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QUANTITATIVE AND QUALITATIVE RESEARCH CONTROVERSY IN PUBLIC ADMINISTRATION: AN ANALYSIS OF STATISTICAL DATA PRESENTED ON UNITED KINGDOM PEOPLE CATEGORY IN THE CIA WORLD FACTBOOK

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Two traditions of social science research can be identified as 'quantitative' and 'qualitative' research, which are different from each other in style and technique. Supporters of these two traditions "sometimes seem to be at war" regarding the supremacy of their respective tradition in analyzing social phenomena (King, Keohane and Verba,1994) . In general, this war is quite visible in the field of social science and in public administration, which refers as federal, state and local government, as a discipline of social science. Transcending the boundaries of academia this debate has received considerable interest recently from people every corner of the society for several reasons. Any interested observer of current U.S. politics can notice these different views in the debates regarding U.S. government policies on the recent health care reform, bail out policies of financial institutions and auto industries. In general, liberals and Democrats in Congress supported these policies and, in contrast, conservatives and Republicans in Congress opposed the new reform policies.

Significant differences in policy choices in responding to critical socio-economic issues such as opposing health care reform and financial bailout in this economic downturn by a major political party may surprise general population, but from an epistemological point of view this is not a surprise at all. Differences of two major political parties are rooted in different epistemological views, which influence subject, goals and frame of the research question (Hessey-Biber & Leavy, 2004). Generally, in most cases views of the Republican Party on socio-economic issues are based on a positivist philosophy, which is designed by the model of natural science research, particularly a positivist approach (Bryman, 1992). Positivist approach is the idea that scientific knowledge should be originated from facts that must be based on observation rather than on opinion or speculation (Chalmers,1999). It is important to note that, although, scholars in public administration use positive approach but they are mostly related to economics.

In analyzing public policy issues by positivist approach advocates of this approach emphasize that policy making and its outcomes might be improved if policy goals and implementation strategies of public organizations

are based on quantitative, in other words scientific, data (Hughes, 1998). For example, in the context of recent health care reform a major argument of the Republican Party was that reform could increase the financial burden of federal and state government as the burden of paying for an increased number of beneficiaries who currently have no health insurance would be theirs. It is interesting that this argument ignored the fact that almost 47 million people in the U.S. had no health insurance due to high costs. In contrast, views of the Democratic Party on socio-economic issues are based mostly on a postpositivist philosophy, which is influenced by the epistemological view that rejects the appropriateness of use of natural science approach in understanding humans (Feyerabend, 1975). Postpositivist approach emphasizes qualitative research.

In analyzing social issues in public administration by quantitative tradition, two issues have received central attention recently due to the vast differences of two major political parties. First, the question of how 'scientific' statistically generated data is (the basis of quantitative research), and second, if public administration focuses only on quantitative research in formulating and implementing public policies. In examining these two central issues related to public administration research this paper uses quantitative data on the U.K. under the 'people' category presented in the CIA World Factbook as a metaphor. Main research question examined in this regard: can the statistical data of CIA World Factbook on the U.K. 'people' category, especially on ethnicity, religion, and languages, be considered as "scientific" upon which many quantitative research studies are based? This research question has been analyzed in relation to two central issues, as previously mentioned. This paper concludes that statistically generated quantitative data in the CIA World Factbook cannot be declared 'scientific' as portrayed by quantitative researchers and public administration research should not focus solely on quantitative research based on statistically generated data. It is important to note that this research is not about the authenticity or objectivity of the CIA World Factbook by any means as it uses statistical data generated by various governments, private, and international organizations. This research only focuses on some specific data provided in the CIA World Factbook and raises some issues as a metaphor to examine the claim of 'scientific' as a feature of quantitative data in general.

This research will contribute to the understanding of students of various social sciences as well as general readers about the recent debates over various social issues and positions of two major political parties through the lenses of quantitative and qualitative traditions of social science research. This research will also help students and general readers come to their own conclusions about criteria of public policy to address crucial social issues such as health care by public administration in federal, states and local level.

Methodology

To examine the current research question this paper employs a qualitative content analysis, which is a method of making valid inferences based on published texts such as documents, transcripts, news papers, and magazines by structures and procedures (Berelson, 1952) as its method to analyze the research question. In recent years this method also includes analysis of content of audio and video media (Stigler, Gonzales, Kawanaka, Knoll and Serrano, 1999) and documents available in Internet. The current content analysis includes analysis of both published and online texts from the CIA World Factbook of 1981-2010 periods. I believe that sample size of data within the periods of 1981-2010 (presented in the appendix) provide me legitimate scope to analyze the current research question regarding the claim of the "scientific" nature of data especially claimed by the quantitative researchers. Limit of the sample size of data about 30 years is a large enough to study a social phenomenon in terms of time. As Sandelowski (1995) argued that "(d)etermining an adequate sample size in qualitative research is ultimately a matter of judgment…" (p.183). Therefore, I believe that the analysis of data regarding the 'people' category of the U.K. provided in the CIA World Factbook from 1981-2010 is large enough in analyzing the current research question.

Methodological Controversies in Public Administration: A Background

Scholars of public administration have long been debating the issue of using research methodology in public administration (Wagle, 2000). Development of research methods and technologies in recent years have given social scientists the ability to use more precise, empirical models of scientific investigation and various mathematical and statistical tools to analyze social phenomena and thus provide strong arguments in favor of a quantitative approach to public administration research. Quantitative researchers argue that social reality can be 'scientifically' studied only based on quantitative information, in other words numerical or statistical data. 'Scientific', in this regard, is defined as systematically collected elements of information about a social phenomena related to a research (King, Keohane and Verba, 1994). Quantitative research uses numbers in analyzing social phenomenon and thus a major focus is put on numbers and statistical methods (Kvale, 1996); tending to develop causal relationships between two events based on numerical data and by using various statistical analysis (King et al.,1994).

In contrast, values like social equity and social justice have increasingly been emphasized in analyzing the role of public administration, evaluation of public policy, programs and performance of public agencies, which have provided strong arguments in favor of using a qualitative approach in public

administration research. Researchers of qualitative tradition argue that all social phenomena are not quantifiable and therefore public administration cannot rely only on quantitative research to respond to public demands. Quantitative research claims itself as "hard, objective, and strong" while it views qualitative research as "soft, subjective, and weak" (Hessey-Biber & Leavy, 2004).

In relation to methodological controversies in public administration research the current research aims to examine 'scientific' nature of UK demographic data in 'people' category provided in the CIA World Factbook as one of the premier sources of statistical data for quantitative research in social sciences (Buneman and Müller, 2009).

UK 'People' Category Data in the CIA World Factbook: A Discussion

In the following section the current research first discusses data presented in the UK 'people' category under the sub categories of 'ethnicity', 'religion', and 'language'. Then it is analyzed as to whether these statistics can be considered 'scientific' based on the criteria of the 'objective' nature of scientific data as one of the major claims in favor of statistical data by quantitative researchers (Kvale, 1996). The characteristic 'objective' in quantitative research implies that the behaviors, for example demographic data such as age and gender, are easily classified or quantified by either participants or by the researchers (Gliner, Morgan and Leech, 2009) and findings should not be accepted or rejected by preference of researchers (Brady and Collier, 2004).

From 1981-1991 and 1995 -2004, the ethnic identity of the U.K. population is measured as English, Scottish, Irish, Welsh, Ulster, West Indian, Indian, Pakistani, and Other. In 1981, the population with English ethnicity was 83%, from 1982-1991 and 1995-2004 the U.K. population of English ethnic background is shown as 81.5%. For the same year of 1981, the population of Scottish ethnicity in the U.K. is measured as 9%. From 1982-1991 and 1995-2004 people with Scottish ethnicity is measured at 9.6 %. In the same period of time, the population with Irish ethnicity is measured at 3% and 2.4 %, respectively. For the same period of time people with Welsh ethnicity in the U.K. were measured at 5% and 1.9%, respectively. The ethnicity of population as Ulster in the U.K. is measured at 1.8% for the periods of 1982-1991 and 1995-2004. The ethnicity of population labeled as West Indian, Indian, Pakistani, and other are measured at 2.8% from 1982-1991 and 1995-2004. From 1992-1994 for these three years no statistics are provided for any ethnic groups. In the period of 2005-2010, the subcategory of ethnicity in the CIA World Factbook includes new measurement units for the U.K. population such as White, Black, Indian, Pakistani, Mixed, and Other. In this period of 2005-2010, the ethnicity of population identified as 'White' is measured as 92.1%, 2% for 'Black" in 2005 and 2007 and 2.1% for 2008-2010. For 2005-2010 the

population with Indian ethnicity is measured at 1.8%, Pakistani 1.3%, Mixed 1.3%, and Other 1.6 %.

In the 'Religion' subcategory there is no data shown from 1981-2004, a consecutive 24 years, and from 2005-2010 the religion data is shown as Christian 71.6%, Muslim 2.7%, Hindu 1 %, Other 1.6%, and Unspecified or None (in same category) at all, 23.1 %. The language category does not record any statistical data, although, it records English, Welsh and Scottish as the three languages of the U.K.

Data in the U.K. 'people' category provided in the CIA World Factbook from 1981-2010 show an over simplification of statistical data recording. Starting the discussion with 'ethnicity' data; it is interesting that although 'ethnicity' data from 1981-2004 showed a consistent pattern including ethnicity of groups such as 'English, Scottish, Irish, Welsh, Ulster, West Indian, Indian, Pakistani, and other', from 2005-2010 it introduced total new categories in 'ethnicity' of 'white, black, Indian, Pakistani, mixed and other' instead of the previous categories. The question in this regard is how are these 'ethnicity' categories defined?

All black people do not necessarily belong to same ethnic group. Black people were first brought to the U.K. as slaves from all over the African continent. The current black population is made up of the successors of those African natives. "The peoples of Africa belong to several thousand different ethnic groups. Each ethnic group has its own distinct language, traditions, arts and crafts, history, way of life and religion" (Think Quest, 2010). Therefore, the generic brand of "Black" does not provide a reliable definition about the ethnicity of all people considered as black and thus these ethnic data cannot be objective. This generic categorization is surely influenced by the ideology of politics, value-ridden and positioned by traditional stereotyped views about black people. In this regard remark of Economic and Social Data Service (ESDS) is noteworthy: "Collecting data on ethnicity is a challenge because of the subjective, multi-faceted and changing nature of ethnic identification. In ethnic identity questions, we are unable to base ethnic identification upon objective, quantifiable information" (2010, p.5). In identifying ethnicity factors such as country of birth, nationality, parents' country of birth, color, national/ geographical origin, racial group, and religion although play important role but these factors cannot be meaningful if considered separately (ESDS,2010). Another problem of generalizing ethnicity is "Different versions of the ethnicity question were asked in England and Wales, in Scotland and in Northern Ireland, to reflect local differences in the requirement for information. This again can make comparison difficult" (ESDS, 2010, p. 9). Similar to black, broad terms such as 'Indian' as an ethnicity does not make proper sense because of diverse ethnic groups of the country as acknowledged by ESDS (2010) that they fails to appropriately differentiate within the populations described. Thus,

one generic "Indian" brand cannot be an objective ethnic identity for all Indian immigrants living in the UK.

Even though it has only been in the last six years that the CIA World Factbook has been recording data on the religion of U.K. population, it also appears overly simplified. In 2005-2010, 71.6% of UK population is shown under the broad umbrella of 'Christian' faith when many other European countries and the U.S. categorize Christianity under several divisions because of distinct differences amongst Catholic, Protestant, Evangelical, Lutheran, Anglican and many other denominations. These are well established divisions within Christian religion and accepted by other countries. Therefore, statistical data of 71.6% of Christian without showing any subdivision does not portrait the objective picture of religious affiliation of the U.K. population and thus cannot be claimed as 'scientific'. Another reason that makes the claim of U.K. religion data as not scientific is: "It should be noted that, in terms of the statistics, *of major religious groups*, (italic added) the UK has to depend on sample surveys. It does not have the great advantage … in having the question of religion in the Census" (Christian Research Association, 2010). Similarly the Muslim religion has also many subdivisions with many crucial differences. In addition, for example, the "Kadiani", a faith originated in India in early 1900s who believe many Muslim fundamentals while significantly contradict with many other fundamentals as well, although claimed themselves as Muslims but majority of mainstream Muslim community does not recognize them as Muslims. A number of "Kadiani" from India and Pakistan immigrated in the U.K. mainly on the issue of religious discrimination over the years yet all these groups of people are branded in one generic name of Muslim, which is surely misleading. This reality is acknowledged by ESDS as it states that religious affiliations of minorities are portrayed with various limitations due to small sample sizes of ethnic minorities. Due to this small sample it is difficult to portray a real picture of potential differences within specific categories, for example, among the settlers from different regions of India or different religious backgrounds (ESDS, 2010).

The CIA World Factbook does not provide any statistical data regarding language in the percentage of the U.K. population although three languages are listed as a U.K. language. This categorization of language conflicts with the ethnic category that shows more than 10 ethnic groups making up the U.K. population over the years. If these different populations have distinct ethnic identities then it is very likely that they have their own languages too, although there may be one or more major languages but there are no statistics reflecting about the languages of all ethnic groups showed in the 'ethnicity' sub category in the CIA World Factbook. Quantitative data as 'objective' implies that it provides clear explanation about any anomalies about data, which makes the 'procedure is public'. This feature of scientific research as well as quantitative

data is not followed regarding the projection of language data in the CIA World Factbook. Similarly, there are no notes provided for the change of names of categories in ethnicity, for example, from the old ethnicity categories of English, Irish, and Wales to recent categories of White, Black, and Others. Second, no definition is provided for categories such as White, Black or Christian, Muslims, and so on. As already discussed, all Africans do not belong to same ethnic group and neither all Christians have identical practices of their faith therefore, precise definitions should be provided in terms of 'objective' nature.

It is understandable that as the CIA World Factbook uses statistical data from various sources it is not unusual that subjective and value ridden character of primary sources of data may reflect in it, which is reported by ESDS's comments on various ethnicity issues. Thus based on the analysis and the statistical data presented in the CIA World Factbook following findings can be reached:

It is not valid to claim that only statistically generated data are always 'objective' and thus 'scientific' because statistically generated data can be motivated by many factors and thus cannot be claimed always as scientific in terms of the criteria 'objective', which is the major characteristics of scientific data claimed by quantitative researchers.

Statistical data presented in the CIA World Factbook, especially on the U.K. ethnicity, religion, and language are subjective as different criteria are used in collecting these data especially ethnicity data (ESDS,2010) and religious and language data also appeared as value-ridden and positioned according to ESDS. Thus only statistically generated data cannot portrait the reality of social phenomenon, in this case, categorization of Black or Indian as an ethnic group cannot, or Christianity as religious affiliation can not portrait 'objective' picture of ethnic and religious differences among the U.K. population.

Conclusion

This research started with a specific research question: can the statistical data of the CIA World Factbook on the U.K. 'people' category, especially on ethnicity, religion, and languages, be considered scientific upon which many quantitative researches are based? One of the focuses of the current research, as mentioned earlier, was if public administration as a discipline focuses its research only on statistical data in formulating public policy. Using the CIA World Factbook as the metaphor of one of a source of statistical data, which is the basic element of quantitative research, the current content analysis reveals that the statistical data of a prime source of social science research may not be 'objective' and thus cannot be 'scientific'.

Findings of the current research implies that although development of technology and computer software as research tools has made strong arguments in favor of using quantitative research in public administration but unfortunately, use of only quantitative research methods and statistical data cannot portray the reality of values of public administration research. Effectiveness of public policies, which refer as how successful a policy to achieve goals; as a core value of public administration cannot be measured by only quantitative criteria of cost benefit analysis or similar characteristics as used by the quantitative research. Qualitative methods, found that day to day government functions include many things rather than only decision making and policy process with quantifiable numbers and issues. Numbers are key ingredients in the policy process and the public administration decision process but "a high proportion of activities in which public managers engage are not amenable to the application of analytical techniques; a small proportion are" (Elmor, 1986. pp. 69-83). Public administration should respond to the demands of the public with constitutional guidelines, social equity, and social justice, values which cannot be measured quantitatively. For example, in the current economic downturn when millions of people in the U.S. have lost jobs, house and become unable even to take care of their health due to cost escalation only cost benefit analysis based on quantifiable data cannot be the basis of public policy regarding health care reform and its implementation. In formulating public policies in reforming health care government should respond to the needs of general people who are severely affected by economic downturns.

Therefore, my conclusion regarding the use of the quantitative method in public administration research, based on the findings of the current research, is that public administration should not focus only on quantitative research based on statistically generated data. Statistically generated data can also be less objective than portrayed by the quantitative researchers due to views and subjective judgment.

References

Berelson, B. (1952). *Content Analysis in Communication Research*. Glencoe, IL: Free Press.

Brady. H.E. & Collier, D. (2004). (Ed.) *Rethinking social inquiry: Divers tools, shared standards.* New York: Rowman & Littlefield Publishers Inc.

Christian Research Association (2010). Christian trends in the United Kingdom. Retrieved from http://www.cra.org.au/pages/00000167.cgi

Elmore, R.E. (1986). Graduate education in public management: Working the seams of government. *Journal of Policy Analysis & Management* 6 (1).69-83.

Economics and Social Data Service (EDS) (2010). *Ethnicity: Introductory*

User Guide. Retrieved from ESDS Government: http:// www.esds.ac.uk/government/docs/ethnicityintro.pdf

Gliner, J.A., Morgan, G.A. and Leech, N.L. (2009). *Research methods in applied settings: An integrated approach to design and analysis*. New York: Routledge.

Peter Buneman, P. & Müller, H.(2009). Curating the CIA world factbook. *The International Journal of Digital Curation*. 3(4), 29-43. Retrieved from www.ijdc.net/index.php/ijdc/article/view/132/171

Popper, C. (1972). *The logic of scientific discovery.* London: Hutchinson.

Hesse-Biber, S. N., & Leavy, P. (Eds.) (2004). Distinguishing qualita tive research. In *Approaches to qualitative research: A reader on theo ry and practice.* New York: Oxford University Press.

Kvale, S. (1996). Qualitative research in science and practice. In *InterViews: An introduction to qualitative research interviewing*. Thousand Oaks, CA: Sage.

King,G., Keohane,R.O. & Verba,S. (1994). *Designing social inquiry.* Princeton,NJ: Princeton University Press.

Sandelowski, M. (1995). Sample size in qualitative research. *Research in Nursing & Health*.18 (2), 179-183.

Think Quest (2010). People. Retrieved from http:// library.thinkquest.org/16645/the_people/ethnic_groups.shtml

Stigler, J.W., Gonzales, P., Kawanaka, T., Knoll, S. & Serrano, A. (1999). *The TIMSS videotape classroom study: Methods and findings from an exploratory research project on eighth-grade mathematics instruction in Germany, Japan, and the United States*. Retrieved from http:// nces.ed.gov/pubs99/1999074.pdf

Wagle, U. (2000). The policy science of democracy: The issues of methodology and citizen participation. *Policy Sciences*. 33(2), 207-223.

For a copy of the data set "Demographics of UK Population 1981-2010" contact the author.