

SOCIO-ECONOMIC STATUS IN NEW ZEALAND: AN UP-DATED EMPIRICAL INDEX AND ITS RELATIONSHIP TO OTHER N.Z. EMPIRICAL AND STATISTICAL INDICES

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From the 1966 New Zealand Census of Populations and Dwellings a total of 146 occupations was obtained including all occupations having 1000 or more members. Electors from the Mt. Eden Borough Council in Auckland were selected from a table of random numbers and forty-one respondents were obtained (19 subjects under 40 years and 22 over 40 years). The ratings of each occupation on a 6-point scale have been presented, along with ratings from four other scales. Pearson product moment correlations between the present Stewart, Gorringer scale and the two other empirical scales were: Congalton-Havighurst scale (.86); and Davis Scale (.84), and with the two scales based on public statistical data 1972 Elley-Irving Scale (.84) and 1976 Elley-Irving (.82). Used in combination with the empirical scales available, it would be possible to develop a workable complementary scale to the Elley-Irving Scale for those who prefer, for a variety of theoretical reasons, an empirical subject-ranked index. Others may wish to combine empirical and statistical occupational scales to obtain a more broadly-based composite index of occupation status in New Zealand.

There are two basic traditions for indices of occupational socio-economic status used in New Zealand. Firstly, an approach based on public statistical data and secondly, an approach based on empirical subject-ranking of the status of occupations. The statistical tradition is seen in the work of Redmond and Davies (1940) who derived a scale (updated Elley, 1969) based on reported level of training and skill required for each occupation. A socio-economic index based on levels of education and income data from the 1966 Census was produced by Elley and Irving (1972, 1974), and revised (Elley and Irving, 1976) using the International Standard Classification of Occupations. The earlier scale was critiqued by Brooks and Cuttance (1973) and Ballard (1972). The empirical tradition is seen in the work of Congalton and Havighurst (1954) who questioned the arbitrary basis of the Redmond and Davies index and who developed an empirically-derived occupational scale from status rankings made by a sample of university students. This scale has been used widely and Nuthall (1969) presented some evidence to suggest that the scale remained valid fifteen years after its construction. However, the index became increasingly difficult to use because of the limited number of occupations listed. Vellekoop (1968) for example, was forced to adapt the scale rather freely and noted the need for a more up-to-date index. Davis (1974) has adapted for New Zealand Congalton's (1969) 7-point

Australian occupational status ranking. This rates 1292 occupations, compared to 550 occupations in the Elley-Irving Scale (1976). (This represents some overlapping for both scales where occupations may be listed more than once under different names.) Smith (1974) has also made an empirical approach to the rating of occupational status in an urban setting while Robb (1976) has been doing preliminary work towards developing a questionnaire on socio-economic status in preparation for a proposed regional survey in the Wellington and Wairarapa area.

This paper reports an empirical index which essentially up-dates the Congalton-Havighurst scale. In combination with the other empirical scales available, it would be possible to develop a workable complementary scale to the Elley-Irving Scale for those who prefer, for a variety of theoretical reasons an empirical subject-ranked index. Ray (1971), for example, presents evidence to support the notion that subjective rankings which involve a more extensive set of social-psychological variables are better indicators of class status than objective measures of (purely) income and length of training for occupations. Havighurst (1976) in fact used a combination of empirical and statistical scales (i.e., the original Congalton-Havighurst 1954 Scale and the 1972 Elley-Irving Scale). A number of workers may wish similarly to combine an empirically-derived scale with the revised Elley-Irving Scale to obtain a more broadly-based composite rating.

The notion of occupational status of course only has meaning to the extent that it is perceived and reported by individuals.

It then may be argued that statistical ratings of occupational status (based on whatever particular combination of demographic data) will always need empirical scales to establish their concurrent validity.

METHOD

As with the Congalton-Havighurst index, the basic list of occupations were those reported in the most recent census as having more than 1000 members. From the 1966 New Zealand Census of Population and Dwellings, a total of 146 occupations was obtained which includes all occupations having 1000 or more members (plus the professions of dentist, architect and dairy-farmer to enable comparison with earlier scales). The subjects selected were asked to classify each occupation on a 1-6 scale in terms of the status (or social standing) which each occupation carries in the community. Subjects were asked to try not to think of exceptional individuals but of the average type of person in each occupation. They rated their choice with a tick or a cross in the appropriate column, 1 receiving highest rating and 6 lowest.

Using a table of random sampling numbers, 80 electors from the electoral roll of the Mt. Eden Borough Council (1971) were selected and visited. From these, 41 returns (18 males and 23 males) were obtained. The Mt. Eden Borough Council electoral roll has a particularly

wide spread of socio-economic status. The age range comprised the following: 12 to age 30, 7 from 31-40 years, 8 from 41-50 years, 7 from 51-60 years and 7 over 60 years. The age range (and the socio-economic range) was thus considerably wider than for the Congalton-Havighurst index which used 73 university students (47 males and 26 females). The ratings allotted by subjects to each occupation were totalled and the medians calculated for each rating. These calculations were verified by independent check.

RESULTS AND DISCUSSION

New Zealand Census of Population and Dwellings (1966) lists the occupation divisions, major groups and occupations of the labour force in New Zealand. Industry refers to the type of business or service in which the individual is engaged and "occupation" to the particular job he does within that industry. Eleven occupation divisions are distinguished. Insurance clerk, customs shipping clerk, tally clerk, stores clerk were, for the purposes of this study grouped under the general heading "clerk". Electric power linesman and telegraph linesman were similarly grouped, also farmworker and farm labourer. Draughtsman, architect and accountant were not differentiated. Dentist and dairy farmer were added.

Table 1 sets out in alphabetical order the 146 occupations having more than 1000 members from the 1966 Census. In brackets after each occupation in order the following scales are presented, (1) Stewart-Gorringer ratings from the present study (2) Congalton-Havighurst 1954 ratings reduced to a 1-6 range from the original 1-7 range in order to get comparability with the other two ratings (Congalton and Havighurst, 1954) (3) Elley-Irving 1972 Scale ratings (Elley and Irving, 1972) (4) Elley-Irving 1976 Scale ratings (Elley and Irving, 1976) and (5) Davis Scale ratings (Davis, 1974) (also reduced to a 1-6 range from the original 1-7 range). Where an occupation (such as "clerk") has been further differentiated in the original scale, an extrapolated rating is given here).

For greater practical convenience, the original ratings have been reduced to a whole number (i.e., retaining the whole number and omitting the two places of decimals). Not all the 116 occupations listed in the 1954 study appear in the 1966 Census, and differentiation between such occupations as carpenter (own business) and carpenter (wages) has not been possible. Similarly, positions such as automotive electrician, radio and T.V. serviceman and, somewhat surprisingly, shearer do not appear at all on the 1954 table.

Between 1961 and 1966, the total female labour force increased by 24.7 percent while the percentage of married women in the labour force had risen in 1966 to 19.9 percent—one married woman in every 5 was in employment. It seemed reasonable to include occupations largely staffed by women in the present survey.

Pearson Product-Moment Correlation Coefficients were calculated between the Stewart-Gorringe scale in the present study and the other scales presented in Table 1. These were .86 for the Congalton-Havighurst scale, .84 for the 1972 Elley-Irving Scale, .82 for the 1976 Elley-Irving Scale and .84 for the Davis Scale.

TABLE 1

Alphabetical listing of the 146 occupations having 1000 workers or more from the 1966 Census. In brackets after each occupation (in order), the following scales are presented: (1) Stewart-Gorringe ratings (2) Congalton-Havighurst ratings (reduced to 6-point scale) (3) Elley-Irving 1972 ratings (4) Elley-Irving 1976 ratings and (5) Davis Scale ratings (reduced to 6-point scale).

Accountant (1, 2, 1, 1, 2); Aircraft mechanic (ground engineer) (3, -, 4, 3, 4); Architect (1, -, 1, 1, 1); Armed forces personnel (2, -, 3, 3, -); Axeman (bushman) (4, -, -, 5, 5); Automotive electrician (3, -, -, 4, 4); Baker (3, -, 5, 4, 4); Bank clerk (2, 4, -, 3, 3); Bank teller (3, 4, -, 3, 4); Barber (hairdresser) (3, 5, 5, 5, 5); Barman (barmaid) (4, 6, 5, 5, 6); Boilermaker (4, -, 4, 4, 4); Bookbinder (3, -, 4, 4, 4); Bookkeeper (3, 4, 3, 3, 4); Bricklayer (3, 5, 4, 4, 5); Builder (2, -, 4, 4, 3); Bus or trolley bus driver (4, 5, 5, 4, 5); Butcher (3, 5, -, 4, 5); Cabinet maker (3, -, 4, 4, 4); Canning (fruit and vegetable) (4, -, 5, -, -); Cashier (3, -, -, 4, 4); Car dealer (motor vehicle) (3, -, 2, -, 4); Cardboard box (carton maker) (5, -, -, -, -); Caretaker (building) (4, 6, 6, 6, 6); Carpenter (3, 5, 4, 4, 4); Carrier (4, 5, 5, -, 5); Chemist (pharmacist) (1, -, 2, 2, 3); Clergyman (1, 2, 2, 2, 3); Clerk (3, 4, 3, 3, 4); Clerk (public service) (3, 4, -, 3, 4); Coal miner (quarryman) (4, 5, 6, 6, 5); Commercial traveller (3, 4, 3, 3, 4); Commercial buyer (3, -, -, 3, 3); Company manager (2, -, 2, 2, 2); Company secretary (2, -, 3, 2, 2); Composer (typesetter) (3, -, 4, 4, 5); Concrete (tile, post, block) maker (4, -, 5, 5, 5); Concrete mixer operator (4, -, -, -, 5); construction labourer (5, 5, -, 4, 6); Cook (3, 5, 5, 5, 5); Crane operator (derrick) (4, -, 5, 4, 5); Cutter (clothing) (4, -, -, -, 4); Dairy factory worker (4, 5, 5, 5, 5); Deck officer (engineer officer, ship) (2, -, 2, 2, 3); Deliveryman (roundsman) (4, -, 5, 6, -); Dental nurse (2, -, -, -, -); Dentist (1, 1, 1, 1, 2); Doctor (1, 1, 1, 1, 1); Doctor's Attendant, receptionist (2, -, -, -, -); Dairy farmer (-, 3, -, 3, 3); Domestic servant (5, 6, -, -, 6); Drainlayer (4, -, 4, 4, 5); Draper (softgoods dealer) (3, -, -, -, 4); Draughtsman (2, -, 3, 3, 3); Dressmaker (3, -, -, -, 4); Druggist (chemist, pharmacist) (1, -, 2, 2, 3); Electrician (electric wireman) (3, 5, 4, 4, 4); Electric power linesman (3, 5, -, 4, 5); Engineer (professional) (1, 2, 1, 1, 1); Factory labourer (5, 6, 6, 6, 5); Farmer (2, 3, 2, 3, 3); Farm labourer (5, 5, 6, 6, 6); Farm manager (overseer) (2, 3, 2, 4, 3); Farm or station cadet (4, -, -, -, 6); Fencer (4, -, -, 6, 5); Fisherman (4, -, 4, 4, 5); Fitter (3, 5, 4, 4, 5); Freezing worker (4, -, 5, 6, 5); Fruit (vegetable, tobacco) picker (4, -, -, -, 6); Ganger (5, -, 6, 6, 6); Garage and service station attendant (4, -, 4, 5, 5); Gardener (4, -, 6, 6, 5); Greenkeeper (groundkeeper) (4, -, -, 6, 5); Grocer (3, -, -, 4, 5); Hotel proprietor (2, -, -, 3, -); Hospital attendant (orderly) (4, -, -, 6, 5); Housemaid (ward maid) (5, -, -, -, 6); Housekeeper (3, 5, -, 6, 5); Insurance agent (3, 4, 2, 2, 3); Inspector transport (2, -, 4, -, 3); Joiner (3, -, 4, 4, 4); Laboratory technician (3, -, 3, 3, 3); Landgirl (4, -, -, 6, 6); Land and estate agent (real estate agent) (2, -, 4, 2, 3); Lathe turner and operator (3, -, -, 5, 5); Laundryman (laundress) (4, -, -, 5, 5); Lorry and van driver (4, 5, 5, 5, 6); Lawyer (barrister, solicitor) (1, 1, 1, 1, 1); Library assistant (2, -, -, 2, 3); Machinist (knitted goods, clothing, hosiery, etc.) (4, 5, -, -, 5); Mailman (postman) (4, -, 5, 5, 5); Manager (manufacturing concern) (4, -, -, 2, 3); Market garden hand (5, -, -, 6, 5); Market gardener

(3, -, -, 4, 4); Mechanical engineer (non professional) (3, -, -, 2, 3); Milk bar (dairy manager) (3, -, -, 4, -); Milker (4, -, -, 5); Milkman (3, 6, -, 3, 5); Minister (Clergyman) (1, 2, 2, 2, 3); Metal products assembler (4, -, -, 5, 5); Motor engineer (motor mechanic) (3, 5, -, 4, 4); Motor vehicle dealer (3, -, -, 4); Nurse (hospital, registered) (2, -, -, 4, 3); Nurse trainee (3, -, -, 3); Nurse aid (4, -, -, 5, -); Nurseryman (seed grower) (3, -, -, 4, 4); Office cleaner (charwoman) (5, 6, -, 6, 5); Office assistant (office boy) (4, -, -, -); Office machinist (3, -, 3, 4, 4); Orchardist (3, -, 2, 3, 3); Packer (labeller) (5, 5, 6, 6, 6); Panel beater (3, -, 4, 5, 5); Painter and decorator (3, 5, 5, 5, 5); Pastry cook (3, -, 5, 4, 4); Plasterer (4, 5, 4, 4, 5); Plumber (3, -, 4, 4, 4); Police constable (detective) (2, 4, 5, 3, 4); Postman (4, -, 5, 5, 5); Poultry farmer (3, -, -, 3, 5); Printer (3, 5, 4, 4, 4); Radio and T.V. serviceman (3, -, 4, 4, 4); Real estate agent (2, -, 4, 2, 3); Road transport driver (4, -, -, 5, 5); Road surfaceman (5, -, 6, 6, 4); Railway engine driver (3, 5, 4, 4, 5); Sawmill worker (4, -, 4, 6, 5); School teacher (2, 3, 1, 1, 3); Seaman (sailor, deckhand) (4, -, -, 4, 5); Service station attendant (4, 5, -, 5, 5); Shearer (4, -, 6, 5, 5); Sharemilker (3, 4, -, 3, 4); Shepherd (musterer) (4, 5, 6, 6, 5); Sheepfarmer (station owner) (2, 2, -, 3, 3); Sheetmetal worker (3, -, -, 5, 5); Shop assistant (4, 5, 4, 4, 5); Slaughterman (5, -, -, 5, 6); Storeman and packer (4, 5, -, 5, 5); Supervisor post and telegraph (2, -, -, 3, -); Stenographer (shorthand typist) (3, 4, -, 3, 4); Steam shovel (bulldozer driver) (4, -, -, 5, 4); Taxi driver (3, 5, 5, 4, 4); Teacher (school teacher) (2, 3, 1, 1, 3); Telephone operator toll operator (4, 5, 4, 4, 5); Toolmaker (3, -, 4, 3, 4); Tractor driver (4, -, 6, 6, -); Transport concern, manager (3, -, -, 4); Training college student (3, -, -, -, -); Truck driver (lorry and van driver) (4, 5, 5, 5, 6); University lecturer (1, 2, 1, 1, 2); Waiter (waitress) (4, 6, 5, 5, 5); Waterside worker (5, 6, 5, 4, 6); Welder or cutter (3, -, 4, 5, 4); Wood machinist (4, -, 5, 5, 5).

Conclusions

This paper presents an up-dated empirical index of socio-economic status for New Zealand, which could be used in combination with other empirical scales for those workers who for a variety of theoretical reasons prefer an empirical subject-ranked index. It represents essentially an up-dating of the Congalton-Havighurst scale, using a sample with a wider age and socio-economic distribution. Other workers (e.g., Havighurst, 1976) have preferred to use a combination of an empirically-derived occupational status scale with a statistical scale (such as the revised Elley-Irving Scale) to obtain a more broadly-based composite rating.

This study was designed by the senior author in conjunction with the junior author, and carried out by the latter as partial fulfillment of requirements for the Diploma in Education at Massey University, 1972. Reprints of this article, as well as copies of (1) occupation status ratings to two places of decimals ordered into six socio-economic levels and (2) ratings organized into occupational categories; may be obtained from Dr R. A. C. Stewart, Laurentian University, Sudbury, Ontario, P3F, 2C6, Canada.

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