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PRESTIGE AND STATUS AS
FUNCTION OF UNIT SIZE¹

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ABSTRACT

A continuous problem in the analysis of social mobility is the classification of occupational categories. Even if mobility analyses are aimed at deriving social "classes" or latent structural units from the mobility process itself these categories must be given in advance. This paper argues that the size of the categories considered determines the validity of measurements: "Mobility in prestige" is tapped if the size of categories is small and "mobility in status" if the size of categories is large. Exemplarily, occupational type of work categories (with specific and small categories) and occupational level categories (with comprehensive and large categories) are contrasted, but generalizations to other forms of classifications are discussed as well. The implications of the size-related taxonomies are analyzed and, in accordance with these implications, example scales for measuring prestige and status respectively are introduced. Employing two independent data sets, the validities of these scales in intergenerational mobility models are determined. Based on these empirical results it is suggested that mobility in prestige is associated with the attainment of socially closed positions (Weber) whereas mobility in status is directed towards positions that are socially open.

PRESTIGE AND STATUS AS FUNCTION OF UNIT SIZE

1. Introduction

Approaches to the analysis of social mobility - whether based on tables or scales - have in common the external nature of classifying the social positions between which mobility occurs. The classifications must be given in advance. This is true even if the analyses are aimed at deriving social "classes" (e.g. Breiger, 1981; Goodman, 1981; Marsden, 1985) or latent structural units (Clogg, 1981) from the mobility process itself: In order to develop schemes for combining categories these categories must be available beforehand. The possible influence of the mode of classifying occupations on mobility analyses has been reflected on frequently (e.g. Blau/Duncan, 1967), especially with regard to the problem of whether occupational unit groups or employment status should be considered (Goldthorpe/Hope, 1974). The affiliation of occupations with industry types has been given attention as well (e.g. Mayer, 1977). It is however noteworthy that these reflections prove irrelevant if confronted with specific methods of mobility analyses and the practical restrictions these methods pose.

Most obvious in this respect is that mobility tables are usually small. An order of 17 is rarely exceeded.² Larger matrices would, from a practical point of view, be impossible to cope with.³ In striking contrast to this limitation in unit number, the socio-economic achievement approach typically dwells on much larger numbers of categories for which scale values and linear relations with other continuous variables are sought.⁴ In

2. This number refers to the Bureau of Census' major occupational groups modified by Blau/Duncan (1967).

3. The same is true for the analysis of interaction or social distance matrices by multidimensional scaling algorithms; e.g. Laumann (1966), Blau/Duncan (1967), Mayer (1977), Featherman/Hauser (1978), Snipp (1985).

4. Classifications comprising several hundreds of categories are common, as for instance the *International Standard Classification of Occupations* (ISCO) on which Treiman's (1977) scale is based, or the *OPCS Classification of Occupations* and its extension by Goldthorpe and Hope (1974), or the detailed classification of the *Census of Population* Duncan's (1961) SEI utilizes.

this case classifications with few categories would be inappropriate because metric scales cannot be established if categories are coarse. Thus the choice of method determines the number of categories and consequently, the size of units with which the study of mobility concerns itself.

In what way does unit size matter? In addressing this question I shall argue that the size of occupational categories affects the validity of measurements. In particular, the assessment of occupational prestige and occupational status, respectively, is linked to the different size of the occupational groupings studied. Therefore, the size of units may not only determine the patterns of mobility the mobility analyses reveal, but their interpretations as well: "Mobility in prestige" is tapped in one case and "mobility in status" in the other.

Reflecting on this difference it will be argued that mobility in prestige is associated with the attainment of socially closed positions (Weber, [1922]) whereas mobility in status is directed toward positions that are socially open.

2. Nominal and order-implicit classifications

The case considered exemplarily here is the distinction between occupational "levels" and occupational "types of work". "Occupational level" is the literal translation of the German *Berufsstellung* and "type of work" that of *Berufstätigkeit*. The classification in terms of levels yields few and broad units, that in terms of types of work yields many and more specific units. There are 21 distinct occupational levels and 283 type of work categories, if for the latter the ISCO (1968) taxonomy is applied.

The taxonomy of occupational levels distinguishes self-employed,⁵ civil servants (*Beahte*), employed (*Angestellte*), laborers, and farmers. Each of these categories is broken down into two to five categories specifying either the number of employees (for self-employed and farmers) or the occupational sub-levels which are linked to specific educational requirements and career

5. A gradation which treats professional and non-professional self-employed as distinct categories is also used.

tracks, e.g. the "lower", the "intermediate", the "elevated", and the "higher" civil servant. In contrast, the occupational type classification attempts to classify occupations in terms of the similarity of what people in occupations do or produce regardless of the levels on which the occupations are actually carried out.⁶

In stratification and mobility research both ways of classifying occupations are used, however never conjunctively. Analyses are either based on occupational levels or on occupational types the choice being dependent on the level of "aggregation" preferred or the methodological restrictions of the analysis aspired to. The differential validities of the two classification modes and of the difference in unit size have therefore never been studied systematically. Indeed, assessing comparative validities would call for models in which occupational levels and types of work are covered simultaneously.

Two properties of the classifications need to be highlighted in order to contrast levels from types:

1. The classification in terms of occupational levels does not represent simply an aggregation scheme for occupational types. Rather, most of the 283 occupational types can be found on each layer of the occupational level classification (Mayer, 1979).
2. The taxonomy of levels is modelled in close agreement with the salary scale and the educational entrance structure of the public service domain. The existence and generality of such a firm structure is a German peculiarity and it may not be found, with comparable rigor, in the United States. This is why occupational levels (as *Berufsstellungen*) cannot be equated with "employment status" per se. Rather, the classification of levels is one of implicit order with regard to attributes which are characteristic to the different occupational levels. The hierarchy of standard income levels and educational requirements, in particular, form the implicit dimension on which the classification of

6. In ISCO, 1506 singular occupational titles are thus grouped into 283 unit groups which in turn may be classified into nine major groups.

occupational levels is based.⁷

It should be noted that other occupational classifications which exhibit only few categories, e.g. the US-Census classification of 17 occupational groups or Goldthorpe's (1980) sevenfold class schema, are implicitly ordered as well even when they are not intended to model the public service hierarchy (cf. Snipp, 1985: 479). In these cases there are usually only two or three categories the ranks of which are controversial, for instance the rank of farmers or that of "lower nonmanual" compared to "upper manual" occupations (Featherman/Hauser, 1978: 25-38). Neglecting these infrequent ambiguities, it is obvious that occupational classifications with relatively few categories are ordered simply through the categorization process itself.

Therefore, besides in terms of number and size, the difference between occupational types and occupational levels must be conceived foremost as the difference between a nominal taxonomy and one that is implicitly ordered. Aggregation and disaggregation will not distinguish the two. Rather, it seems that we cannot speak of occupational levels without reference to a predetermined hierarchy whereas the multitude of occupational types of work is order-free and is therefore in need of an "external" ordering, if it is order we seek.

3. Order and size in social cognition

We are interested in order - metric order, if possible - when the concepts of prestige and status are to be applied. The implication of order when classifying occupational levels and the lack of such an implication when occupational types are classified are important observations for distinguishing prestige from status. Before elaborating on how these concepts can be defined with regard to the two types of classifications I wish to draw attention to a generalization.

7. Striktly, the implicit order of occupational levels is not complete but a "partial order" only (in the sense of Krantz et al., 1971: 14). It may well mirror more than one public service hierarchy (Mayer, 1979). The partiality of order, however, does not affect the argument of the order implication of occupational levels as a general feature.

The characteristic relationship between unit size and hierarchy is not linked to the classifications of occupational levels and types exclusively; it is not linked to occupational taxonomies at all and certainly not to its German variety. Rather, when classifying social phenomena in general it seems that whenever such a classification utilizes only few and comprehensive categories a natural order of the categories is instantaneously supplied. Dividing society into a duality of classes, for example, is not conceivable other than by forming the idea of an "upper" versus a "lower" class, a "dominating" versus a "dominated", etc. (cf. Ossowski, 1963). Trichotomies, four, five, and, for example, Warner's et al. (1949) often applied stratification ladder exhibit the same hierarchical property. I.e. social distinctions, if few in number, are always value-laden and hierarchical. On the other hand, to the extent that distinctions are diverse and the magnitude of the category numbers is large, the classifications are nominal descriptions only. Organizations, firms, families, individuals - and occupational types - are instances of this type of taxonomy.

The relationship between unit size and order is amply evidenced in cognitive and social psychological research.^B Of special relevance to sociologists in this respect is Durkheim's theory of concept formation and social differentiation. In 1901 Durkheim, in collaboration with Marcel Mauss, published an essay entitled (in its English translation) *Primitive Classification*. Guided by anthropological evidence, Durkheim and Mauss argue that tribal concept formation is stimulated and shaped first of all through the partitions of clans, moieties and totems - through social reality, that is. Because of this origin, primitive classifications are instantaneously evaluative and affectual. They always imply order (cf. Hertz, [1909]). At that stage, however, the classifications are simple because the social worlds they mirror are simple. To the extent that societies progressively become differentiated, classifications become differentiated, and in this process the classifications are gradually deprived of their affectual social attachment and the evaluative order (Durkheim/Mauss, [1901]: 88; see also the summarizing chapter of Durkheim, [1912]). Thus, Durkheim's reasoning suggests that

B. This relationship can easily be traced, for example, in the work of the DeSoto school (e.g. DeSoto, 1961; DeSoto/Albrecht, 1968; DeSoto/Bosley, 1962; DeSoto/London/Handel, 1965). Cf. also, on different accounts, Miller (1956).

partitioning society into few and comprehensive categories is order-implicit whereas partitioning society in many and more specific units is not.

4. A methodological definition of prestige and status

The distinction between order-free and order-implicit social classifications lends itself to a methodological definition of prestige and status. This definition is based on the concept of validity in measurement theory. In particular, it rests on the difference of measurement as descriptive versus normative. Both types of measurements follow a different path to validation.

Normative measurement is a two-stage operation. As a first stage, it starts out with an operationalization appropriately chosen by the researcher. Only after the scale values are available the validity of the scale can be tested, usually in conjunction with a substantive model. This is the second stage. Thereby, the origin of the scale is without relevance for the confirmation of validity or its failure. The scale and the rationale by which it is derived are normatively set and decided upon by the researcher. The test of the model *a posteriori* can prove him/her right or wrong.

This is different in descriptive measurement. Descriptive measurement proceeds according to nomological rules which govern the process of measurement itself. It exhibits validity to the extent that the rules, i.e. the theory of assigning numbers to objects, are followed. If these rules are violated the measurement has been attempted unsuccessfully. It is valid, however, if there are (in a statistical sense) no violations - given that the theory for assigning numbers to objects is well established (cf. Krantz, 1974; see e.g. Krantz et al., 1971, for basic measurement structures). Thus, each descriptive measurement is a potentially corroborating instance with regard to a specified theory of measurement whereas normative measurement must seek validation in contexts which are external to the logic according to which the scale in question is fabricated.

In the social sciences, and in stratification research in particular, normative measurement is abundant. Every index construction or the choice of treating metric attributes - like money, length of schooling or occupational experience - as varia-

bles are examples. The quantification of behavior by establishing distance measures for interaction patterns proceeds normatively as well.⁹ In both types of measurements - index and interaction scaling - a nomological theory for associating scale values with empirical objects is lacking.

Descriptive measurement is harder to come by. Though it is well known in physics (e.g. Sneed, 1971), in the social sciences its existence is restricted to the measurement of subjective phenomena. The obvious explanation for this is that measuring sensations and attitudes involves a mediating agent, the judging individual, in regard to which theories of how numbers are assigned to objects are feasible. In as much as validated theories of psychophysical or social judgments are available measurements of subjective phenomena qualify as descriptive measurements. In view of stratification research, therefore, the reputational measurement approach may lead to descriptive results if the respective scales are indeed assessed in accordance with an established social judgment theory.

At this point the methodological definition of prestige and status and its relation to classifying occupations can be introduced. Two interrelated arguments are proposed:

1. Since social prestige is first of all a subjective entity its measurement should attempt to be descriptive. A measurement of prestige is valid only if it represents the veridical mapping of subjective facts. Representing these facts calls for a theory describing the judgment process by means of which respondents assign numbers to objects in scaling. Any attempt to specify the scale normatively by substituting other metric attributes for prestige - achievement, income, level of education, "goodness", "exchange value", or relative interaction distances¹⁰ - will result in measuring these attributes, not prestige.

9. In this case the type of interaction that is to be relevant must be specified. If intermarriage frequencies are deemed important, for instance, the relative hierarchies that result are valid in relation to this selective type of association only.

10. On different theoretical grounds, these suggestions are made for example by: Davis/Moore (1945), Duncan (1961), Goldthorpe/-Hope (1974), Goode (1978), and Mayer (1977) respectively.

2. Recall that the classification of occupations in terms of levels is implicitly ordered whereas the classification in terms of types is not. Projecting the distinction of normative and descriptive measurement on these two classifications, it is obvious 1. that descriptive measurement is impossible if the categories to be scaled are already implicitly ordered. Such an implicit order is the expression of some external attribute which is normatively introduced through the classification scheme itself. Social positions, thus ordered, are prevented from being descriptively judged for their prestige because they already display normative order. In fact, the judgment task might even be rendered impossible and senseless, so if respondents were to decide which class exhibits higher prestige: the "upper" or the "lower" class? Conversely, it is obvious 2. that only a categorization into a great number of categories which are, because of their number, unordered can be made subject to the task of measuring prestige. Since such a multitude of categories is lacking an order *a priori* order may be supplied by judgments representing descriptive measurements.

Based on this methodological definition the debate about prestige or socio-economic status as conflicting predictors or dependent variables (e.g. Featherman/Hauser, 1976) must be viewed from a novel perspective. If size matters it is inappropriate to establish prestige and status scales on identical classifications. It is equally inexpedient to test for the different validities of two such scales by specifying both as indicators of identical latent constructs. With regard to occupations, prestige refers to the hierarchy of occupational types of work and status dimensions refer to that of occupational levels.

5. Empirical propositions

What empirical consequences can be expected if prestige scales (for occupational types of work) and status scales (for occupational levels) are introduced? Six such consequences are evident:

1. If unit size does in fact matter occupational types and levels should be separable as two distinct characterizations. In terms of multivariate analyses, types and

levels should form different latent constructs.

2. Scales of socio-economic attributes should qualify as indicator scales for occupational levels whereas types should be quantifiable by (descriptive) social judgment scales.
3. Due to their different validities, it can be expected that the relationship between the two constructs of levels and types is governed by a coefficient that is noticeably smaller than 1. Because it is not possible to reach a certain occupational level without being engaged in a particular type of work first, occupational types should influence occupational levels and not vice versa.
4. In attainment models respondents' occupational levels are likely to be better predictable from fathers' occupational levels than from fathers' occupational types of work; accordingly, fathers' occupational types of work will have stronger effects on respondents' types of work than on respondents' occupational levels. (To the extent that both predictions are valid "intergenerational correspondence" of levels and types is given.)
5. Along these lines it can be expected that the level of education is a stronger predictor for the occupational type of work than for the occupational level. This hypothesis is based on the assumption that value preferences for particular types of work are to a large part mediated by the quality and length of schooling.
6. The time a person has spent as a labor force participant, on the other hand, will effect the position in the hierarchy of occupational levels but not, to the same extent, the position in the hierarchy of occupational types of work.

We look at example scales with which these propositions can be tested, next.

6. Appropriate examples of scales

Scales measuring socio-economic status are either index scales or interaction scales. Both must be established in reference to occupational levels. Suitable choices are the factor analytic

socio-economic index for occupational levels SES (Handl, 1977) and the "Social Status Scale" (SSS) by Mayer (1977) which is derived from similarity scalings of intermarriage matrices.

Scales measuring occupational prestige should be measures of occupational types of work. For the German case, only Treiman's (1977) "Standard International Prestige Scale" (IPS) satisfies this condition since it is based on the 283 categories of the *International Standard Classification of Occupations* (ISCO). With reliance on cross-national, functional convergence (Kerr et al., 1960) it is Treiman's claim that the scale applies to the order of prestige everywhere. Whatever the validity of this claim, there can be no doubt that the construction mode of Treiman's scale in no way satisfies the methodological definition of prestige which calls for descriptive measurement: Treiman's prestige scale is based on 85 studies from 60 different countries which employ very different assessment and aggregation strategies.

For that reason a new scale was constructed, the "Magnitude Prestige Scale" (MPS) (Wegener, 1985). The Appendix to this paper gives a description of the scale construction. In contrast to all other reputational prestige scales proposed since North and Hatt's (1947) NORC scale, which employ crude ranking or rating methods, MPS is based on replicative individual magnitude estimation judgments. This procedure of measurement is derived from the theory of psychophysics (Stevens, 1975; Wegener, 1982a). It is a potentially descriptive measurement because of this backing (see Appendix for details).

For validation purposes, in the course of the construction of MPS still another scale - modelled after Sørensen's (1977, 1979) "Status Attainment Scale" (SAS) - was designed (see Appendix). SAS which is not based on individual judgments but on structural assumptions is highly correlated with the magnitude estimation measurements (.94). Due to the difference in origin, a relationship of mutual criterion validity between both types of measurements is established.

Thus, for testing the empirical propositions, the measurement of status of occupational levels offers two different example scales, SES and SSS; the measurement of prestige of occupational types of work offers three: IPS, MPS, and SAS.

7. Data

Main data are from the cumulative data file of cross-sectional surveys representative for FRG and West Berlin (ZUMA, 1984). The surveys included have identical formats of demographic and background variables (Pappi, 1979). Analyses are based on the 1982 version consisting of nine studies with roughly 19,000 cases surveyed from 1978 to 1981. In addition, a second data set of identical structure, the 1982 German General Social Survey (ALLBUS) of 3,000 respondents which was not included in the cumulative file is analyzed for replication purposes. In either case a subsample including male labor force participants only is analyzed.

8. Exploratory and confirmatory analyses

Table 1 lists the (main file) intercorrelations of the two level-based scales (SES, SSS) and the three type-based scales (IPS, SAS, MPS). As is readily seen, the correlations between scales of identical classifications are higher than those between different classifications. This associational structure suggests that occupational levels and types, when quantified, represent two different characteristics.

That this is indeed so can be seen from Table 2 which gives the (PROMAX rotated) factor matrix resulting from a maximum likelihood factor analysis (EFAP). Clearly levels and types of work are two distinct constructs (F1 and F4).

The factor matrix¹¹ is of additional interest since it includes four additional variables: length of schooling in years (EDUC), subjective class identification (CLASS), after-taxation income in German Marks (INCOME), and duration of labor force experience in years (LF.EXP). Noticeable is that with these variables included education appears as the principal component of a separate factor (F2) exhibiting strong associations with the

11. The EFAP solution fits the data with a χ^2 -value of 148.14 for 6 degrees of freedom. Tucker's coefficient of "reliability" is .976.

measurements of occupational types. Conversely, subjective class identification seems to be linked more closely to occupational levels. In addition, it is interesting to note from the factor intercorrelations that F2 is more closely associated with the level construct than with the construct of types. I.e., excluding education (which has a substantive loading on F1), subjective class, income and labor force experience are attributes of occupational levels rather than of types.

These exploratory results stand in complete agreement with our empirical expectations. Based on these results confirmatory status attainment models which allow for more precise specifications were designed. The procedure applied is hierarchical: Beginning with a relatively simple base line model gradually more complex models are fit to the data by adding new variables.

The base line model of Figure 1 attempts to map the structure of intergenerational mobility on conventional terms except that the occupations are entered in form of levels as well as in form of types. Since we dispose of several different ways of measuring levels and types the model may be tested for all combinations of measures separately. Coefficients in Figure 1 pertain to SSS measures of occupational levels and MPS measures of occupational types (of fathers and sons in both cases).¹²

On the endogenous side of the model the estimates accord with our expectation that education is more important for reaching a certain occupational type of work than for reaching an occupational level (compare the coefficients of .57 and .25 of the unscaled solution [Jöreskog/Sörbom, 1983]). Noteworthy is that the effect of a specific occupational type of work on the level on which this type of work is pursued is moderate (.50), considered that both concepts are measured to map hierarchies of "occupations".

Also, the magnitudes of effects of the exogenous variables on

 12. This combination proved to be superior compared to all other possible combinations. Not only the five scales SES, SSS, IPS, SAS and MPS were considered but also "aggregation" scales for occupational levels computed as means of those occupational types actually found on the different levels. With regard to the proposed models these scales, however, were clearly suboptimal in terms of reliability and explanation confirming that the distinction between levels and types is not the result of mere aggregation.

the endogenous agree with our hypotheses: Obviously the impact of fathers' occupational levels on that of the sons' (.22) is stronger than the impact of fathers' occupational types of work on the sons' levels; the latter effect is statistically insignificant (and is eliminated from Figure 1). Accordingly, fathers' types of work predict the types of work of sons better than these are predicted by fathers' occupational levels (.17 and .09).

The process of successively entering additional variables to the model of Figure 1 leads to the result of Figure 2. The unscaled ML-solution is presented. The goodness of fit index¹³ of .982 and the root mean square residual of .016 are very satisfactory, especially when compared to the fit of conventional models which consider either occupational types or occupational levels.

The advantage of the model is that in addition to the structural model (Figure 1) also the measurement model can be tested.¹⁴ If occupational levels and occupational types are represented as latent factors, the former can be measured by socio-economic status scales¹⁵ whereas for the latter scales of "prestige" are appropriate. Only SAS does not conform to this rule as it exhibits loadings on both constructs. This, however, is not surprising since SAS is based on the rank order of a socio-economic status index (see Appendix).

Within the context of the present model SSS yields the most va-

13. LISREL's version VI was used. $\chi^2 = 486.1$, $df = 37$, with N of 4500 specified. Without the two correlations of error terms the model's goodness of fit index is .970 and $RMSR = .028$ ($\chi^2 = 838.4$ with 39 degrees of freedom). A comparison of the two models (Bentler/Bonett, 1980) renders the improvement in fit for the model of Figure 2 insignificant. Since the two included error correlations, however, are substantively interesting the less parsimonious model is presented here.

14. Not represented in Figure 2 are the coefficients for the effect of fathers' types of work on sons' levels and that of sons' types of work on subjective class identification; both are statistically insignificant though both were estimated.

15. Note that subjective class identification was measured on a four level category scale, therefore even though CLASS is a judgmental variable (and not a socio-economic status scale) it "behaves" like a status scale because of the coarseness of the categories used.

lid and error-free measurement of occupational levels. MPS, conversely, is superior with regard to occupational types.

The role of labor force experience seems to be in accord with our empirical expectations. Though LF.EXP has equally sized effects on levels as well as on types there is a strong dependency of the level of income from the time a person spent in the labor force. To a lesser extent this is also true with regard to Handl's measurement of status. These are very plausible results. They demonstrate that occupational rewards increase with labor force experience but that mobility in terms of actually gaining higher occupational levels is not simply a function of occupational experience.¹⁶

9. A replication

Are these results stable when tested on different data sets? In order to answer this question the model of Figure 2 was fit to the replication data set, the German 1982 ALLBUS. Both sets of respective estimates were compared.

For the replication survey the goodness of fit index of the model is .977, RMSR = .018.¹⁷ While this quality of fit is not dramatically different from that of the main study, only a statistical comparison of the structures and coefficients will be able to detect to what extent and with regard to which subdomains of the models both coincide. Applying LISREL's group comparison option Table 3 was derived. Seven successively more restrictive comparison alternatives were tested.¹⁸

16. As is well known, labor force experience is, like age, not linearly related to status indicators in its upper segments (Mincer, 1974; Sørensen, 1975). Therefore the coefficients may well be underestimated, but their relative sizes should remain unaffected.

17. With 37 degrees of freedom the χ^2 -value is 92.7. Note that the sample size (N = 780) is smaller than that of the main data set. Neglecting the two correlations of error terms yields a goodness of fit index of .949 and RMSR = .044; in that case χ^2 is 266.4 with 39 degrees of freedom.

18. The comparison is based on the models without considering the two correlations of error terms (i.e. df = 39 for each model) since the size of these correlations is known to vary across samples.

- Q0 assumes that both groups are identical with regard to the model structure only allowing for different coefficient sizes. This is the least restrictive model.
- Q1 fixes the size of factor loadings within that structure.
- Q2 specifies, in addition, that the relations between the latent (endogenous) factors are identical.
- Q3 assumes identity of the endogenous/exogenous relations as well (i.e. the identity of the intergenerational relations).
- Q4 also fixes the correlations between the exogenous variables.
- Q5 additionally proposes identical errors of the latent factors, and finally
- Q6 assumes complete identity (i.e. the errors of measurement of endogenous indicators are fixed as well).

As can be seen from the first column in Table 3, the loss in fit the replication model suffers when successively being made subject to these restrictions is small. The difference of the goodness of fit indices from Q0 to Q6 of .061 gives evidence that both groups exhibit not only close identity of the model structure but of coefficients as well. Note however that the largest differences of fit appear when progressing from Q3 to Q4 and from Q5 to Q6. These differences indicate that the two samples are most different with respect to 1. the correlations of the characteristics of fathers and 2. the errors of measurement of the endogenous variables. Consequently, the coefficients of the structural model are most similar in both sets of data, i.e. the relationships between occupational levels, occupational types of work, education and origin variables are especially stable when tested on different data sets.

10. Conclusion

The six empirical propositions that were introduced in Section 5 are almost completely supported by the data. Only the effect of labor force experience is somewhat of an exception since it could not be shown that the duration of occupational experience facilitates a gain in occupational levels more strongly than a gain in occupational types of work (Proposition 6). However, the status attributes of occupational levels, primarily income, are significantly dependent on labor force experience.

The other five empirical expectations are corroborated without restrictions. Occupational levels and types are indeed two different constructs for characterizing occupations (Proposition 1) given that levels are measured by socio-economic indices and types by scales of prestige (Proposition 2). With regard to the latter it was argued that the magnitude estimation measurements of MPS are not only constructively valid but that they are descriptive measurements in terms of the methodological definition of prestige. Modelling the attainment of occupational positions, the intergenerational correspondence thesis of occupational types and levels was confirmed. It was shown that fathers' levels predict sons' levels better than sons' types of work, and that fathers' types of work predict sons' types of work better than sons' levels (Proposition 4). Finally, strong support could be given for the differential effects of education in that the type of work, compared to its level, is more forcefully determined by the education a person has gained (Proposition 5).

The conclusions to be drawn from these results are further reaching than the methodological advocacy of separating occupational levels from types in empirical research. Because of the classifications they are based on, levels and types represent fundamentally different social conceptions. The different modes of measurements for both are consequences of this conceptual difference.

Quantifying social positions in terms of observable status attributes, like wealth or licensed competence, presupposes that the different levels of these attributes do in fact establish a social order, an order, in particular, that is transparent to all and on which higher levels can be gained by simply accumulating more of the commodities in question. Conceiving society in terms of market, achievement, or human capital relations is thus structured (e.g. Davis/Moore, 1945; Becker, 1964). The social positions that an individual may come to occupy in such a system are freely available solely on the condition that the individual is equipped with a superior quantity of appropriate attributes. In this sense positions have been termed socially open (Weber, [1922]); their access is regulated by the attributes individuals may or may not possess. It is not surprising then that the classification of occupations in terms of levels (*Berufsstellungen*) is in full accord with this definition since occupational levels are (normatively) ordered with respect to individuals' status attributes like rewards and entry requirements.

On the other hand, quantifying social positions on a dimension of prestige by means of subjective evaluations presupposes a system of social positions that is potentially closed. This is so because in this case the positions are not accessible due to graded individual attributes but due to differential membership status. By not being a member of the appropriate (prestige) group or "circle" individuals may be excluded not only from gaining certain social positions but from acquiring specific material or cultural goods as well - strengthening the closure of the group the more so. Thereby the mechanisms of social closure need not establish an order of the mutually excluding groups in terms of a transitive hierarchy. As Weber ([1922]: 531-540) has pointed out, exclusionary actions of groups are not order directed, they may be aimed at any other group whether this group occupies an inferior position on some arbitrary status dimension or not. I.e. closure relations establish social partitions that are order-free since they do not constitute a ranking on dimensions of individual attributes. To the extent that society relies on the order of these partitions they must be ordered without reference to any such attributes. Descriptive prestige judgments can fill this need, however only if the classification of the social positions is such that the size of units is small - as is the case with occupational types of work.

A convincing empirical finding that can serve as verification for this point of view is the high correlation between the magnitude prestige scale MPS and Sørensen's SAS scale. SAS is the attempt to establish an order of occupational types of work by assuming closure relations in the attainment process. Even though these assumptions are concerned with a specific form of closure, with closure in gaining occupational positions in an ideal-typical system of hierarchically ordered layers,¹⁹ it is impressive that the two scales which are based on completely different rationales and operationalizations yield nearly identical results. This is a mutual validation of the fact that both mirror an important and general dimension of social closure.

At the same time one should be aware of a conceptual mismatch between "class" and those "social units" that are established by mechanisms of social closure. Following Weber, the latter are

19. In addition, the rates of vacancies must be assumed to be equal over all occupational type categories and a prior rank order of these types must be given (Sørensen, 1977, 1979).

build on different lifestyles and cultural attributes the lack or possession of which lead to differential "social honor" or prestige (Weber [1922]: 534-539). In contrast, social classes are defined by Weber in relation to material properties and the kind of services that can be offered to the market (Weber [1922]: 531-534). Due to exclusionary practices, differences in social honor may indeed yield unequal distributions of properties and acquisition rights for services and these differences are therefore relevant to the constitution of class boundaries. But class membership as such is attributed in terms of economic criteria exclusively, not by mechanisms of social closure typical for groups of equal social honor.

In as much as stratification and mobility research is limited to the scope of economic categories only definitions of social positions between which mobility may occur are, in Weber's terms, conceptually bound to class. Occupational classifications by different socio-economic attributes (e.g. income, educational requirements) are the case in point. Essentially, the relations between the so classified social positions are market relations (cf. Horan, 1978). Their "openness" may be infringed to the extent that class divisions constitute barriers to the distribution of rewards and attainment. In fact, mobility research since Sorokin ([1927]) is the attempt to pinpoint these barriers to societies "flexibility" (explicitly e.g. Goldthorpe, 1984). But these disruptive divisions are nevertheless conceivable only if superimposed upon the existence of the functioning market of achievement qualities and rewards.

That realm of social mobility, however, which is not linked to the market must be conceptualized as being restricted by the closure of equal prestige groups or structural unit positions. Clearly, the difficulties to distinguish between both realms are rooted in the fact that relations of open and closed attainment are empirically intermixed. There is however also a linguistic problem. The specific historic phenomena with regard to which Weber introduced the idea of social closure were *Stände*. This expression is usually translated as "status groups" (e.g. Parsons, 1947). The translation as "honor" or "prestige" groups, however, is more appropriate. That which distinguishes one social *Stand* from another is not the difference in (socio-economic) status but the difference in prestige. The former constitutes an order *a priori* due to the differential magnitudes of the status attributes considered. This order then is carried over to the classification of social classes or e.g. occupational

levels. In contrast, prestige groups - which may, if not *Stände*, be occupational type of work groups - specify membership status without hierarchical implications. These groups are defined by closure relations which may or may not be formative for creating an order of the mutually closed groups *post factum* on dimensions other than that of socio-economic status (cf. Parkin, 1979).

Due to this difference in origin an "order of closure" must be distinguished from the order of social status. As has been shown in this paper, the size of units in classification is the methodological requisite for assessing both empirically.

APPENDIX: CONSTRUCTING MPS

In three cross-sectional surveys (ZUMA-Bus 1979, 1980 A and B) representative for the West German population of 16 years and above, 4015 respondents were asked to give judgments of the "social standing" of 50 occupational type of work categories. Besides categorical 9-point scales bi-modal magnitude estimations with numbers and lines were used. The advantages of magnitude scaling over category measurement has been demonstrated frequently. In particular magnitude scales yield highly differentiated measurements, they are not restricted by the number of categories, and - most important of all - they are based on a well established theory of judgment in sensory and social psychophysics.²⁰ It is this latter property that allows for tests of

20. The core of the psychophysical magnitude theory is the power relation between a physical continuum of stimuli S_i and subjective magnitude reactions R_i if these stimuli are presented to a judging individual, i.e. $R_i = k S_i^n$ for i stimuli. Magnitude judgments are implicit ratio judgments. They are not tied to prior given categories as in conventional category or rating scaling tasks. In addition, magnitude judgments can be performed with different reaction modalities - numbers, lengths of lines, loudness' of tones, brightness' of lights, etc. In whatever modality, magnitude judgments require that the subjective intensity of a reaction is n -times larger (smaller) than a reference reaction. The choice of modality, however, determines the size of the exponent n . As has been established by a long research tradition (Stevens, 1975), n is a stable value that is different for most modalities.

Suppose that a stimulus continuum C_i is judged with magnitude reactions in two different modalities A_i and B_i and that the respective exponent sizes m and n are known, i.e. $R_i(A) = a A_i^m$ and $R_i(B) = b B_i^n$. If C_i is judged with both A_i and B_i , $R_i(A) = R_i(B)$ and hence $A_i = (b/a)^{1/m} B_i^{n/m}$. This replicative measurement procedure (indirect cross-modality matching) does not require C_i to be of a known metric nature. This means that not only physical but attitudinal objects as well may serve as stimuli (e.g. prestige). Regardless of the stimulus continuum C_i it is possible to test whether 1. the relation between the two reaction modalities can be fit as a power function and 2. whether the exponent (n/m) has the value expected from the psychophysical findings with regard to the exponents of the two involved modalities.

Given that these two criteria for the descriptive validity of the (bi-modal) magnitude measurements are fulfilled a third test involves the interscale relation between magnitude and category scales. This relation can be shown to have the form $CAT_i + u = v MAG_i$ if CAT_i represents a category and MAG_i a magnitude scale of identical stimuli (Wegener/Kirschner, 1981).

the decriptive validity of individual magnitude measurements (e.g. Stevens, 1975; Wegener, 1982a, 1983; Orth/Wegener, 1983).

The selection of the occupational titles to be judged was based on the complete dictionaries of occupational types and levels derived from the German 1971 Supplementary Census and the 1976 ZUMA-Bus. Basically, two selection criteria were employed: 1. Titles were chosen in accordance with the distribution of the categories of occupational levels; 2. on each level occupational types of work were selected proportionally to their frequency of appearance. This procedure was chosen in order to derive a list of titles that was not subject to the over-representation of higher status occupations typical for most prestige studies (cf. Coxon/Jones, 1974).

The individual judgment scales were tested for their (descriptive) validities in terms of the psychophysical theory. Especially, the power relation fit between numbers and lines, the size of exponent, and the interscale relation of individual magnitude and category prestige judgments were determined (cf. Wegener, 1982b; Wegener/Kirschner, 1981). Excluding those judgments which did not accord to the theory (less than 9%), aggregate magnitude scale values for the 50 occupational types were calculated.

Next, it was sought to extent the scale of 50 to cover all of the 283 ISCO categories. The scale that was expected to function as a criterion scale for this purpose is SAS. If SAS does indeed mirror an hierarchy of a socially closed positional system it should be associated closely with the hierarchy of prestige (Wegener, 1985). Following Sørensen (1977, 1979) SAS was constructed for all occupational types, using the cumulative survey file (ZUMA, 1984). The logic of SAS assumes that the social positions to be scaled are rank ordered beforehand. In the present case, the rank order of mean factor scores of socio-economic attributes was chosen. For the 50 occupational types, the correlation between SAS build on this rank order and the magnitude scale is .90. This is the highest correlation between the magnitude scale and any other imaginable scale of occupational types (e.g. IPS, BES as well as alternative socio-economic status scales, and SAS scales based on other rank orders than that of status).

Relying on this relationship, the values of MPS were "predicted" (cf. Duncan, 1961, for a similar approach). However, the

result is not that MPS and SAS correlate perfectly (see Table 1 above). This is so because of a technical insufficiency of SAS. Constructing a scale of all occupational titles of ISCO involves also titles which are seldomly or not at all encountered in cross-sectional surveys. The SAS scale values for these occupations are uncertain (because their ranks are uncertain).²¹ In constructing MPS, therefore, SAS scale values of occupations with frequencies less than 10 were replaced by fitting SAS to the IP8 scale (Treiman, 1977) which had been transformed, however, in accordance with the category-magnitude interscale relation (Wegener/Kirschner, 1981). The thus "corrected" SAS scale was used as a criterion scale to establish the complete scale MPS (listed in Wegener, 1985).

21. This uncertainty is irrelevant if SAS is produced from the same set of data on which subsequent analyses are made (e.g. Sørensen, 1977) because occupations missing in the construction of SAS will not affect analyses in which these occupations are not present either.

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TABLE 1

INTERCORRELATIONS OF OCCUPATIONAL
LEVEL AND TYPE OF WORK SCALES

	Occupational levels		Occupational types of work		
	SES	SSS	IPS	SAS	MPS
SES	-				
SSS	.94	-			
IPS	.57	.63	-		
SAS	.67	.70	.77	-	
MPS	.67	.70	.86	.94	-

TABLE 2

FACTOR PATTERN [PROMAX] OF EXPLORATORY
ANALYSIS [EFAP] OF OCCUPATIONAL TYPES OF WORK,
LEVELS, AND FOUR ADDITIONAL VARIABLES²²

VARIABLES	F1	F2	F3	F4	THETA ²
MPS	.86				.005
IPS	.83				.225
SAS	.65	.41			.089
EDUC	.21	.52			.381
CLASS		.36		.24	.578
INCOME		.45	.47		.741
LF.EXP			.50		.459
SSS				.97	.005
SES				.86	.092

FACTOR INTERCORRELATIONS

F1	1.00			
F2	.65	1.00		
F3	-.07	-.05	1.00	
F4	.60	.74	.10	1.00

22. Only factor loadings > .20 are entered. MPS: Magnitude Prestige Scale (Wegener, 1985); IPS: Standard International Prestige Scale (Treiman, 1977); SAS: Status Attainment Scale based on rank order of socioeconomic status (following Sørensen, 1977); SSS: Social Status Scale (Mayer, 1977); SES: Socioeconomic Scale (Handl, 1977); LF.EXP: Labor force experience in years; INCOME: after-taxation income; EDUC: schooling in years; CLASS: subjective class identification.

TABLE 3

GROUP COMPARISON BETWEEN MAIN AND REPLICATION DATA SETS

Model	Restrictions	Conditional fit of replication		Fit of joint model		
		GFI	RMSR	CHI ²	DF	CHI ² /DF
Q0	Identical model- structure	.949	.044	1176.6	78	15.1
Q1	Identical factor loadings	.942	.041	1203.3	87	13.8
Q2	Identical endo- genous relations	.939	.049	1212.0	93	13.0
Q3	Identical exogenous/ endogen. relations	.936	.055	1224.6	100	12.3
Q4	Identical exogenous correlations	.914	.066	1311.0	100	13.1
Q5	Identical errors of factors	.912	.060	1317.9	104	12.7
Q6	Complete overall identity	.888	.058	1441.3	111	13.0

FIGURE 1

ATTAINMENT MODEL OF OCCUPATIONAL
TYPES OF WORK AND OCCUPATIONAL LEVELS

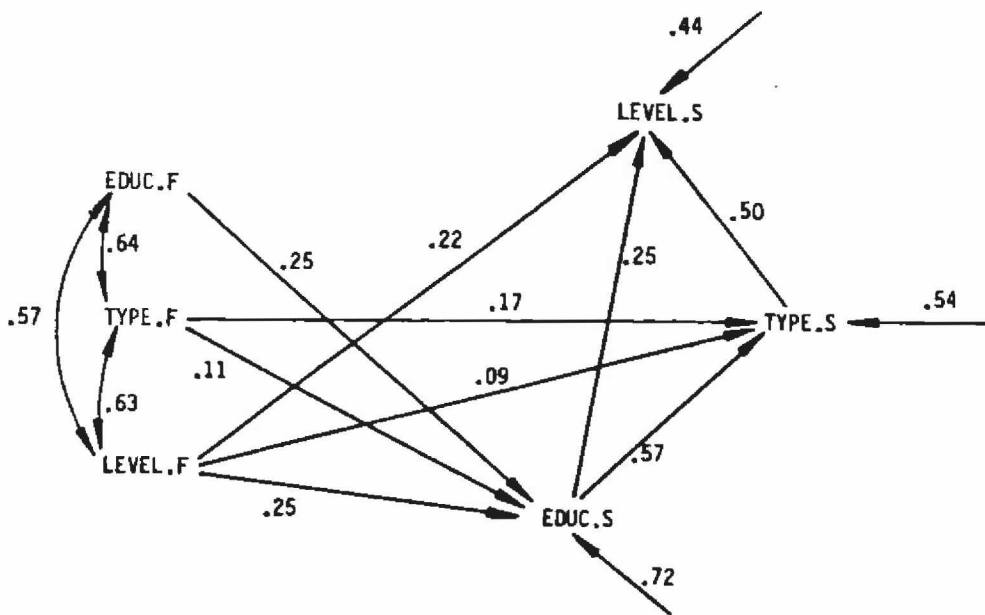
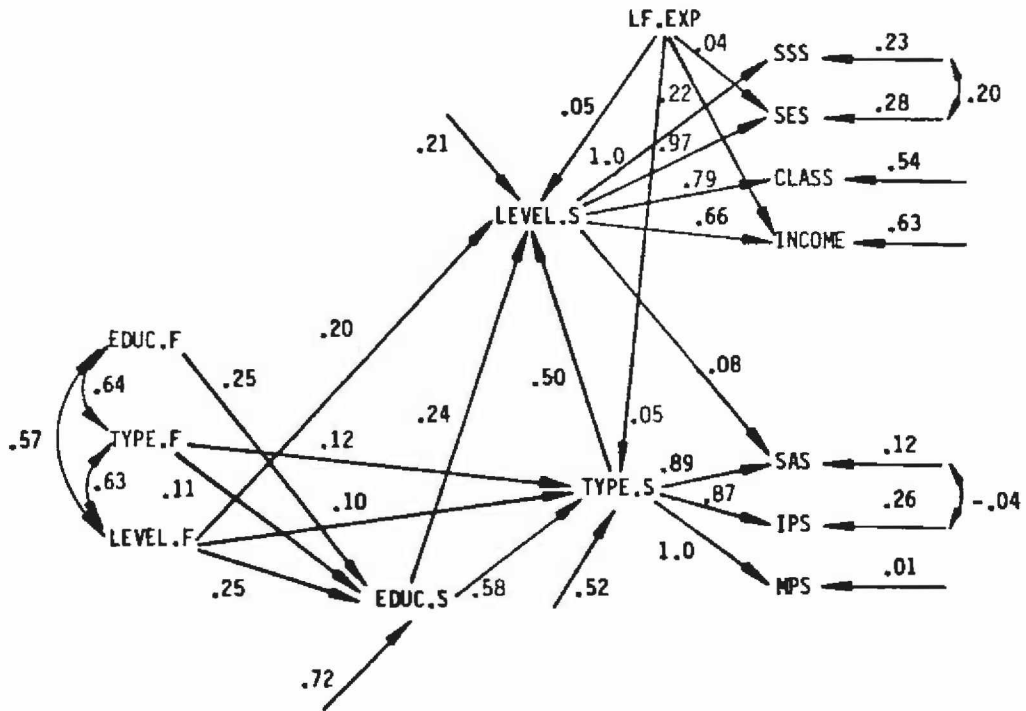


FIGURE 2

ATTAINMENT MODEL OF OCCUPATIONAL TYPES
OF WORK AND OCCUPATIONAL LEVELS AS LATENT CONSTRUCTS



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