

Is what you say what you mean?

Scientists need standard and precise terminology so communication is clear and unambiguous. In general this has been the case in demography. For example, demographers have precise definitions for age, live birth, marriage, movers, migrants, parity and gravidity (IUSSP, 1982) [1].

The purpose of this paper is to raise concerns about inappropriate and ambiguous use of terminology in population studies in recent years. The hope is that this will lead to use of standard definitions in the future. Nine specific cases and one grammar problem are covered one by one below.

1. What is birth control? Birth control refers to methods to control births. Therefore induced abortion is a method of birth control. Often birth control is taken to mean contraception and in popular US culture, it is sometimes taken to mean exclusively oral contraception. So in correct usage birth control includes contraception, emergency contraception and induced abortion. Let us say contraception when we mean contraception and the contraceptive pill when we mean oral contraception.

2. What is 'family planning'? These two words are often used synonymously with contraception. However, family planning literally means planning one's family which includes many behaviors beyond contraception. There are two major problems with equating family planning and contraception. First, it is the case that some couples plan their families with the use of induced abortion. In particular sex selective abortion in China and India occurs in the context of "family planning." Second, "family planning" implies that there is a family. But many individuals outside of families also need access to contraception—in particular unmarried sexually active individuals of any age but more specifically sexually active unmarried adolescents (Lloyd, 2005, Juarez et al. 2008). The latter group is unfortunately excluded or nearly so from contraceptive services in some settings (e.g. many 'family planning' clinics in Sub Saharan Africa) and use of the term "family planning" when contraception is meant only serves to perpetuate the exclusion.

Of course there is lots of inertia with the usage of “family planning” but getting it right has intrinsic value.

3. Who uses condoms? Since the contraceptive pill and IUD were introduced in the 1960s, women have been the focus of contraceptive programs throughout the world [2]. Now most contraceptive methods are female-oriented. Also, women typically have lower fertility preferences than their partners and as the sex who becomes pregnant, typically have a greater desire to limit fertility (Westoff and Bankole, 2002).

However, researchers have also documented that men play an important and significant role in fertility decision-making (Bankole, 1995; Thomson, 1997; Thomson and Hoem, 1998). Basically “it takes two” and in the ideal situation both partners agree on the number of children to have. The integration of male partners into contraceptive programs may be appropriate but has rarely been tried on any large scale. As an extreme example of the bias toward women, we find in the literature statements about “women using condoms” “women use condoms” and “women used condoms”. (A Scopus search turned up 41 articles with one of these usages.) Of course since the female condom was invented in 1991, these articles could be referring to women’s use of those. But actually on looking deeper, only one of the 41 was referring to use of female condoms. As scientists let us be clear that male condoms are used by men, not women and the text of our articles need to reflect this.

4. What is included in reproductive health? The term reproductive health rarely appeared in the literature before 1990. The definition of reproductive health was given by WHO (Fathalla, 1991) and reaffirmed at the International Conference on Population and Development (ICPD) in 1994 (United Nations, 1995). However, just what is included under the umbrella of reproductive health has been unclear. From the definition, we would expect that reproductive health would include at least the following components: sexual behavior, infertility, contraception, contraceptive sterilization, sexually transmitted infections, antenatal care, delivery care, breastfeeding, abortion [3].

But from usage in much of the literature we might strangely conclude that contraception and HIV are not included in reproductive health. Since articles say “HIV and reproductive health” for example. Table 1 documents such inappropriate usage. Let us be clear: contraception and HIV are included under reproductive health.

5. Is HIV an STI? HIV can be transmitted by handling of blood products from an infected individual or by sharing of intravenous needles. However, the vast majority of new infections worldwide occur sexually (Royce, 1997). Thus while HIV is distinct from other STIs by its case fatality in past years, it is and always has been an STI. Thus it is dismaying that a search in SCOPUS gives 151 articles that use the phrase “HIV and STIs” while only 18 use the phrase “HIV and other STIs”. Obviously funding for prevention and treatment of HIV has been separate from that for other STIs but we need to be clear that HIV is an STI.

6. When does one use ‘gender’ and when does one use ‘sex’? It is well known that gender refers to characteristics of men and women that are socially constructed while sex refers to biologically determined characteristics (Vlassoff and Moreno, 2002). However some articles have used gender as a synonym for sex. This reaches an extreme in articles that tabulate the “population by gender and age” or talk of “population by age and gender” (n=13 in a Scopus search) instead of “population by age and sex” or “population by sex and age” (n=35 in a Scopus search). A good reason to be precise and say sex when we mean sex is because to equate sex and gender does a disservice to transgender persons.

7. Did President Clinton have sex with Monica Lewinsky? It may be that scientists have inappropriately used gender when they mean sex because sex in English also refers to sexual behaviors. In this regard some persons use ‘sex’ to refer specifically to coitus, while others use it more generally to refer to sexual activity including for example fellatio, cunnilingus and other ‘non-coital sex’. President Clinton when challenged about his behaviors with Monica Lewinsky used the more specific definition in responding: “I have never had sexual relations with Monica Lewinsky” (Baker and Harris, 1998) though many would count fellatio as having sex. Maybe to

avoid further confusion, as scientists we can use the term coitus when we mean coitus and can be specific about other sexual behaviors that we may be researching. Thus the question “Have you ever had sex?” has been rewritten, at least for the Behavioral Risk Survey of the CDC/USA as: “Have you ever had sexual intercourse? There is also a separate question “Have (you) had anal sex without a condom in the past year?” (Centers for Disease Control, 2013).

8. What did you “control for” in the analyses? In analyses of observational studies we can never ‘control for’ a given covariate since there are correlations between covariates that need to be taken into account and the sample we are using for analyses is typically unbalanced on any given covariate. In true experimental designs, the scientist actually can ‘control for’ a given variable by design via randomization and factorial designs, Latin squares or other experimental designs (Montgomery, 2012). In the social sciences on the other hand, we can ‘adjust for’ other covariates in our analyses of non-experimental data. The distinction is an important one that is widely ignored in the literature. The top panel of Table 2 shows that for articles that did not report on experiments, more used “controlled for” than “adjusted for”. Can we honor the distinction between these with our usage rather than conflate them?

9. What is the “demographic dividend”? There have been a myriad of conferences, reports, and articles about the demographic dividend (Bloom and Williamson, 1998; Gribble and Bremmner, 2012; Bloom, Canning and Malancy, 2000; Bloom et al. 2009). However, in many of the publications the term is not defined precisely; it refers vaguely to the time period when a country has progressed part way through the demographic transition so the dependency ratio is declining and therefore there are more hands freed up (from supporting dependents) so there is potential for an economic boom. Examples of Thailand, Taiwan, and Korea have been given. Applications to Africa are made as it proceeds in the demographic transition. However the dictionary definition of dividend is “an advantage or benefit that you get because of something you have done” (Merriam-Webster’s dictionary, 2013). But a large working age population relative to dependents can only represent a dividend if there is productive work for that population to generate income, investment and wealth. In instances where such employment on a large scale to absorb the increased working age population is not available, the large number of persons in that

age group can represent a liability and social unrest could be the result. Statistics reported by the International Labor Organization document the high unemployment among working age groups and even among highly educated youth in the countries of Egypt, Syria and Tunisia for example (ILO, 2013). In fact analyses of civil conflicts since 1990 have shown that countries with a high proportion of young adults (ages 15-29) among all adults had a significantly higher incidence of civil disturbances than countries with lower proportions (Cincotta, Engelman and Anastasion, 2003). Therefore, calling an age structure change that leads to a higher ratio of working age to dependents a “dividend” is misleading. As demographers we know precisely what an age dependency ratio is and it is better to stick with this terminology (or its inverse, the working age to dependent age ratio) than use ill-defined and value-laden terminology.

10. Data are data. While it is true that the study of Latin is very rarely included in secondary schools now, nevertheless in English we have brought the words datum (singular) and data (plural) from Latin. As shown in the bottom panel of Table 2, the percentage of articles which treat “data” as singular, has increased in recent years as the proportion of scholars who ever studied Latin has receded. There has been a heated debate about the usage of “data is” in several newspapers (The Guardian, The Wall Street Journal) and even professional societies (Royal Statistical Society, 2010).

Might this be a case where usage leads to a change in grammar? The problem with that solution, however, is that we effectively then lose the ability to speak about an individual datum or there will be confusion between data is (singular) and data is (plural).

Table 1. Number of articles using specific terms in the abstract, title or key words by year of publication (Scopus search)

Terms in the article	Year of publication	
	Before 1994	1995+
family planning and reproductive health	19	221
family planning and other reproductive health	1	13
HIV and reproductive health	0	15
HIV and other reproductive health	0	1

Table 2: Percentage of articles in SCOPUS that use “data is” or “data are” by time period of publication

Usage	Time period of publication	
	Before 1990	1990-2013
Control for/Adjust for		
Both uses (Number)	95,827	2611
Percent	100.0	100.0
“Adjust for”	66.3	56.3
“Control for”	33.7	43.7
Data are/Data is		
Both uses (Number)	105,400	329,882
Percent	100.0	100.0
“data is”	20.7	32.5
“data are”	79.3	67.5

Footnotes

[1] Before 1960 male involvement was almost a given for contraceptive use—recall that methods used then were: condoms, diaphragms, sponge, withdrawal and rhythm.

[2] Of course the definition of urban is an exception--despite the recommended definition from the United Nations, each country decides on its own definition.

[3] At the 1997 IUSSP General Conference in a session on reproductive health sponsored by the Committee on Reproductive Health of the IUSSP, I asked the committee if they could give a list of components of reproductive health since, for example, violence against women occurs at ages

outside of the reproductive years so it is unclear if it is part of reproductive health or not. Unfortunately the response was unscientific—a committee member said that the committee did not want to give a specific list of components because it was better to be flexible as different funding agencies include different components.

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