly supported the self-enumeration portal for the census. The largest age group represented was 18 to 24 (56.2%) years old of young adults. The results of the study proved that young adults more strongly supported self-enumeration. One of the most important aspects of the census is that the majority (33.6%) can't support the enumerator taking part in the census. In contrast, a sizable proportion of young adults (59.9%) supported digital census.

The secondary objective of the research was to explore the usability of access that could influence young adults' decision to self-enumerate. As it relates to these, the study explored that (54.7%) of respondents were from the urban side, and they have access to 4G internet to a great extent (58.4%). According to the results, 43.3 percent of adults were aware that a census was being conducted in Pakistan recently. Due to their useability access to technology, 43.8 percent of adults were familiar with the census conduct technique.

The study also explored the potential policy implications of promoting self-enumeration, especially among young adults, where the largest educational group represented (44.5%) had a BS level. The results of the study proved that 44.3% of young adults wanted to enumerate through self-enumeration, but due to improper facilitations and high limitations, only 33.4% of adults were enumerated through a self-enumeration portal.

Recommendations

- Self-enumeration and digital census must carry to be investigate further. Especially, a country-based study of adults and the importance of the census should be conducted.

- More ever, study identify other attributes as leading aspects in the census method.

References

BAFFOUR, B., KING, T., VALENTE, P., (2013). The Modern Census: Evolution, Examples and Evaluation. *"International Statistical Review" 81* (3), 407*–425, DOI: 10.1111/insr.12036.*

Beltadze, Diana (2016). Enumeration via the Internet Estonian experience. *The journal of Statistical Journal of the IAOS 32 (2016) 563–568 DOI 10.3233/SJI-160971 IOS Press.*

Bourezgue, Tarik (2017). Using tablets for the 2018 Algerian Census: Census data management and quality assessment. *The journal of statistical Journal of the IAOS 33 (2017) 777–784 DOI 10.3233/SJI-160286 IOS Press*.

Côté, A. M., & Laroche, D. (2009). The internet: a new collection method for the census. In *Proceedings of the 2008 Statistics Canada Symposium on Data Collection: Challenges, Achievements and New Directions. Available at http://www. statcan. gc. ca/pub/11-522-x/2008000/article/10986-eng. pdf*.

Gołata, Elżbieta (2016). Shift in methodology and population census quality. *The journal of STATISTICS IN TRANSITION new series, December 2016 Vol. 17, No. 4, pp. 631–658.*

Goujon, Anne and Wazir, Asif (2021). The exploratory assessment of the census of Pakistan using demographic analysis. *The journal of Official Statistics, Vol. 37, No. 3, 2021, pp. 719–750, http://dx.doi.org/10.2478/JOS-2021-0032.*

Bogue, D. J. (1965). The Pros and Cons of "Self-Enumeration". *Demography*, *2*(1), 600-626.

Khan, Rafiullah and Ahmed Raja Qaiser (2022). Politics of quantifying people and 2017's census of Pakistan. *The journal of Asian Journal of Social Science 50 (2022) 250–259.*

Pink, B., & Smith, I. (2006). Using both Internet and field collection methods for the 2006 Census of Population and Dwellings–The New Zealand experience so far. *Statistical Journal of the United Nations Economic Commission for Europe*, *23*(1), 23-33.

Setyadi, I. A. (2021). Data Collection Improvement: Daily Self-Enumeration Accommodation Survey. In *Proceedings of The International Conference on Data Science and Official Statistics* (Vol. 2021, No. 1, pp. 868-878).

Taeuber, C., & Hansen, M. H. (1966). Self-enumeration as a census method. *Demography*, *3*(1), 289-295.

United Nations, Department of Economic and Social Affairs, Population Division (2017a). Trends in International Migrant Stock: Migrants by Destination and Origin (United Nations database, POP/DB/MIG/Stock/Rev.2015). New York: Population Division, Department of Economic and Social Affairs. Available at*: https://population.un.*

Waksberg, J., & Pritzker, L. (1969). Changes in census methods. *Journal of the American Statistical Association*, *64*(328), 1141-1149.