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## Physical and Mental Health Correlates of Status Incongruence

STANISLAV V. KASL and SIDNEY COBB

Department of Epidemiology and Public Health, School of Medicine, Yale University, New Haven, Connecticut, and Institute for Social Research, University of Michigan, Ann Arbor, Michigan, U.S.A.

*Summary.* The report explored the relationship between status incongruence, the degree of similarity of rankings on paired status variables, and diverse interview-based measures of physical and mental health. The subjects in the study were some 169 adult men; one half of them came from a national survey sample, while the other half represented an arthritic clinic sample with patients and controls. Data on education, occupation, income, and perceived social class (PSC) were used to construct several status incongruence indices. The major findings were: 1. Neither rheumatoid arthritis nor ulcer were related to status incongruence. 2. Education-occupation incongruence showed by far the strongest association with poor mental health. Among the two types of incongruence, education > occupation and occupation > education, the former had particularly poor mental health. 3. Education-PSC, occupation-PSC, education-income, and occupation-income types of incongruence showed weaker associations. Direction of incongruence made a difference in the education-PSC comparison: the education > PSC incongruent group had poorer mental health than the PSC > education incongruent group.

*Résumé.* Ce rapport étudie la relation entre la discordance du status («status incongruence»), le degré de similitude d'évaluation de variables couplées du status et diverses mesures de la santé physique et mentale basées sur des interviews. Les sujets de l'étude étaient 169 hommes adultes dont la moitié provenait d'un échantillon d'une investigation nationale, tandis que l'autre moitié représentait un échantillon d'une clinique d'arthritiques avec des patients et des cas de contrôle. Des données sur l'éducation, l'occupation, le revenu et la classe sociale (perceived social class = PSC) furent utilisées pour l'élaboration de divers indices de discordance de status. Les résultats principaux furent: 1) Ni l'arthrite rhumatoïde ni l'ulcère n'étaient reliés à la discordance du status. 2) La discordance éducation-occupation était de loin la plus étroitement associée à une santé mentale défaillante. Parmi les deux

types de discordance, éducation > occupation et occupation > éducation, le premier était caractérisé par une santé mentale particulièrement mauvaise. 3) Les types de discordance éducation-PSC, occupation-PSC, éducation-revenu et occupation-revenu étaient plus faiblement associés. La direction de la discordance faisait une différence dans la comparaison éducation-PSC: le groupe de discordance éducation > PSC se distinguait par une santé mentale moins bonne que le groupe de discordance PSC > éducation.

*Zusammenfassung.* Der Bericht gibt die Untersuchung der Beziehung zwischen der Unausgeglichenheit innerhalb des Sozialstands, dem Ausmaß der Ähnlichkeit von Einstufungen durch vorgegebene Gegensatzpaare von Statusmerkmalen und verschiedenen, auf Interviewbasis begründeten Einschätzungen der körperlichen und seelischen Gesundheit wieder. Die Probanden der Studie waren 169 erwachsene Männer; die Hälfte von ihnen stammte aus einer staatlichen Begutachtungsgruppe, die andere Hälfte verkörperte Patienten und Kontrollpersonen aus einer Arthritis-Klinik. Daten über Erziehung, Beruf, Einkommen und beurteilte Sozialklasse (perceived social class = PSC) wurden verwendet, um mehrere Indizes für Statusinkongruenz zu bilden. Die Hauptergebnisse waren: 1) Weder rheumatische Arthritis noch Ulcus standen in Beziehung mit Statusinkongruenz. 2) Ein Mißverhältnis zwischen Erziehung und Beruf zeigte bei weitem die engste Beziehung zu schlechter seelischer Gesundheit. Von den beiden Inkongruenztypen, Erziehung > Beruf und Beruf > Erziehung, hatte der erste eine besonders schlechte seelische Gesundheit. 3) Mißverhältnisse zwischen Erziehung und PSC, Beruf und PSC, Erziehung und Einkommen und Beruf und Einkommen zeigten schwächere Beziehungen. Die Richtung der Inkongruenz bewirkte einen Unterschied im Vergleich zwischen Erziehung und PSC: die inkongruente Gruppe Erziehung > PSC war bei schlechterer seelischer Gesundheit als die inkongruente Gruppe PSC > Erziehung.

In this report we shall introduce the reader to the concept of status incongruence, discuss the theoretical background within which this concept may best be viewed, review selectively the major findings which demonstrate the fruitfulness of this concept, and present some new findings on this topic.

The long-standing interest of social scientists in status variables has manifested itself, over the years, in two different approaches. The more traditional approach has been to examine separately such status indicators as education, occupation, income, and racial-ethnic origin, or to study them in a combined index of social class or social status. The theoretical underpinnings of this approach have been provided by the symbolic interactionists (Cooley, 1902; Mead, 1934) and by role theory (Biddle *et al.*, 1966; Gross *et al.*, 1958). This broad theoretical orientation asserts that an individual's rank or position on a status dimension is important because it partly

determines certain expectations about his behavior. Specifically, an individual's rank affects his expectations about the behavior of others toward him, his expectations of himself and other's expectations of him. The total pattern of these interacting expectations will influence the individual's concept of himself and the concept others have of him, that is, his self-identity and public identity, respectively (French and Kahn, 1962; Miller, 1963).

The second, more recent approach to the study of status variables has taken the form of the argument that the averaging of the various status indicators, in order to arrive at a single index, is not always a satisfactory procedure and that one should also consider the congruence or the discrepancies among them (Benoit-Smullyan, 1944; Fenchel *et al.*, 1951; Lenski, 1954). If an individual's rank on one status dimension is out of line with his rank on another, then according to role theory, there is the

strong possibility of conflicting expectations about the behavior of others and uncertainty about appropriateness of one's own behavior. This, in turn, should lead to role conflict, unsatisfactory social relationships, social ambiguity, unstable or inconsistent self-identity, a more favorable orientation toward social change and attempts to establish a better costs-rewards balance (Broom, 1959; Goffman, 1957; Homans, 1961; Jackson, 1962; Lenski, 1954; Sampson, 1963). In short, when there is an inconsistency among the several status indicators which are used to characterize an individual, the individual is presumed to be under stress which is then predicted to have adverse effects on his physical and mental health.

Studies which have dealt with the incongruence hypothesis suggest that individuals whose status indices are incongruent report more psychophysiological symptoms (Jackson, 1962), have more rheumatoid arthritis (King and Cobb, 1958) and coronary heart disease (Shekelle *et al.*, 1969), are more likely to be liberal in their political attitudes (Lenski, 1954) and to be dissatisfied with the power distribution in our society (Goffman, 1957), and tend to show less social participation (Lenski, 1956). Negative evidence, however, is reported by Kornhauser (1965) who studied men coming from a rather restricted range of occupations and found no relationship between an index of mental health and several measures of incongruence.

The *direction* of status incongruence may also be of some importance. For example, some writers have interpreted high education—low occupation incongruence as a discrepancy between aspiration and achievement, and have related such incongruence to job dissatisfaction (Mann, 1953) and to higher rates of first admissions to hospitals for schizophrenia among urban Negroes (Parker and Kleiner, 1966). The direction of status incongruence was also important in one study in choosing between two alternative regression models (Jackson and Burke, 1965).

The status incongruence hypothesis, as formulated above, can be extended in at least two ways. The first is to consider additional individuals in the comparison of status variables. For example, we may use the term status discrepancy to refer to the relationship between status variables characterizing a pair of individuals of the same generation, such as a husband and a wife. Status equilibrium may be used to denote a characteristic of an interacting group (Adams, 1953; Exline and Ziller, 1959), while status crystallization might be chosen to describe a collective, such as an occupational classification (Hodge, 1962). These possible extensions of the theory have been considered elsewhere in greater detail (Kasl, 1969).

The second way in which the status incongruence hypothesis can be extended is to study the effects status incongruence may have on individuals other

than those on whom the incongruence is assessed. Thus, for example, one can study the effects of the husband's incongruence on his wife, or the effects of parents' marital status discrepancy on the offspring. Recent findings (Floud *et al.*, 1954; Kasl and Cobb, 1967 and 1969 b; Kasl and Schlingensiepen, 1970; Krauss, 1964) suggest that this extension of the basic approach may prove very fruitful.

It must be noted in passing that a fair amount of methodological controversy surrounds the work on status incongruence. One major issue concerns the problem of analyzing the data in such a way that effects of vertical status *per se* have been clearly ruled out and that the observed associations can be attributed solely to status incongruence (Kasl, 1969; Blalock, 1967; Demerath, 1962; Hyman, 1966; Mitchell, 1964). Another area of discourse concerns the choice of status variables to be used in an index of status incongruence; an overview of the studies in this area reveals that a diversity of status indicators are being used (Lenski, 1954; Goffman, 1957; Jackson, 1962; Kenkel, 1956; Nam and Powers, 1965).

For a recent discussion of these issues, the reader is referred to Jackson and Curtis (1968).

It is the intent of this report to relate several indices of status incongruence of adult males to diverse, interview-based measures of physical and mental health.

### Methods

The subjects came from a recently completed study of the intrafamilial transmission of rheumatoid arthritis (Cobb *et al.*, 1969 a). This study involved a sample of family clusters, which contained a key person with arthritis and his (her) spouse, a sibling of the key person with his (her) spouse, a first cousin to the key person, and an unrelated individual. The key persons with arthritis were obtained from two sources: the arthritis clinic of the University of Michigan and a national interview sample. The latter were selected on the basis of a detailed screening questionnaire. The siblings, cousins, and unrelateds were matched with the spouse of the key person on age. The unrelateds were further matched on sex, social class, education, and place of residence. The refusals numbered about 10% among the key persons and about 5% among other members of the cluster. The study population consisted of 169 men and 155 women. All subjects were Caucasian with a mean age of 48 years and a mean educational level of 11.5 grades.

Trained interviewers on the staff of the Survey Research Center of the University of Michigan conducted three interviews, four months apart, with each subject. During these interviews, a considerable body of demographic, health, and psychosocial data were collected. Of interest for the present report are the following.

## Indices of Status Incongruence

The basic demographic data collected from the respondents included: education, occupation (using the Duncan code of occupational prestige (Reiss, 1961), income, and perceived social class. The last variable was measured by a single question: "Now tell me which one of the following social classes would you say you belonged to at the present time?" The fixed alternatives were: upper class, upper middle class, middle class, lower middle class, upper working class, and lower working class.

Since approximately two thirds of the female respondents were nonworking housewives, occupational status and income data could not be obtained on them. This report, consequently, is concerned only with the male respondents of this study.

In approaching the problem of constructing status incongruence indices, we took the position that given the imperfect articulation of the status incongruence theory and the methodological controversies which exist, no single general index can suffice. Instead, several simple indices, each based upon a pair of status dimensions, should be constructed and the direction of incongruence should be retained.

The primary incongruence index constructed is based on the pairing of education and occupation. Two additional indices explore the role of income by pairing it with education and with occupation, while the role of perceived social class (PSC) is also examined in two indices which pair PSC with the primary status dimensions of education and occupation. These last two indices pair a global, subjective assessment of status, PSC, with a narrower, more objective indication of status, education or occupation. This makes them unlike other measures of incongruence, but they are included for exploratory purposes.

Thus, five status incongruence indices were constructed on the men. In order to characterize individuals on status incongruence, a scatter plot was drawn such that the reference axes represented the two status variables being paired and the points were the individual subject's scores on them. A broad band of points along the diagonal (or along the regression line) indicated those subjects whose paired status variables were designated as congruent. The remainder, the incongruent subjects, were further classified according to direction of incongruence, e.g., education > occupation or occupation > education. It should be noted that the decision about the width of the band of the points along the diagonal, which determines the relative proportions of congruent and incongruent subjects, has to be necessarily rather arbitrary. Should other studies justify a continued interest in status incongruence, then one will ultimately need a standardized set of cut-off points appropriate to the kind of subject population with which one is working.

## Indices of Health

*Rheumatoid Arthritis* — a validated, interview-based index (Cobb *et al.*, 1969 b) which has an estimated sensitivity of 0.83 and a specificity of 0.97.

*Peptic Ulcer* — a validated, interview-based index (Dunn and Cobb, 1962) which has an estimated sensitivity of 0.50 and a specificity of 0.98 (for men).

*Symptom Checklist* — a measure previously used in a national interview study of mental health (Gurin *et al.*, 1960). Four indices were constructed which were based on the factor analysis done by the original authors; the labelling of the indices is theirs. a) "*Physical Ill Health*" — 5 items dealing with the frequency of occurrence of minor symptoms, such as cough, sore throat, running nose, or pain in the chest. b) "*Physical Anxiety*" — 3 items asking about the frequency of physical symptoms presumed to reflect anxiety: shortness of breath, diarrhea, and heart beating hard. c) "*Psychological Anxiety*" — 10 items asking about feeling tense, nervous, and anxious, plus other questions on appetite, digestion, and sleeping. d) "*Immobilization*" — 3 items reflecting feelings of being tired out and fatigued.

*Frequency of Anger-Irritation* — 7 items about irritability, frequency of being annoyed, etc.

*Depression* — 8 items asking about feelings of sadness, unhappiness, unworthiness, dissatisfaction with life, etc.

*Self-Esteem* — 8 items which respondents used to evaluate themselves and their performance in a number of typical social roles, such as spouse, parent, provider, etc.

*Self-Confidence* — 14 items raising a number of questions about stability of self-esteem, vulnerability to criticism, tendency to blame oneself, etc.

*Desire for Change* — 5 items asking respondents if they would like to change themselves in different areas, such as skills, habits, family relations, and so on.

*Emotional Dependence* — 5 items reflecting the need to receive emotional support and encouragement from others.

*Job Satisfaction* — 6 items dealing broadly with satisfactions with job, with promotion, with job performance, etc.

The above scales are intended to reflect a broad conception of mental health (French and Kahn, 1962; Scott, 1958 a and b). In most cases, they are scales which had been used in previous studies (Cobb *et al.*, 1965; Hunt *et al.*, 1967; Kasl and Cobb, 1964).

## Results

Table 1 presents some basic descriptive data about the total sample of men and about the several status incongruence indices. It can be seen that, in general, men classified as status incongruent with regard to a particular pair of status variables are not much different from the status congruent sub-

Table 1. Demographic Correlates of the Several Status Incongruence Indices

	Total Sample of Men	Men Who Are Classified Status Incongruent on				
		Education vs. Occupation	Education vs. Income	Occupation vs. Income	Education vs. Perceived Social Class	Occupation vs. Perceived Social Class
Number of Cases	169	62	48	67	74	72
Percent from National Sample	57%	61%	52%	53%	54%	57%
Age	50.0	49.8	47.0	48.0	48.7	49.6
Years of Education	11.0	10.7	11.2	10.2 <sup>†</sup>	11.6 <sup>†</sup>	11.0
Occupational Status <sup>a</sup>	36.2	37.9	30.5	32.5	36.7	35.2
Yearly Income	5860	5280	6120	5400	6130	5590
Perceived Social Class <sup>b</sup>	3.3	3.3	3.2	3.5	3.3	3.4

<sup>a</sup> Occupational level coded according to Duncan code of occupational prestige<sup>39</sup>.

<sup>b</sup> Code: 1 = upper class, 6 = lower working class.

<sup>†</sup> Significantly different ( $P < 0.01$ ) from men congruent on that pair of status variables.

Table 2. Correlations of Mental Health Variables with Status Variables and with Each Other

	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.
1. Age	—17	06	08	21	—14	—04	12	04	02	—09	12
2. Education	14	06	03	—02	17	05	—19	00	09	26	—01
3. Income	14	—05	05	—07	05	00	—11	01	00	15	09
4. Occupation	02	08	02	09	01	—09	02	19	—03	06	12
5. Perceived Social Class <sup>a</sup>	—04	01	—09	02	02	08	—04	—05	01	07	—24
6. Frequency of Anger-Irritation		20	17	39	28	38	—27	—30	19	19	—05
7. "Physical Ill Health"			29	33	37	16	—14	—19	01	09	01
8. "Physical Anxiety"				20	34	14	—19	—05	—01	24	—01
9. "Psychological Anxiety"					48	39	—14	—12	14	15	—07
10. "Immobilization"						28	—22	—16	09	30	—07
11. Depression							—48	—48	23	32	—30
12. Self-esteem								26	—01	—32	39
13. Self-confidence									—43	—25	20
14. Emotional Dependence										08	00
15. Desire for Change											—20
16. Job Satisfaction											

<sup>a</sup> Code: 1 = upper class, 6 = lower working class.

jects on the basic demographic and status variables. The only 3 exceptions show that men incongruent on a) education vs. occupation have lower income, b) occupation vs. income have lower education, and c) education vs. perceived social class have higher education. These 3 mean differences are significant ( $P < 0.01$ ) but account, on the average, for only 3.7% of the variance.

It goes without saying that as the incongruent subjects are further classified with regard to the direction of incongruence, they cease to be comparable on those two status variables involved in the classification. For example, men classified as occupation > education have a higher mean occupational status and lower mean educational level than men classified as education > occupation. But together, the two incongruent groups are comparable on education and occupation to congruent men. In short, classifying the men as congruent or incongruent does not preselect them on vertical status. However, classifying them on the direction of status incongruence creates some inequalities in vertical status as well.

Whether or not such inequalities in vertical status are going to be bothersome depends on the correlation of the various mental health indices with status. Table 2 presents the correlations of the

mental health variables with each other and with the several demographic variables. (The scales are labelled in such a way that the higher the score on a scale, the more of the implied behavior is reported by the men.) It can be seen that the correlations with status variables are mostly quite negligible. The few variables which show a correlation of  $\pm 0.15$  or higher with some status dimension will be the ones where a statistical correction will be applied when they are involved in comparisons of status incongruence groups who are unequal on that status dimension.

A final question which needs to be raised about the five status incongruence indices concerns the amount of overlap between them. Are they highly correlated with each other or are they relatively independent? The answer is that being classified congruent vs. incongruent with regard to a pair of status dimensions says very little about being so classified with regard to another pair of status variables. Of the ten phi coefficients which were computed from the ten 2 by 2 tables, only 3 were significant and all 3 are rather small: a) education vs. occupation with occupation vs. perceived social class (PSC),  $\phi = 0.26$ ; b) education vs. PSC with occupation vs. PSC,  $\phi = 0.21$ ; and c) education vs. income with occupation vs. income,  $\phi = 0.17$ .

Table 3. *Correlates of Education-Occupation Incongruence*

Variable	Mean scores for three groups of subjects		Amount and significance of association for different comparisons <sup>a</sup>								
	Congr.	E < 0	E > 0	Congr. vs. Incongr.		E < 0 vs. E > 0		Congr. vs. E < 0		Congr. vs. E > 0	
				gamma	tau	gamma	tau	gamma	tau	gamma	tau
Frequency of Anger-Irritation	3.85	4.29	5.81	0.29	0.17	< 0.025	0.52	0.32	< 0.025	—	—
“Physical Ill Health”	4.00	4.50	5.32	0.38	0.20	< 0.01	—	—	—	0.38	0.18
“Physical Anxiety”	4.73	4.84	4.87	—	—	—	—	—	—	—	< 0.05
“Psychological Anxiety”	4.59	5.29	5.83	0.45	0.26	< 0.001	—	—	—	0.45	0.23
“Immobilization”	4.82	5.07	6.22	0.33	0.19	< 0.01	0.42	0.26	< 0.05	—	—
Depression	3.54	3.92	5.88	0.39	0.22	< 0.005	0.77	0.40	< 0.001	—	—
Self-esteem	6.38	5.91	4.13	0.42	0.25	< 0.001	0.51	0.28	< 0.05	—	—
Self-confidence	5.14	5.80	4.00	—	—	—	0.43	0.25	< 0.05	0.36	0.18
Emotional Dependence	5.08	4.63	5.68	—	—	—	—	—	—	—	< 0.05
Desire for Change	4.31	4.02	5.31	—	—	—	0.42	0.24	< 0.06	—	—
Job Satisfaction	5.72	5.80	4.84	0.29	0.16	< 0.05	—	—	—	0.37	0.18
										0.39	0.18

<sup>a</sup> Incorporates statistical adjustments, where necessary, whenever vertical status alone could inflate the size of the incongruence effect; for details, see text.

<sup>b</sup> All P-values are based on a two-tailed test of significance.

Table 4. *Correlates of Education-Perceived Social Class Incongruence*

Variable	Mean scores for three groups of subjects		Amount and significance of association for different comparisons <sup>a</sup>								
	Congr.	E < PSC	E > PSC	Congr. vs. Incongr.		E < PSC vs. E > PSC		Congr. vs. E < PSC		Congr. vs. E > PSC	
				gamma	tau	gamma	tau	gamma	tau	gamma	tau
Frequency of Anger-Irritation	3.73	4.42	5.16	0.33	0.19	< 0.01	—	—	—	—	—
“Physical Ill Health”	4.21	3.98	4.62	—	—	—	—	—	—	—	< 0.005
“Physical Anxiety”	4.88	4.31	4.85	—	—	—	0.46	0.25	< 0.05	—	—
“Psychological Anxiety”	4.97	4.40	5.11	—	—	—	0.48	0.27	< 0.05	—	—
“Immobilization”	5.02	3.96	5.62	—	—	—	0.53	0.31	< 0.01	—	< 0.05
Depression	3.75	4.13	4.34	0.30	0.15	0.05	—	—	—	—	—
Self-esteem	6.24	6.76	5.20	—	—	—	—	—	—	—	< 0.05
Self-confidence	5.15	5.11	5.03	—	—	—	—	—	—	—	—
Emotional Dependence	5.18	3.98	5.34	—	—	—	0.51	0.30	< 0.01	0.48	< 0.01
Desire for Change	4.09	3.80	5.12	0.31	0.18	< 0.025	0.53	0.28	< 0.025	—	—
Job Satisfaction	5.67	6.69	5.01	—	—	—	0.52	0.28	< 0.025	—	—

<sup>a</sup> Incorporates statistical adjustments, where necessary, whenever vertical status alone could inflate the size of the incongruence effect.

<sup>b</sup> All P-values are based on a two-tailed test of significance.

Table 5. Correlates of Occupation-Perceived Social Class, Education-Income, and Occupation-Income Types of Incongruence

Variable	Mean scores for three groups of subjects			Amount and significance of association for different comparisons <sup>a</sup>																	
	0 < PSC			0 > PSC			Congr. vs. Incongr.			0 < PSC vs. 0 > PSC			Congr. vs. 0 < PSC			Congr. vs. 0 > PSC					
	Congr.	E < \$	E > \$	Congr.	E < \$	E > \$	gamma	tau	p <sup>b</sup>	gamma	tau	p <sup>b</sup>	gamma	tau	p <sup>b</sup>	gamma	tau	p <sup>b</sup>			
"Physical Ill Health" "Psychological Anxiety" "Immobilization" Self-esteem Desire for Change	3.97	4.74	4.85	4.73	4.39	4.38	0.28	0.17	< 0.025	—	—	—	—	—	0.33	0.18	< 0.05	—			
	4.73	5.28	4.96	4.39	5.11	5.10	0.27	0.16	< 0.05	—	—	—	—	—	—	—	—	—			
	4.81	5.31	5.35	4.92	5.14	5.50	0.39	0.22	< 0.005	—	—	—	0.45	0.23	< 0.01	—	—	—			
	6.16	6.23	5.35	4.92	5.14	5.50	—	—	—	—	—	—	—	—	0.36	0.18	< 0.05	—			
	4.00	4.53	5.03	4.46	4.41	5.70	0.40	0.23	< 0.005	—	—	—	—	—	0.46	0.25	< 0.005	—			
"Immobilization" Self-confidence	Congr.	E < \$	E > \$	Congr.	E < \$	E > \$	Congr. vs. Incongr.	tau	p <sup>b</sup>	E < \$ vs. E > \$	gamma	tau	p <sup>b</sup>	Congr. vs. E < \$	gamma	tau	p <sup>b</sup>	Congr. vs. E > \$	gamma	tau	p <sup>b</sup>
	5.01	4.85	5.61	4.85	4.38	4.68	—	—	—	0.52	0.29	0.05	—	—	0.41	0.18	< 0.025	—	—	—	—
Frequency of Anger-Irritation "Physical Ill Health" "Physical Anxiety" "Immobilization" Depression Self-confidence Emotional Dependence	Congr.	0 < \$	0 > \$	Congr.	0 < \$	0 > \$	Congr. vs. Incongr.	tau	p <sup>b</sup>	0 < \$ vs. 0 > \$	gamma	tau	p <sup>b</sup>	Congr. vs. 0 < \$	gamma	tau	p <sup>b</sup>	Congr. vs. 0 > \$	gamma	tau	p <sup>b</sup>
	3.99	4.73	4.38	4.73	4.39	5.11	0.30	0.16	< 0.05	—	—	—	—	—	0.32	0.17	< 0.05	—	—	—	—
	3.93	4.39	5.11	4.39	5.11	5.10	0.33	0.18	< 0.025	0.46	0.28	< 0.025	—	—	—	—	—	0.62	0.31	< 0.001	—
	4.59	4.92	5.10	4.92	5.10	5.10	0.30	0.17	< 0.05	—	—	—	—	—	—	—	—	—	—	—	—
	4.92	5.14	5.50	4.92	5.14	5.50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3.59	4.46	4.66	4.46	4.41	5.70	0.37	0.22	< 0.005	0.42	0.24	< 0.05	0.31	0.17	< 0.05	0.30	0.17	< 0.05	0.38	0.20	< 0.025	—
5.15	4.41	5.70	4.41	4.41	5.70	—	—	—	0.48	0.30	< 0.025	0.40	0.22	< 0.01	—	—	—	—	—	—	—
4.94	5.89	4.57	5.89	4.57	4.57	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

<sup>a</sup> Incorporates statistical adjustments, where necessary, whenever vertical status alone could inflate the size of the incongruence effect.

<sup>b</sup> All P-values are based on a two-tailed test of significance.

Let us now turn to the presentation of results. The first set of results concerns the association of rheumatoid arthritis and ulcer with the several status incongruence indices. The results here are quite simple: no significant association was found between either disease and status incongruence. This is in contrast to the associations found with parental status inconsistency (Kasl and Cobb, 1967) and with marital status discrepancy (Kasl and Cobb, 1969 b).

The remainder of the presentation of results will disregard the classification of the men with respect to rheumatoid arthritis and ulcer. However, since many of the mental health variables are associated with the two diseases (Cobb *et al.*, 1969 c; Kasl and Cobb, 1969 a), the scores on such variables were adjusted for differences in means between the disease and no-disease groups.

Table 3 presents the data on the men regarding the association of education-occupation incongruence with the various self-report indices. In this table the reader will find, first of all, the mean scores for the congruent subjects and the two groups of men classified as incongruent. However, because the scales vary in means and standard deviations, and because tests of significance alone do not indicate strength of association, the values for two measures of association, gamma and Tau, are presented. Since neither of these measures requires interval scale properties or normal distributions (Hays, 1963), they were deemed suitable in view of the skewed distribution of scores on many of the self-report indices.

The measures of association are used to describe 4 comparisons which are made in Table 3. With three groups one can make, of course, only two independent comparisons; in this case, the most sensible ones are: Congruent vs. Incongruent ( $E < 0$  and  $E > 0$  combined) and  $E < 0$  vs.  $E > 0$ . However, if one treats the Congruent men as a "control" group and the two Incongruent groups as "experimental" groups, then there are two a priori comparisons one would want to make: Congr. vs.  $E < 0$  and Congr. vs.  $E > 0$ . Table 3 offers statistical tests for both alternatives. It must be emphasized that taken together, the four comparisons are certainly not independent. As noted in the Table, all P-values reflect a two-tailed test of significance. Gamma and Tau values which were not significant at the 0.05 level are omitted from this and subsequent tables.

Tables 4 and 5 describe the association of the other status incongruence measures with the various self-report indices. Variables which show no significant association with status incongruence are omitted altogether from Table 5.

#### Discussion

It is possible to summarize the findings in Tables 3 through 5 as follows. Education-occupation incongruence reveals the strongest relationship to

mental health—both in terms of the diversity of variables involved, as well as in terms of the size of the associations (Table 3). Status congruous men, compared with the incongruent ones, report: less anger-irritation, fewer symptoms of acute physical illnesses, less psychological anxiety, fewer occasions of being tired out, lower depression, and higher self-esteem and job satisfaction. Of the two types of status incongruent groups, the  $E < 0$  respondents invariably report better mental health than the  $E > 0$  men. On the following variables the differences for these two subgroups are significant: Frequency of Anger-Irritation, "Immobilization", Depression, Self-esteem and Self-confidence.

Table 6 presents the association of the education-occupation incongruence classification to a summary index of mental health. This index includes the Symptom Checklist (Physical Ill Health, Physical Anxiety, Psychological-Anxiety, Immobilization), Frequency of Anger-Irritation, Depression, and (low) Self-Esteem. These measures were judged most suitable for inclusion in a global measure of self-reported mental health. The men's scores on the total index were roughly trichotomized and then run against the incongruence classification. It can be seen again that the congruent group has better mental health than either of the incongruent groups, and that within the latter two, the  $E > 0$  group has particularly poor mental health. It is worth noting that men classified as "probable" or "definite" on the indices of rheumatoid arthritis and ulcer were excluded from this particular analysis. Among these men, the association between mental health and status incongruence is much weaker. It is a fair inference, therefore, that the associations seen in Table 3 would have been somewhat stronger had one excluded these men instead of just adjusting for their different means on the various measures.

Education-perceived social class incongruence (Table 4) yields the following pattern of associations with mental health. Status congruous men, compared with the incongruous respondents, are less frequently angry-irritable, less depressed, and have a weaker desire to change themselves. Of the two status incongruent groups, the  $E < PSC$  men invariably report better mental health than the  $E > PSC$  respondents. The differences between these two groups are significant in the case of "Physical and Psychological Anxiety", "Immobilization", Emotional Dependence, Desire for Change, and Job Satisfaction.

The correlates of occupation-perceived social class incongruence (Table 5) reveal that congruous subjects, compared with the incongruous men, report fewer symptoms of acute physical illnesses, less psychological anxiety, fewer occasions of being tired out, and less of a desire to change themselves. A comparison of the two incongruent groups does not reveal a consistent trend of differences between them.

Table 6. *The Association of Education-Occupation Incongruence with a Summary Index of Mental Health\**

		Congruent	Incongruent $E < 0$	$E > 0$
Score on Total Index of Mental Health	Good	28	3	0
	Average	22	7	3
	Poor	14	11	15
Total N		64	21	18

## Comparisons:

Congruent vs. Incongruent:  $\gamma = 0.73$ ,  $\tau = 0.45$ Congruent vs.  $E < 0$ :  $\gamma = 0.57$ ,  $\tau = 0.30$ Congruents vs.  $E > 0$ :  $\gamma = 0.90$ ,  $\tau = 0.49$  $E < 0$  vs.  $E > 0$ :  $\gamma = 0.66$ ,  $\tau = 0.34$ 

\* Men classified as "probable" or "definite" on the indices of rheumatoid arthritis or peptic ulcer were excluded from this analysis

Education-income incongruence shows borderline associations with only two variables and appears less consequential than occupation-income incongruence. Subjects congruous on O-\$ are, in contrast to incongruous men, lower on Frequency of Anger-Irritation, "Physical Ill Health", "Physical Anxiety", and Depression. The two incongruous groups are not consistently different from each other.

There are a number of questions which can be raised about our findings. One question concerns age. Since status incongruence is somewhat related to life cycle (Nam and Powers, 1965), wouldn't one expect the effects of incongruence to be somewhat different, depending on the age group involved? For example, since  $E > 0$  incongruence is somewhat more common among those who are in the early stages of the life cycle, wouldn't one predict stronger effects of  $E > 0$  incongruence among older than among younger men? This prediction was tested and the answer is negative. Separate analyses for younger and older men leave the associations found in Tables 3, 5, and 6 basically unaltered.

Still another question concerns the status incongruence measures which are based on income (Table 5). Since it is "family income" which is measured, then whenever the wife also works, income is no longer a pure attribute of the man alone. However, when one removes from analysis those men who were known to have working wives, the pattern of findings in Table 5 is little altered.

Education-occupation thus emerges as the most important form of status incongruence in the men. The direction of incongruence,  $E < 0$  or  $E > 0$ , is also of some importance. This part of the results, then, represents a good replication of the data on education-occupation incongruence presented by Jackson and Burke (1965). We speak of replication because the four Gurin *et al.* (1960) factor scales (Symptom Checklist) in the present study are, in their sum, the symptom check list with which Jackson and Burke worked.

The education-income and occupation-income incongruence effects are considerably weaker (Table 5). Moreover, the direction of incongruence neither seems important nor does it have consistent effects. Incongruence effects of education vs. perceived social class show a strong directionality:  $E < PSC$  men report better mental health than men who are classified as  $E > PSC$ .

The interpretation of the findings presented must be made with some caution. The status incongruence hypothesis is best supported by the education-occupation data on men. However, it is also possible that poor mental health may be causally prior to status incongruence. Whether this alternative is plausible depends, in part, upon the temporal location of the status incongruence variable and upon the temporal stability of our mental health measures. For example, if a man's status congruence classification has remained the same for ten years, but the mental health measures reflect his mental health during the past couple of years only, then it is unlikely that poor mental health is causally prior to status incongruence. Moreover, this kind of an alternative causal hypothesis is plausible for only half of the relationships obtained, i. e., between mental health and  $E > 0$  incongruence. That is, downward mobility, the drift hypothesis (Lapouse *et al.*, 1956) might account for some, but not all, of the above associations.

The status incongruence hypothesis, as outlined in the introduction, is less suited to account for the data on Education-PSC incongruence. In part, this is because the two incongruence groups are different from each other, whereas the hypothesis does not make a differential prediction. The Parker and Kleiner (1966) notion of education as an indicator of aspirations could better account for the obtained differences between  $E < PSC$  and  $E > PSC$ , but it would have to predict the same differences for the  $E < 0$  and  $E > 0$  groups. The other reason that the status incongruence hypothesis is not fully applicable has to do with the subjective nature of the PSC variable. It is quite possible that distorted perception of one's social standing is the major explanation of such "incongruence" effects. In particular, respondents with poor mental health may be underestimating the social class to which they belong. This is not to say, of course, that subjective status is outside of the proper sphere of concern of studies dealing with status effects.

In conclusion, it would seem that the payoff in future studies is most likely to come from emphasis on effects of Education-Occupation incongruence on men. Moreover, it appears that a broader perspective is now in order. For example, we need a developmental orientation so that we can understand better the origins of status incongruence, how permanent or transitory it may be, how it is perceived, and so on. Secondly, we may want to be



more differentiated about the settings in which effects of status incongruence are being examined: at work, at home within the family, in leisure activities with friends, and so on. Thirdly, we should become more concerned with testing directly assumptions about some of the postulated intervening processes, and with exploring other processes neglected by the theory (e. g., the different possible ways of coping with status incongruence). In this last aim, a better integration of status inconsistency theory with role conflict theory (Kahn *et al.*, 1964) should be particularly helpful.

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Dr. St. V. Kasl  
Dept. of Epidemiology  
and Public Health  
Yale University School of Medicine  
60 College St.  
New Haven, Conn. 06510, U.S.A.