

*Interdisciplinary Journal of
Research on Religion*

Volume 4

2008

Article 4

The Complexities of Comparative Research

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The Complexities of Comparative Research†

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ABSTRACT

If social science is to achieve valid universal theories, it is necessary to test them in as many different times and places as possible—hence the urgent need for more comparative research. To demonstrate this need, I review three recent instances wherein comparative research has revealed that (1) the proposition that religion functions to sustain the moral order is not universal, (2) most new religious movements are not the product of the discontent of the deprived but typically reflect the dissatisfactions of the privileged, and (3) the greater religiousness of women is not due to changes within Christianity but is a universal phenomenon. I then examine a set of pitfalls that often afflict quantitative comparative research that uses ecological or collective units of analysis such as nations or cities. Chief among these pitfalls are the ecological fallacy, cherry-picking of cases and variables, and the lack of comparability among cases. All three pitfalls are illustrated with recent examples.

† Paper presented as the plenary address at the Summit on Studies of Religion in China, Beijing University, 2008.

The goal of all sciences is to formulate general theories to explain the phenomena with which the sciences are concerned. This is as true of the social sciences as it is of physics and chemistry. And just as physicists would think it absurd to construct a theory of gravity that applied only in China, social scientists ought to think it silly to construct a theory of religious movements that applied only to nineteenth century England.

Unfortunately, too few social scientists see the problem, partly because so often what they mistake for a theory is nothing but a description of some particular time and place and is not meant to apply elsewhere. Even when social scientists do attempt to formulate general theories that apply everywhere in all eras, they must attempt to demonstrate the universality of their theories by testing them in as many times and places as possible. Unfortunately, lacking time machines, social scientists face cruel limitations on their ability to test their theories on more than a few, current cases. This is a crucial matter because, while the domain of physics is itself thought to be universal and so there is no need to test a theory elsewhere and at other times, the domain of the social sciences is extremely varied by time and place. Hence, what might appear to be a universal social scientific theory may, in fact, fail badly in a different setting. Conversely, what is thought to be specific to a particular time and place can, in fact, represent something universal.

The first section of this article deals with three cautionary tales illustrating these possibilities. I then turn to some difficulties and fallacies involved in cross-cultural research.

RELIGION AND MORALITY

Religion functions to sustain the moral order. Some version of that statement appears in every sociology textbook, and it is regarded by many people as a universal truth. All of the famous founders of the field embraced it. Emile Durkheim (1995 [1912]) even argued that religion exists only because it unites humans into moral communities and that although law and custom also regulate conduct, religion alone “asserts itself not only over conduct but over conscience. It not only dictates actions but ideas and sentiments” (Durkheim 1994 [1886]: 21). Bronislaw Malinowski (1884–1942) agreed, noting that “every religion implies some reward of virtue and punishment of sin” (1935: viii).

Today when Western educators have abandoned the classics, such claims might be almost forgivable. But how could classically educated scholars such as Durkheim and Malinowski have accepted such obvious nonsense? How could religion support morality in ancient times, given that the gods of Sumer, Egypt, Greece, and Rome didn’t give a hoot about morals? They cared only that they be properly propitiated and had no interest in how humans treated one another. Nor

could they inspire by example. As the great historian of early religions William Foxwell Albright (1891–1971) put it, the gods of ancient Greece were “charming poetic figures” but “unedifying examples” (1957: 265). The ancient gods routinely lied, cheated, stole, raped, seduced, and murdered. Obviously, no religion that features immoral gods can reinforce morality. This is hardly to say that the ancient societies lacked moral codes. It is to say that these codes lacked godly sanction.

In fact, many modern anthropologists as well as historians were fully aware of religions that lacked the capacity to support morality. The founder of British anthropology, Edward Tylor (1832–1917), took pains to point out that many early religions had no moral implications:

savage religion . . . is almost devoid of that ethical element which to the modern educated mind is the very mainspring of practical religion. Not . . . that morality is absent from the life of the lower [cultures]. . . . But these ethical laws stand on their own ground of tradition and public opinion . . . the lower animism [religion] is not immoral, it is unmoral (1958 [1871]: 446).

It turns out that the sociological founders did know that many ancient gods could not serve as moral role models, but they ignored this fact because they thought that the gods were at best peripheral to religion. Instead, the heart of all religion was said to be ritual and ceremony, and it is was through these activities that societies were integrated and the moral order was sanctified. Indeed, Durkheim severely criticized Herbert Spencer (1820–1903) for placing gods at the center of his definition of religion. In Durkheim’s judgment, God is but

a psychological phenomenon which has got mixed up with a whole sociological process whose importance is of quite a different order . . . [the idea of God is a] quite superficial phenomenon. . . . Thus the sociologist will pay scant attention to the different ways in which men and peoples have conceived [God] . . . and will see in religion only a social discipline (1994 [1886]: 19).

Thus began a new social science orthodoxy: *It is only through participation in rites and rituals that people are bound into a moral community*. Indeed, the “religious” aspect of these rites and rituals soon nearly disappeared. Rodney Needham (1972) denied that there is any interior mental state that can be identified as religious belief, and S. R. F. Price (1984) chimed in to claim that religious belief is a purely Christian invention and that even when “primitives” pray for things, they don’t really mean it.

If this is so, then the axiom should be amended to read: *Religious rites and rituals function to sustain the moral order*. But why? Indeed, why would anyone participate in rites and rituals unless these were directed toward supernatural

beings? Would anyone pray to the empty void? Durkheim claimed that they did, but it would be silly to believe him. And while many religions might fail to sanctify the moral order, surely none can do so unless there is some conception of sin—some behavior that is prohibited on religious grounds. But such prohibitions can be credible only if there is a judging authority, which brings us back to gods and to their moral concerns or lack thereof.

This leads to a more restricted form of the axiom concerning religion and the moral order, limiting it to religions that present a god or gods who are concerned about the moral behavior of human beings and stipulating that in the absence of this conception of god(s), religious rites and rituals will have no independent effects on morality.

To test this more limited axiom requires both historical and cross-cultural data. As for history, I have written a long book on the matter, and the data fit (Stark 2007). None of the pagan polytheisms, including those in the pre-Columbian Western Hemisphere, sustained a moralistic religion. The pagan gods often required much; those of the Aztecs and Incas required huge numbers of human sacrifices each year, for instance. But none of them required that people do good. In contrast, the monotheisms—Judaism, Zoroastrianism, Christianity, and Islam—all present a God who condemns sin and enforces moral standards on individual behavior. The same is true of Hinduism, which comes much closer to being monotheistic than most Westerners realize. It sustains an array of gods, but most Hindus worship only one or two of them (Stark 2007). In any event, the central Hindu doctrine is that one's fate in one's future lives is a direct function of one's sins in one's prior lives (MacMullen 1981; Meeks 1983; Stark 2007).

The cross-cultural data are even more compelling (Stark 2004: Chapter 7). In each of twenty-six Christian nations, there is a strong negative correlation between the importance of God in one's life and toleration for three measures of immoral behavior. All three also were negatively correlated with church attendance, but in every case, the correlation was lower than the correlation with the importance of God. In fact, when entered into regression analysis, the God effects wiped out the church attendance effects. Strong God effects on morality also held in Muslim Turkey, where the effects of mosque attendance were far weaker and disappeared when the importance of God was controlled. The same held in Hindu India: Morality derives from faith in the gods and is not influenced by temple visits.

But in Japan and China, in the absence of gods who are concerned with human morality, there were no religious effects on the morality items.

These results require a far more nuanced version of the axiom: *Religions will function to sustain the moral order if (and only if) they conceive of conscious, morally concerned gods. Lacking such a conception of gods, religious rites and rituals will have little or no effect on morality.*

Perhaps, one day, this correction might find its way into the textbooks.

RELIGION AND DEPRIVATION

Every textbook on the sociology of religion attributes far greater religiousness to the poor and dispossessed than to the well-off and proposes that all, or nearly all, new religious movements arise from lower-class protest and discontent. For many sociologists, this view is derived from Marx's dismissal of religion as the "opium of the people" and Friedrich Engels's claim that "Christianity was originally a movement of oppressed people: it first appeared as the religion of slaves and emancipated slaves, of poor people deprived of all rights, of peoples subjugated or dispersed by Rome" (Engels 1964: 316). These views were further elaborated by the German sociologist Ernst Troeltsch, who claimed that *all* religious movements are the work of the "lower classes" (1931 [1912]: 331). Troeltsch was echoed by the American Protestant theologian-turned-sociologist H. Richard Niebuhr, who wrote in an extremely influential book that a new religious movement is always "the child of an outcast minority, taking its rise in the religious revolts of the poor" (Niebuhr 1929: 19).

Subsequently, the most popular explanation of why people are religious and why they initiate new religious movements came to be known as *deprivation theory* (Glock 1964). Indeed, this "theory" is often traced to Paul in the New Testament when he noted of his followers that "not many of you were wise according to worldly standards, not many were powerful, not many were of noble birth" (*I Corinthians* 26).

Note that Paul did not say "none of you were of noble birth." He said "not many" were of noble birth, which means that *some were*. Given what a very small fraction of people in the Roman Empire were of noble birth, it is quite remarkable that *any* of the small group of early Christians were of the nobility. Nor was the early church unusual in this respect. With the possible exception of some Anabaptist movements, the great Christian religious movements that occurred through the centuries were very obviously based on people of considerable wealth and power: on the nobility, the clergy, and the well-to-do urbanites (Costen 1997; Lambert 1992, 1998; Russell 1965; Stark 2003). For example, the Cathars enrolled a very high proportion of nobility (Costen 1997:70), and so did the early Waldensians (Lambert 1992). It is estimated that at the outbreak of the first French War of Religion in 1562, 50 percent of the French nobility had embraced Calvinism (Tracy 1999), but very few peasants or urban poor rallied to the Huguenots (Ladurie 1974). Indeed, of 482 medieval ascetic Roman Catholic saints, three fourths were from the nobility—22 percent of them from royalty (Stark 2004).

Many sociologists have cited the Methodists as a classic proletarian movement, seemingly ignorant of the fact that John Wesley and his colleagues did not depart from the Church of England and found Methodism because they were lower-class dissidents who wanted a faith that would compensate them for their poverty. They were young men of privilege who had begun to assert their preference for a higher-intensity faith while at Oxford. By the same token, the prophets of the Old Testament all belonged “to the landowning nobility” (Lang 1983), and, contrary to the beliefs of most sociologists, so did the Jewish sect known as the Essenes (Baumgarten 1997).

It must also be noted that Buddha was a prince and that fifty-five of his first sixty converts were from the nobility and the other five might have been nobles too; we simply don’t know their backgrounds (Lester 1993: 867). For another major example, when many years of effort had produced only two converts, Zoroaster built a successful movement after converting the king, queen, and then the court of a nearby kingdom (Stark 2007). The early Taoists as well as the Confucianists were recruited from among the Chinese elite (Stark 2007).

The bizarre error committed by the deprivation theorists seems to have been caused by too much ideology passing for theory, with far too little attention having been paid to comparative history or research. The applicable universal generalization should read: *Religious movements usually are formed by people of privilege, especially those who have inherited their status and then find that power and privilege do not satisfy their spiritual concerns.*

FEMINIZATION OF CHRISTIANITY

During the past decade, Christian leaders have become increasingly upset about what they call “the feminization of Christianity.” This came in response to the recognition that men are disproportionately missing from the pews, not just in some churches in some communities, but in all Christian churches in all communities. This is happening not because women outlive men, for even among young adults, women are substantially more likely to belong to and attend churches. The gender difference does not stop with participation. Men are less likely to believe. In fact, although atheists are few in all Christian nations, they overwhelmingly are male.

Two very compelling questions have become “Why did this happen?” and “What is to be done?”

As to why, it is widely agreed that the causes lies within Christianity itself, in a shift in style and emphasis that made faith more appealing to women and much less appealing to men. This position has seemingly been confirmed by solid statistical evidence that gay men exhibit the higher religiousness of women, while lesbian women sustain the lower levels of religiousness that are typical of men

(Sherkat 2002). A quite sophisticated literature suggests that the feminization of Christianity began in the twelfth century with the embrace of “bridal mysticism,” a movement among Catholic churchmen that emphasized femininity in the proper relationship to Christ. Stress on religious femininity has been traced from then on through the Reformation, the Puritans, and many modern theologians, including Karl Barth (Podles 1999).

As to what is to be done, various proposals have suggested how to make religion more masculine (Murrow 2005). One of them is that pastors be recruited from among men who have life experience and who are “real guys” and will not stress only the soft side of Christianity—not only “my brother’s keeper,” but also self-reliance; not only pacifism, but also fighting for what is right. These remedies might be effective, but the fact remains that the explanation of *Why Men Hate Going to Church*, as Murrow’s bestseller it is titled, is false! If Christianity appeals more to women than to men, it always has done so. Historians agree that women greatly outnumbered men among even the earliest converts to Christianity (Stark 1996). The great German scholar Adolf von Harnack (1908: 73) wrote that the ancient sources “simply swarm with tales of how women of all ranks were converted in Rome and in the provinces.” However, this was not peculiar to the early Christian church. Greek and Roman writers routinely “portrayed women as particularly liable to succumb to the charms of [new religions]” (Beard, North, and Price 1998: 297). The fact is that women were and are more religious than men in all known eras and religions and in all contemporary societies (Stark, 2004).

Since we are confronted with what appears to be a universal phenomenon, it requires a universal explanation, and Alan Miller and I attempted to formulate one (Miller and Stark 2002; Stark 2004). The specifics of that explanation need not be discussed here; what is important is that lack of a comparative perspective has caused many good scholars to waste their time assessing the feminization of Christianity, mistaking a universal phenomenon for something specific to the second millennium of Christianity.

COMPARABLE AND INCOMPARABLE CASES

Although the examples that I have considered thus far involve comparing results from a number of nations or eras, the basic unit of analysis is individual human beings. That is, it was possible to demonstrate that only religions that posit a conscious, judging God can sanctify the moral order by comparing results from Japan and China with those in other nations, but the data were based on individuals in each nation. In Japan and China, the individuals who were more religious were not less likely to approve of immoral actions, while in the other nations, religious individuals were significantly less likely to condone such

actions. Thus, although nations were compared as to results, the cases that produced the results were individuals.

Sometimes, however, comparative analysts use collectivities such as cities, states, nations, or societies as the units of analysis. For example, the percentage of people who are Muslims in societies has a correlation of .449 with the fertility rates of societies, based on eighty-three nations for which both rates are available. Individuals have babies, but only collectively does that produce a fertility rate, and only in collective units can there be a percentage of the population who are Muslims. As another example, there is a correlation of .556 between the percentage of the population who are Christian and the level of democracy, based on 145 nations, in contrast with an equally strong negative correlation ($-.522$), based on these same nations, when the percentage who are Muslim is substituted for the percentage who are Christian.

It might seem straightforward to base studies on nations—to use nations rather than individuals as the units of analysis. In fact, it is a very delicate and difficult undertaking. Unfortunately, far too many researchers seem unaware of the many pitfalls that beset cross-national studies using nations or societies as the units of analysis.

One of the problems involves the comparability, or perhaps I should say the potential incomparability, of cases. Consider that in the above examples, China and India, which have populations of over a billion, are being compared with nations such as Iceland with a population of 271,000. Or nations such as the United States and Russia, whose populations are extremely diverse in terms of race and culture, are being compared with nations such as Norway and Kuwait, where there is no significant diversity.

In addition, most of the data that are used to analyze nations are provided by their governments, and these data often are defined and measured in a variety of ways. Sometimes very inaccurate values are reported, intentionally or in error; for a long time, many starry-eyed American intellectuals claimed that child mortality rates were far lower in Cuba than in the United States because that is what the Castro government reported!

Difficulties in using nations as the units of analysis are especially acute when religion variables are of central interest. Too often, it is assumed that religion is religion—that church attendance, mosque attendance, temple attendance, synagogue attendance, and participation in tribal rites are equivalent. But we have seen that this is false. Not all religions support the moral order, nor do all religions appear to encourage democracy.

Perhaps the best way to reveal the complexities of using collective units of analysis is to examine a recent study that received a great deal of favorable praise in the international news media and that continues to enjoy considerable celebrity on the Internet, despite being a worthless concoction of nonsense.

In 2005, Gregory S. Paul, previously known only for his illustrations for books on dinosaurs, published an article in the equally obscure *Journal of Religion & Society*, assailing the claim that “belief in a creator is beneficial for societies” as unfounded and untested. After several pages of quite irrelevant attacks on American conservatives, various think-tanks and foundations, Republicans, the Pope, the media, and even Al Gore and John Kerry, Paul got around to what he believed to be a devastating empirical demonstration that religious societies are sick societies.

How did he accomplish this? He did it by comparing the United States with seventeen other “prosperous democracies”: Australia, Austria, Canada, Denmark, France, Germany, Great Britain, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, and Switzerland. Paul did not explain why he selected these seventeen nations. The data that he used, such as church attendance, life expectancy rates, and teenage fertility rates, are widely available for scores of additional nations.

Apparently unfamiliar with simple statistical techniques such as correlation and regression, Paul merely graphed his cases on two-variable scatter plots and interpreted them by eye. He found that the higher the level of a nation’s belief in God and the higher its level of church attendance, the higher were its (1) under age 5 mortality rate, (2) age 15–19 gonorrhea rate, (3) age 15–19 syphilis rate, (4) age 15–17 fertility rate, and (5) homicide rate (with the suggestion that the same was true for other crime rates) and the lower was its average life expectancy.

Paul fell into every major pitfall that endangers comparative analysts. The most obvious one is known as the *ecological fallacy*. This consists of inferring individual-level correlations from correlations based on ecological (or collective) units. For example, there is a very strong positive correlation between a nation’s per capita cigarette consumption and life expectancy (.591) based on data from seventy-four nations. A positive relationship also holds for alcohol consumption and life expectancy (.456). That might lead some people to conclude that smoking and drinking are good for one’s health. Wrong! *Within* each of these nations, people who smoke and drink have a shorter average life expectancy than those who don’t. The “ecological” or cross-national correlations exist because all three variables are highly related to economic development. Turning back to Paul’s alleged findings, even if it were true that nations that have higher rates of church attendance have higher rates of teenage fertility, it need not be the case that it is the church attenders who excel at getting pregnant. However, in his discussions, that is precisely what Paul implied: that it is the teenagers who believe in God and regularly attend church who are getting pregnant—perhaps because they have not been told where babies come from. But this explanation of the data is no more true than the notion that it is the churchgoers who commit most of the homicides or that atheists have low child mortality rates.

Paul's second grave mistake is known as *cherry-picking*. He chose his cases (nations) and selected these particular variables because they produced the desired results. Take homicide. The U.S. homicide rate is higher than the rates in these seventeen particular nations, not because of religion but because of firearms. Attempted murder rates are quite high in these nations, but because guns are seldom used, attempts at murder are far less often fatal than they are in the United States (*European Sourcebook of Crime and Criminal Justice Statistics* 2003). Even so, homicide rates are far higher in many nations of Eastern Europe, where guns are scarce and church attendance is very low, than in the United States.

But a prime example of cherry-picking is homicide itself. Why not include other crimes as well? Because they don't produce the desired findings! For example, the U.S. assault rate (295 per 100,000 population) is far lower than the rates in many European countries: England and Wales, 1,348; Scotland, 1,232; Sweden, 727; Belgium, 624; Finland, 555; Germany, 546; and so on. Similarly, the U.S. burglary rate is quite low in comparison with the rates in most of Europe: The Netherlands' rate is 4.4 times that of the United States, and even Norway's burglary rate is more than twice as high as the U.S. rate. Many European nations also have robbery rates that are as high as, and some cases much higher than, the American rate. Belgium's robbery rate is 1.74 times that of the United States, and the robbery rate in France is 1.46 times as high. Rape is more common in Iceland than in the United States, and the rates of rape in Belgium, Sweden, and Great Britain are about the same as the rate in the United States (*European Sourcebook* 2003).

It also is cherry-picking to select the teenage pregnancy rate, since pregnancy rates for *all* women in their childbearing years are far lower in Europe than in the United States. Rather than being the plus that Paul interprets it to be, fertility far below replacement level is regarded as one of Europe's most serious social problems; if it continues, it will result in the disappearance of most nationality groups, leading to a Europe without Italians, Swedes, Germans, and the like. It also is cherry-picking to select the under age 5 mortality rate. It is well known that the U.S. rate is higher than the rates of many other developed nations, not because of neglect or poor health care, but the reverse: because a substantially higher percentage of American babies are born alive. Only babies who are born alive enter into infant and childhood mortality rates, which means that the superior initial survival rate of American babies raises the American infant mortality rate because many of the babies who would have been born dead elsewhere are born alive in the United States but do not live very long after birth. In addition, childhood mortality also is highly correlated with race, and that takes us to another issue.

Diversity is one of the deepest pitfalls into which Paul fell, and I can only believe that he did so duplicitously. For reasons that need not concern us here, the

measures of social pathology examined by Paul are very highly correlated with race. If the American rates were limited to those involving whites, the differences that Paul attributes to American religiousness would vanish—and with them Paul's entire basis for his rambling diatribe on the evils of religion unless one were willing to make the silly argument that the social problems of African-Americans are caused by their participation in church. (Further critiques of aspects of Paul's work appear in Moreno-Riaño, Smith, and Mack 2006.)

Of course, the problem of spurious findings exists with individual data too. Research would show that Americans who say that they support the Democratic Party are much more likely than Republicans to have served time in prison, but that result would vanish if controls for race were applied (although a relationship probably would remain among African-Americans, which, in turn, probably would disappear under controls for education). However, spurious findings seem to be far more common in studies based on collective (ecological) data such as nations. This brings us back to the most difficult problem facing all such studies: the selection of cases.

Often, the cases that are used in cross-national research are determined entirely by the set of nations for which the variables of interest are available. That surely is not a random selection but involves a number of built-in biases, especially the overselection of economically developed and democratic nations. This occurs because these nations are far more apt to possess social statistics and to publish them honestly. Unfortunately, economic development and democracy are confounded with many other variables of interest, since overwhelmingly, these are the nations of Europe. This bias has a huge impact on all research on religious effects—a bias that usually is blithely ignored.

An important example involves studies of the so-called secularization thesis, which has long predicted the demise of religion in response to the spread of modernity. By now, leading sociologists of religion, including some who once were strong proponents of it, have discarded this thesis (Stark 1999). Nevertheless, some diehards continue to use cross-national results to push the case that modernization spells the end of faith (Norris and Inglehart 2004). It is true that if one bases the analysis on all nations for which data on church attendance and a good measure of modernization such as per capita gross domestic product (GDP) are available, a strong negative correlation emerges: $-.342$ ($N = 74$, significant beyond $.001$). But rather than confirming that modernization spells the decline of faith, all this really indicates is that church attendance is low in Europe, the nations of which dominate the ranks of countries that are high in per capita GDP. Europe's low levels of religious participation are well explained as a function of a lack of vigorous churches stemming from religious subsidies and state churches (Stark 1999, 2007). And lack of European participation in church dates from long before the onset of modernization (Stark

2003, 2007). Moreover, this correlation disappears if the analysis is made more culturally sensitive by calculating the correlations separately for major cultural blocs. Both church attendance and GDP vary substantially among the nations of Europe, but there is no significant correlation between weekly church attendance and GDP per capita within Europe: $r = -.088$ ($N = 36$). Nor is there any significant correlation based on the nations of the Western Hemisphere: $r = -.178$ ($N = 12$) or within the Muslim nations: $r = -.067$ ($N = 11$). Comparative analysis requires a deft, sophisticated, and open-minded analyst.

CONCLUSION

Despite the many pitfalls that are involved in quantitative comparative research based on collective units such as nations, it would be wrong to conclude that such studies are more difficult to conduct than are nonquantitative comparisons across events and eras. It is only that it usually is so much easier to demonstrate the problems in quantitative studies. Recall, for instance, that the correlation between cigarette consumption and life expectancy disappeared when controls for economic development were applied, thus settling the matter definitively. It is much harder to demonstrate unequivocally that someone has failed to grasp confounding factors when, for example, comparing the rise of Zoroastrianism and Judaism or the religious economy of ancient Rome with that of the modern United States.

Moreover, whether quantified or not, it is always easier to limit one's research to the current time and place, which is probably why there are so few comparative studies despite the obvious fact that comparative research is of such great value. Hence, the bottom line is this: Comparative research is both very demanding and absolutely necessary.

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Comparative Study of Implementation Language on Software Complexity Measures of Quick Sort Algorithm. January 2008 *Journal of Engineering and Applied Science*. Stephen Olatunde Olabiyisi. [Join ResearchGate to discover and stay up-to-date with the latest research from leading experts in Comparative Studies and many other scientific topics. Join for free.](#) or. Increasing complexity of projects is mentioned as one of the reasons for project failure“still. This paper presents a comparative research to investigate how project complexity was perceived by project practitioners in different industry sectors. Five sectors were included: process industry, construction industry, ICT, high-tech product development, and food processing industry. In total, more than 140 projects were included in the research, hence providing a broad view on Dutch project practice. From the complexity assessments, it is concluded that only one complexity element was present in t cept as a comparative judgment better represents the concept of word complexity than categorical judgment, thus improving inter-annotator agree-ment measures; and (3) whether using compara-tive judgments is a more time-efcient way of la-belling complex words. To investigate these, we performed a study using 30 annotators.Â Comparative labels are used relatively rarely in ML research at present, but our results suggest that this may be a more reliable basis for training such models in future, especially where the phenomenon to be modelled relies on human experience (Simpson et al., 2019).