

AUSTRALIAN ATTITUDES TO CRIME

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ABSTRACT:

In 1986 the first national poll of public opinion of crime was conducted in Australia. Respondents were asked to assess thirteen different crimes for their seriousness (using the Sellin-Wolfgang index) and were asked to ascribe a suitable sentence for each offence. Some of the findings from this survey are in line with results established overseas, while others are quite different.

Key Words: public opinion; crime seriousness; sentencing;
cross-cultural difference; socio-demographic factors.

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1. BACKGROUND

How serious is a particular crime? For example, how much more (or less) serious is it to stab a victim to death than to be a heroin trafficker? Clearly consideration of such questions must be given at the time legislation is enacted on sentencing for these offences, and also at the time of their implementation by judges and magistrates. However, these processes occur with minimal input from outside the political and judicial spheres respectively, and it appears not unreasonable to ask from time to time just how in tune judicial outcomes are with public opinion.

In recent years a number of studies have been conducted to ascertain public opinion on crime. One finds such studies in Canada (Normandeau 1966), Puerto Rico (Velez-Diaz 1971), Taiwan (Hsu 1973), Norway (Kvalseth 1980), and a number in the U.S.A. including Blumstein and Cohen (1980), Rossi *et al* (1985) and Wolfgang *et al* (1985).

These studies have been useful not only in providing a yardstick of popular opinion of crime, but in also yielding information on differences of opinion which exist between different groups, such as police officers, students, and various ethnic minority groups.

Two aspects of public opinion which have been examined in these surveys are the perceived seriousness of various crimes, and the preferred form of punishment respondents would give to offenders of such crimes. (Not all studies looked at both aspects).

Responses to the punishment questions are easily categorized appropriately as "no penalty", "warning", "probation", "imprisonment", etc., and mean or median sentence lengths can be readily worked out. Typically, e.g. Blumstein and Cohen (1980), it is found that public sentiment for sentencing is harsher in terms of punishment type and in sentence duration than the actual sentencing record for the state or town where the survey has been conducted.

Results on the seriousness aspects of crime, however, show some ambivalence. On the one hand, respondents apparently have no difficulty in assigning a "seriousness score" to a crime, whether this score is on a nine point scale (Rossi *et al* 1974), or a ratio scale ranging from zero to any upper limit imposed by the respondent himself (Wolfgang *et al* 1985).

Furthermore, there is evidence of consensus on such seriousness scores, at least as far as the relative ordering of different crimes is concerned.

On the other hand, one must ask of what practical use these seriousness scores are: consider the case arising in the current study where two offences have identical median seriousness scores - tax evasion and burglary - yet are perceived by the same sample of respondents to merit quite different sentences (see section 5). In what way does knowing the seriousness score of a crime add to the knowledge of how the public would punish its perpetrators?

We will return to this specific question later in the article, but at this stage it should be noted that Wolfgang *et al* (1985) have suggested a quite reasonable use of seriousness scores in another context. The authors argue that seriousness scores are an essential ingredient in producing a meaningful index of the level of crime: such an index can be produced by assigning criminal events in the National Crime Survey (NCS) a weight given by their respective seriousness scores - producing a weighted crime index in a similar vein to weighted economic indicators such as the dollar trade weighted index and the consumer price index. Such a weighted crime index would, they say, be much better than the current Uniform Crime Reports (UCR) produced by the F.B.I. since, for example, the weighted index would be less sensitive to small percentage fluctuations in property offences; in the UCR, such fluctuations would easily conceal a significant increase in violent crime.

Following the lead of these overseas studies, a national survey of the Australian public was taken in 1986 to determine local popular opinion of crime. In the report which follows, the issues listed below will be examined:

1. How do the Australian seriousness levels compare with those from the U.S.A.?
2. Which demographic variables are related to differences in seriousness scores and sentencing preferences?
3. Are crimes perceived as one-dimensional - i.e. is "seriousness" alone an adequate description of a crime?

4. To what extent is there a consensus on crime seriousness and sentencing?
5. What is the degree of relationship between seriousness and sentencing preferences?
6. How much relationship is there between public opinion of sentencing and actual sentencing practice?

2. METHODOLOGY

Sample: The sampling and interviewing were conducted by a specialist public opinion polling organisation, McNair Anderson - the crime seriousness questions being included in the McNair Market Monitor Omnibus Survey. The nationwide random sample of 150 clusters of households yielded interviews with 2550 respondents aged 14 years and over.

Method of Rating Seriousness: The method of Sellin and Wolfgang was followed, as described in Wolfgang *et al* (1985), whereby a respondent is told that the crime of stealing a bicycle parked on the street has been given a score of 10 to show its seriousness. The respondent is then asked to give a score of 100 to a crime he feels is ten times more serious, and so on. The appendix contains the exact wording used.

The Crimes Assessed: The following 13 crimes were used in the study.

1. Stabbing a person to death.
2. Heroin trafficking.
3. Pollution causing death.
4. Industrial accident causing loss of leg.
5. Armed bank robbery. (\$5000)
6. Child beating.
7. Wife beating.
8. Social security fraud. (\$1000)
9. Medicare fraud. (\$5000)
10. Tax evasion. (\$5000)
11. Household theft. (\$1000)

12. Shoplifting. (\$5)

13. Homosexuality.

The exact wording for the 13 offences is also contained in the appendix.

3. STATISTICAL PRELIMINARIES

Before analysis of the data proceeds, a few statistical issues should be raised.

One issue is that since ratio scores are used for seriousness, one must limit the influence of extreme observations by employing location measures such as geometric means - or equivalently - means of log transformed data (Collins 1987).

Secondly, two common multivariate data reduction methods are Principal Component Analysis (PCA) and Multidimensional Scaling (MDS). Both techniques can be used to represent data in lower dimensions, but recent work shows MDS to be more robust when data are non-linear (Minchin 1987). Accordingly, for the seriousness data, both methods are employed, compared and evaluated.

4. SERIOUSNESS SCORES

4.1 Comparison of U.S. and Australian Data

Using data from Wolfgang *et al* (1985), a comparison between U.S. and Australian opinions of different crimes is indicated in Figure 1. Due to the large sample sizes employed, all differences but two - social security fraud and armed robbery - are significant at the 5% level or better. (Details of the means, standard errors, and z scores are contained in the Appendix, Table A1).

[Figure 1 about here]

The direction in which the differences occurs is interesting; while the Australian sample gives significantly higher seriousness scores to heroin trafficking, pollution causing a death, and fatal stabbing, it gives significantly lower scores on the remaining items - shoplifting, burglary, homosexuality, medical fraud, child beating, wife beating and tax evasion.

Thus the Australian responses are neither uniformly higher than the U.S. scores, nor uniformly lower - rather they indicate that

- (i) the Australian sample produces a different hierarchical ordering of offences from the U.S. sample, and
- (ii) the range of responses to the different crimes is much greater in the Australian sample. For example, the Australian sample gave a top geometric mean of 948 to stabbing and a low of 8 to homosexuality. For the U.S. sample these figures narrowed to 781 and 29 respectively.

The U.S./Australian differences in seriousness scores may give rise to speculation about differences in cultural environment on either side of the Pacific. However, a degree of caution should be exercised for three reasons. Firstly, the sample bases were slightly different: in Australia the sample consisted of 14 year olds and above, while the U.S. sample was restricted to those 18 and over.

Secondly, only one of the 13 Australian questions was formulated identically to the U.S. equivalent - the crime of stabbing a victim to death; all others contained some variation. For example, the Australian description

"A person breaks into a home and steals \$1000 worth of household goods".

corresponds to the U.S. version

"A person breaks into a home and steals \$1000".

Some questions had more accentuated differences, as indicated in Table A1.

It is clear from previous studies, e.g. Wolfgang *et al* (1985) and Rossi *et al* (1985), that an apparently minor rephrasing can result in significant changes in perceived seriousness. In the appendix, for instance, one sees that one version of the welfare check question is significantly different in seriousness from the Australian equivalent, yet another version is not.

Thirdly, as indicated by Collins (1987), there is the possibility that differences in geometric means may be due to differences in data coding. To calculate geometric means, the zero seriousness scores must be modified, and how this is done greatly affects the results; for this study zero scores were re-coded to unity, but this may or may not be the same method employed by Wolfgang *et al* (1985) for the U.S. data. Similarly, if the upper coding limit in the latter study were not the same as the limit used here (9999), the results - especially for the "more serious" crimes - would not be directly comparable. If a lower limit had been used, say 999, for the U.S. data then this might be the reason for the relatively lower geometric means exhibited by the U.S. sample for the "more serious" crimes.

4.2 Demographic Analysis

After transforming seriousness scores by a log transformation (to gain an approximately normal distribution), the data were analysed for differences due to various demographic variables.

The demographic variable showing the strongest relationship to seriousness scores is the respondent's age; for ten of the thirteen offences, age effects are significant at the 5% level or better - the only offences not significant being wife bashing, industrial accident and break and entry. (*F* values, means and standard errors are to be found in the appendix in Table A2). The most significant age effects, at 0.1% level or better are obtained for the offences of homosexuality, heroin trafficking, armed robbery and child bashing. The age group means are plotted in Figure

2; there the general trend is obviously an increasing seriousness score according to increasing age of the respondent for almost all crimes.

[Figure 2 about here]

The exceptions, however, are interesting; we note significantly lower mean scores for homosexuality from those in their 20's and 30's than for respondents either younger or older. Also, we see that the seriousness scores attributed to wife and child bashing peak in the 20 - 39 age group then decline.

As a final point, one notices that the youngest age group 14 - 19 years generally has the smallest mean scores to all offences (except for tax evasion and homosexuality). Especially noticeable is their very low response to the question of heroin trafficking, which they rate on a par with industrial pollution. Is there in effect a generation gap with respect to their attitude on heroin? It seems this is indeed the case, since the seriousness result is backed up by the finding in Section 5 that the under 20's adopt a significantly more lenient attitude to the sentencing of heroin traffickers than do the rest of the populace.

[Figure 3 about here]

It has been established in other studies (e.g. Rossi *et al* (1974), Blumstein and Cohen (1980)) that education is also a significant factor involved in public opinion of crime. In this study too, education is a significant factor in opinion of crime seriousness - although it seems perhaps more crime-specific than the factor of age; of the thirteen offences, seven showed a significant education effect at 5% or better, with the most significant (0.1% or better) results for the offences homosexuality, social security fraud and tax evasion; where significant results occur, the trend is for the mean log seriousness of the offences to

decrease as education level improves. This is in accordance with earlier results from many other countries and studies. (The relevant means, F values and standard errors are in Table A3).

Of course the effects of age and education are to some extent related, since respondents in their 20's and 30's are much more likely to have had tertiary training than those who are older. Accordingly an age by education breakdown of opinion on homosexuality was performed, and the results appear in Figure 4. Ignoring the results for the under 20's,

[Figure 4 about here]

(since there are many in this group whose ultimate level of education is not reflected by their current status), one sees a very clear trend; opinion on homosexuality is fairly stable from the 20's group to the 30 - 49 group, then increases uniformly across all education groups who are fifty and above; in other words the effects of age and education are highly significant and are additive. (The means, standard errors and F values are given in Table A4).

It was hypothesised that another demographic variable - income level - would be related to perceived seriousness scores for the two financial crimes of tax evasion and social security fraud. To check this, all respondents who were either pensioners, students, unemployed or on home duties were separated, and the remaining respondents grouped by income level. Interestingly, while tax evasion registers a highly significant trend across income groups (0.1% significance), with a progressive decline in seriousness as personal income increased (Figure 5 and Table A5), social security fraud is only just significantly related to income at the 5% level, and the trend is neither strictly up nor down. Perhaps surprisingly, those who were unemployed expressed the second lowest seriousness of all groups for the offence of tax evasion - though their sample size was only 69, so this should be treated cautiously.

[Figure 5 about here]

4.3 Groupings of Crimes by Seriousness Scores

Two commonly used techniques for reduction of multivariate data are Principal Component Analysis (PCA) and Multidimensional Scaling (MDS). These techniques can be used on a correlation or covariance matrix to reduce the space of the problem to fewer (ideally one or two) dimensions, and accordingly allow plotting of the original variables in the reduced space to facilitate identification of groupings or clusters of variables. Raveh and Landau(1986), for example, used MDS to re-analyse data of Ahamad (1967), producing a succinct representation of the relationship between the incidence of 18 different criminal offences in England and Wales between 1950 and 1963.

In a similar way, analyses were performed with the Australian seriousness data, to produce analogous groupings of offences. The latter groupings reflect similarities in perceived seriousness, however, unlike the Raveh and Landau groupings, which reflect correlations in the incidence of the offences.

Both PCA and MDS were used on the correlations of seriousness scores, and the results appear in Figures 6 and 7 respectively. In each case three analyses were done;

- (a) on the raw seriousness scores,
- (b) on the log transformed scores, and
- (c) on the rank correlations of the seriousness scores.

[Figures 6 and 7 about here]

Comparison of Figures 6 and 7 shows that the PCA results in Fig. 6 are virtually one-dimensional, and far less clustering is evident for the PCA's. This reflects two problems with PCA; one is that the first two principal components used as the axes may not account for a sufficient proportion of the total variance to adequately represent the data - this is the case here as the first and second components accounted for only about 54% and 10% of the variance respectively in each of the untransformed, log

transformed and rank correlated sets. The second problem with PCA as pointed out by Minchin (1987) is that being a linear technique, PCA imposes linearity on the graphic representation, and this can result in much more visual distortion of the relationships between items than a non-metric procedure such as MDS.

Turning to the MDS plots, it is evident that the MDS of the untransformed seriousness scores differs greatly from the log and rank transformed ones. The reason for this is that the correlations for the untransformed seriousness scores are unduly influenced by respondents ascribing extremely high seriousness scores to crimes (the maximum score being 9999). Clearly these outlying scores should have their effect reduced either by a log transformation [Fig. 7(b)] or by using rank correlations [Fig. 7(c)]. Note that the MDS stress values for the three transformations - none, log and rank - were 27%, 15% and 19% respectively in one dimension, and 11%, 6% and 7% respectively for the two dimensional plots shown in Fig. 7. Thus the stress values were most satisfactory in 2-D for the log and rank transformed data. (R^2 values were .994 and .992 respectively).

For the above reasons, Figures 7(b) and (c) are considered the plots which most accurately represent correlations of opinion on the thirteen crime seriousness scores. Both plots clearly show that attitudes to homosexuality are poorly related to attitudes on shoplifting, and that attitudes on either of these are poorly related to opinion on the remaining crimes of wife beating, tax evasion etc. The remaining 11 crimes are relatively closely clustered together - with subsets forming smaller clusters - for example tax evasion and social security fraud, whose rank correlation is 0.65.

If one examines the rank correlation matrix of crime seriousness given in Table A6, one can detect better the trend apparent in the MDS plot 7(c). It is evident that all the correlations of value .7 or more are between the crimes which involve physical harm to a victim, or at least the potential for physical harm - wife beating, child beating, stabbing a victim to death, heroin trafficking, fatal pollution, industrial accident and armed robbery. Accordingly, these crimes are clustered closely together in Fig. 7(c). However, one offence in this cluster which does not have a high correlation with the other cluster members is medicare fraud, whose maximum rank correlation is .53 with armed robbery.

This suggests that a better 2-dimensional representation of these clusters should be obtained; this is easily done by omitting homosexuality and shoplifting from a second MDS run. The results appear in Fig. 7(d), for the rank correlations, and what clearly emerges is a closely knit cluster of the physically harmful (or potentially harmful) crimes and a looser scattering of the fraud crimes - social security, tax and medicare, and of break and entry. What is of interest here is the fact that although no mention was made in the offence description of any physical harm actually occurring with the heroin trafficking, it was clearly aligned with the physically harmful crimes as far as the respondents' perceptions were concerned. So too, to a lesser extent, was armed robbery, even though the offence description explicitly stated that no-one was hurt during this offence. Obviously then the potential for harm is a potent influence on the public's view of crime seriousness.

5. SENTENCING CHOICES

Typically it has been found in previous surveys (e.g. Blumstein and Cohen 1980, Gibbons 1969), that when the public are asked to express their views on criminal punishment, their general sentiment is for quite harsher treatment than the prevailing sentencing norms. Gibbons found for instance that one fifth of his San Francisco respondents advocated imprisonment for a college professor who failed to report a manuscript-reading fee to the tax officials. In light of such findings, the current survey results in Fig. 8 offer no surprises.

[Figure 8 about here]

The death penalty was advocated by almost 30% of respondents for the fatal stabbing offence, and by almost 20% of respondents for heroin trafficking. This is in spite of the fact that Australian legislation no longer has provision for the death penalty in any state; the last execution

to be carried out in Australia was at Pentridge Prison, Melbourne, in 1967. Fig. 8 reveals the general pattern of preferences for each offence. One point to notice is that some offences attract a greater diversity of sentencing opinions than others; for example, 85% of the sample agreed that armed robbery should merit imprisonment, whereas opinion on social security fraud was divided - not quite evenly - into advocacy of a fine, a community service order, imprisonment, or probation. The most commonly selected penalties together with their modal fines and prison terms appear in Table 1. These results appear not unreasonable. Of interest is the fact that the modal fine for medicare fraud exceeds that for tax evasion, though both offences were for the same amount - \$5000. Also the fines for pollution and industrial accident (\$50 000+) are hefty by Australian standards.

[Table 1 about here]

Another point to notice is that similarity in average "seriousness" scores does not imply similarity in sentencing preferences. The most obvious example of this is given by the offences of break and entry and tax evasion; these offences have almost identical seriousness geometric means of 98 and 96 respectively, but whereas 60% of respondents would send the break and enter offender to prison, only 13% would jail the tax evader - 61% would impose a fine instead. This raises the question of what it means for two crimes to have similar "seriousness scores" - just what is "seriousness" measuring? This question has often been raised before (e.g. Rossi and Henry 1980), and it appears difficult to answer this satisfactorily.

What we will do, however, is to break down the sentencing preferences by age and education and compare these results with the same breakdowns for the seriousness scores. In the subsequent section, the relationship between sentencing and seriousness will be explored further.

[Figure 9 about here]

Figure 9 indicates the proportion of respondents who advocate "harsher" penalties for each offence by age group. This is the sentencing analogue of Figure 2, which gives the equivalent results for the seriousness scores.

The first thing to notice is that the seriousness trends in Figure 2 do not necessarily match the "harsher" sentencing trends in Figure 9. For example, while the 30 to 39 year olds are the group most concerned (in terms of seriousness scores) with wife bashing, they, with the 40 to 49 year group contain a smaller percentage of people advocating prison or life or death for this offence than do the other age groups. (They tend to advocate probation instead of the harsher sentences).

However, one trend which emerges from the seriousness analysis by age is strongly supported by the sentencing analysis; the offence of heroin trafficking clearly separates the men from the boys, so to speak. The low seriousness scores attributed to this offence by the teenagers is supported by their sentencing preference; only 36% of this age group considers heroin trafficking serious enough to merit either a life sentence or the death penalty, while this figure climbs to 45% for the 20 to 29's, 54% for the 30 to 39's and levels off at about 63% for those 40 and over. Clearly there is an enormous gap in opinion between the age groups on this issue. Yet, in comparison, the offence of stabbing a victim to death receives a uniform response of about 80% of each age group advocating a life sentence or death penalty for this crime. Thus it is not the case that the younger age groups are "soft on crime" in general, but in particular they have a less punitive attitude to drug crimes.

[Figure 10 about here]

For those crimes eliciting a large response for fines - pollution, industrial negligence, medicare fraud, tax evasion and social security fraud - a further analysis was done to see if age groups differed in the amount of money they would choose to fine the offender. The results are given in Figure 10(a), and what emerges is that age is highly related to the level of fine for each of these offences. (*F* tests give significance at the 0.1% level for pollution, industrial accident and medicare fraud,

and at the 1% level for tax evasion and social security fraud). In contrast, when a similar analysis is performed for the crimes where incarceration is a popular choice - armed robbery, child bashing, wife bashing and break and enter - the surprising result is that none of these differ significantly across age groups. In short, we have much more of a consensus on length of imprisonment than we do on the amount of a fine to be imposed.

[Figure 11 about here]

We now turn to the effect of education on sentencing choice; here, in contrast to the seriousness analysis which shows education to have a significant effect with only seven of the thirteen offences, it emerges that education has a major effect on attitudes to sentencing for all offences. In terms of the percent of respondents giving a "harsh" penalty, there was a most pronounced trend for this figure to decline from the lower education group to the tertiary trained group; this was true for all offences (ref. Fig. 11). Hence, even when there is no difference between education groups for their mean (log) seriousness scores, there is a significant difference in how they would deal with the offender, with the higher educated groups generally less inclined to advocate physical punishments of life imprisonment or the death penalty. Furthermore, for those tertiary trained respondents who do advocate imprisonment, there is a tendency to give shorter sentences than those given by the lower groups - at least for the offences of wife bashing, child bashing and break and entry [ref. Figure 12(a)].

[Figure 12 about here]

There is another side to the sentencing disposition of the higher educated group; we note that for the offence of armed robbery there is no significant difference for their preference of years imprisonment.

Furthermore, when one examines the crimes where fines are regarded as appropriate, it is apparent that the higher education group does not advocate lower fines; in fact there is a significant trend for fines levied to increase with education (at the 0.1% level for pollution, industrial accident and medicare fraud, and at the 5% level for social security and tax).

In short, while those with higher education regard about half the crimes with the same seriousness as the rest of the sample, their sentencing favours options other than imprisonment with one consequence being that the fines imposed by this group are higher than those chosen by the lower education groups.

6. THE RELATIONSHIP BETWEEN SERIOUSNESS AND SENTENCING

Rossi and Henry (1980) discussed some problems in using crime seriousness scores as a basis for drafting a criminal code. Two of the main problems were;

- (i) By assuming that sentencing should be proportional to the seriousness of the criminal act, one is subordinating the deterrent and rehabilitative roles of sentencing to the role of punishment.
- (ii) The descriptions of crimes used in crime seriousness studies have typically been abstracted from real life; for example, little or no background to the offender or victim is given - factors which are almost always taken into account in actual sentencing practice.

The authors went on to state "What is needed is research on the relationship between perceived seriousness and the appropriate punishment types and levels that correspond to levels of seriousness"

Though their comments were directed to the connection between seriousness and actual sentencing, they also have some relevance to the connection between seriousness and public opinion of sentencing.

We have seen in the previous section, for example, that with two nearly identical seriousness scores, tax evasion and break and enter attract very different responses in terms of public opinion of sentencing - the former mostly attracting a fine, while the latter attracts mostly imprisonment. So in terms of the first point raised by Rossi and Henry, it is obvious that respondents do not evaluate sentencing on the basis of proportionality to the seriousness of the offence; the question is, what criteria are they employing, and how are they employing such criteria to reach their decisions on sentencing? Presumably because respondents perceive a threat to themselves from a break and enter offence, they are generally more inclined to imprison such offenders than to imprison tax evaders. That is, the criterion of protection (rather than deterrent or rehabilitation) may be operating in favour of the respondent's choice of imprisonment for this offence (and others). Similarly, one could rationalize the choices of sentencing for the other offences.

However, the main task here is to establish the connection (if any) between public opinion of both seriousness and sentencing. An easy way to check for any superficial connection between the two is to separate the groups of respondents who advocate different types of sentencing for an offence, and compare the groups for their mean log seriousness scores. For example, Figure 13 shows the mean log seriousness scores for pollution and industrial accident when partitioned into groups of respondents who

[Figure 13 about here]

advocated either a fine, imprisonment or a life sentence. Clearly the mean seriousness scores are highest for the group advocating life, least for the group advocating a fine, and intermediate for those wanting a fixed prison term. Similar results occur for all other offences, all of them registering F values significant at less than 0.01%. This result would appear to indicate a very strong relationship between seriousness and sentencing opinions; however, what it really indicates is only that the relationship is significantly non-zero, as anyone would reasonably expect.

An indication of the strength of (or lack of) the relationship between perceived seriousness and sentencing can perhaps be demonstrated by the following means; plot the (log) fines imposed by respondents for a particular crime against their (log) seriousness scores. This is done in Figure 14, for the offence of social security fraud. The result is a significant F value (at 0.1%) for the regression of log fine on log seriousness, coupled with a paltry R^2 of 0.012. In other words the predictive value of seriousness for sentencing is near zero.

[Figure 14 about here]

In summary, these results show that the association between seriousness and sentencing, though statistically significant, is very weak. In fact, the two concepts seem to effectively complement one another; on the one hand, for example, we have the tertiary educated group giving (almost) the same mean log seriousness score to child bashing (Table A3) as the groups with less education, and on the other hand advocating imprisonment, life or the death penalty for this offence much less frequently than the other groups. In essence, seriousness seems to measure one's concern with the crime itself, while the sentence selected seems to depend heavily on the nature (real or perceived) of the offender, and on one's disposition to punishment, rehabilitation or protection. Though, as Rossi and Henry (1980) state, seriousness scores can be difficult to interpret, it seems they nevertheless provide a useful extra insight into the mental criteria involved in assessing the relative status of different crimes.

7. THE RELATIONSHIP BETWEEN PUBLIC OPINION OF SENTENCING AND COURT RECORDS

Having examined public opinions on crime, it remains to compare such opinions with actual sentencing practice, to see what extent they are in tune with one another. To this end, Table 2 offers a comparison between

the percentage of respondents opting for different sentence types and the percentage of cases gaining each type of sentence in the New South Wales courts.

[Table 2 about here]

On the one hand, some type of comparison between public opinion and actual court practice is needed, but on the other hand, one is loathe to offer this table as a guide, since the two sets of figures measure quite different things; apart from representing different geographical areas (all of Australia for the public opinion survey compared with one state, containing about one third of Australia's population, for the court statistics), the court figures refer to judgements on different cases which happen to fall under the category, say, of "break, enter and steal". Each case may have been quite different in regard to the amount stolen, the amount of damage caused, and in particular in regard to the defendant's character and prior record. In comparison, the public opinion survey responses were given to the same offence with no information on the background of the offender. Consequently comparisons between the sets of figures are not very meaningful.

Parenthetically, it may be noted that Gibbons (1969), tried to overcome (at least partially) the gap between survey questions and court data by constructing lengthy crime descriptions based on the "norms" for different crime types appearing before the San Francisco courts. For example, instead of presenting a question such as "What do you think should be done with a person who commits rape?" - which he contended could easily conjure up the stereotyped image of a "wild-eyed psychopathic rapist hiding in a rhododendron bush, waiting for an opportunity to brutally assault some female" - he gave descriptions which more realistically portrayed the "typical" offenders, victims and the circumstances under which the crime was performed. Nevertheless, many actual court cases still varied from his "norms", and he still obtained the traditional result that respondents gave a greater percentage of "harsh" sentences than the courts.

If one aim of gaining public opinion on sentencing is to compare it directly with court decisions, then the data collected from each source must be put on the same footing. This means that instead of comparing public opinion on one "representative" murder with court statistics arising from many different murders, each with widely varying circumstances, a more appropriate procedure would be as follows. Take a specific group of murders, rapes, burglaries, etc. which have appeared before the courts, and produce concise summaries of these cases which include details relevant to sentencing - the nature and circumstances of the crime, the background of victim and offender, and the prior record of the offender. Then if the majority of the public disagrees with the actual sentence imposed for the particular case, we would have much more convincing evidence of a gap between sentencing practice and "what the public wants".

Returning to the Australian study, there was one offence contained therein which had actually appeared before the Industrial Court of South Australia in 1982; for the offence where a factory worker lost his leg in machinery which the company failed to provide adequate safeguards for, the court handed down a fine of \$250. This comes nowhere near the most favoured public response of a fine of at least \$50,000! One might concede that the survey question could have carried a fuller description of the circumstances of the offence and of the company's financial status to make the description given to respondents more compatible with what was presented in court; nevertheless, the difference between the two figures is several orders of magnitude, and clearly points to the \$250 imposition as being totally out of touch with popular feeling on the seriousness of the offence.

Similar reconstructions of other crimes which have appeared before the courts could be used to check on which offence types the courts were in tune with public feeling, and to pick out the occasional gross discrepancy such as the industrial accident case. Such reconstructions were not used in the current survey, (except for the industrial accident), since one of the aims was to check the Australian data against the U.S. results, and that required using very similar questions to those employed in the U.S. study.

8. SUMMARY AND CONCLUSIONS

The Australian public expresses a wide range of views of crime seriousness and sentencing. These views apparently differ from those expressed in the U.S.A., and it is interesting to speculate whether or not the two will remain disparate in the future.

As has been found in overseas studies, we have noted age and education as significant factors related to opinions on crime seriousness and sentencing. Also, the complementary aspects of "seriousness" and "sentencing" have been explored.

A result of some interest has been that the public reacts very strongly not just to the amount of physical harm actually caused in an offence, but also to the extent to which the potential for physical harm is present.

One should finally address the question as to how these results may be put to practical use.

One answer to this is simply that the feedback from such a survey allows a much more enlightened debate to occur in parliament, the media, and judicial circles as to "what the public wants"; some decisions in the past have been made on the basis that they had substantial public support, but in fact no-one had ever checked whether this were true. At least now the data are in, and claims for public support of execution etc. can be verified or denied accordingly.

A specific result from the survey which should be heeded is the enormous "generation gap" in attitudes to heroin trafficking. If the authorities are serious about reducing the incidence of heroin abuse, they face the problem of turning around opinion amongst teenagers who regard drug crimes far less seriously than their parents, politicians or the courts. That is, it is not just the heroin users who need to be targeted, but the entire age group must be targeted for opinion change; only then can peer group pressure be reduced sufficiently to have an effect on the incidence of heroin abuse.

Another use of this survey might have been to monitor how the courts perform by evaluating the degree to which the sentencing records match public opinion on sentencing. As explained in the previous section, this

comparison could only be satisfactorily made for one offence, and an outline was given of how this could be extended to compare other offences in future studies. That such an issue is important can be argued on two grounds. Firstly, the law has an obligation to crime victims and to the public in general to ensure that "justice is done"; as Smith (1983) states:

"... I think that one of the important objectives in the criminal law is something quite different from the three objectives that are normally referred to: punishment, reform or deterrence. The criminal law, I think, has as one of its major purposes, the reassurance of the community (emphasis added) - to make people feel that they are sleeping safely in their beds - and if the community thinks judges are imposing inadequate sentences, and that crime is increasing too rapidly and that it is going to get worse with judges not doing anything about it, it is a very bad thing socially."

Secondly, without scope for monitoring and feedback, the judicial system is prone to criticism of arbitrariness and lack of uniformity in the sentencing process. Sallmann and Willis (1984), for example, take to task the sentencing system in Australian courts. One of their main criticisms is:

".... the wide range of sentencing aims - many of them conflicting - which are espoused by various judicial officers points to the lack of any proper, uniform basis for sentencing. There is evidence that individual sentencing officers often do not have a clear framework of principles in mind but rather decide on a sentence and then seek to fit it into one or more of the traditionally established categories of penal justification."

A means of improving the sentencing process suggested by these authors is the provision of some statistical information on sentencing - that is, court statistics on sentence type, duration, fines etc., for different types of offences. If such information is useful in removing some arbitrariness from the sentencing process, then so too is public monitoring of sentencing.

APPENDIXWording used for Eliciting Seriousness Scores

"A person steals a bicycle parked on the street". This has been given a score of 10 to show its seriousness. Use this first situation to judge all the others. For example, if you think a situation is 20 TIMES MORE serious than the bicycle theft, the number you should tell me is around 200, or if you think it is HALF AS SERIOUS, the score you should tell me should be around 5 and so on. There is no upper limit; use ANY number so long as it shows how serious you think the situation is. If you think something should not be a crime give it a zero.

TABLE A1 : COMPARISON OF AUSTRALIAN AND U.S. SERIOUSNESS SCORES.
LOG MEANS, STANDARD ERRORS, Z VALUES AND GEOMETRIC MEANS

Country	Question	Mean of Log Scores (Y)	Standard Error of Y.	Geometric Mean of Scores (G)	Z Value
Australia	A person breaks into a home and steals \$1000 worth of household goods.	1.990	0.012	97.7	
U.S.A.	A person breaks into a home and steals \$1000	2.322	0.011	210.0	-19.9***
Australia	A doctor cheats on claims to a Commonwealth health insurance plan for patient services for an amount of \$5000	2.154	0.014	142.6	
U.S.A.	A doctor cheats on claims he makes to a Federal Health insurance plan for patient services. He gains \$10,000	2.470	0.013	295.1	-16.1***
Australia	A parent beats his child with his fists. The child is hurt and spends a few days in hospital	2.461	0.015	289.1	
U.S.A.	A parent beats his young child with his fists. The child requires hospitalization	2.699	0.015	500.8	-11.0***
Australia	A person smuggles heroin into the country for resale	2.856	0.015	717.8	
U.S.A.	A person smuggles heroin into the country	2.629	0.016	426.5	10.7***
U.S.A.	A person sells heroin to others for resale	2.654	0.016	451.7	9.02***

Australia	Two adult males willingly engage in a homosexual act in private	.898	.024	7.9	
U.S.A.	Two persons willingly engage in a homosexual act	1.458	.020	28.8	-17.65***
Australia	A factory knowingly gets rid of its poisonous waste in a way that pollutes the city water supply. As a result one person dies	2.760	0.015	575.4	
U.S.A.	A factory knowingly gets rid of its waste in a way that pollutes the water supply of a city. As a result one person dies	2.639	0.013	436.1	5.99***
Australia	A person cheats on their Commonwealth income tax return and avoids paying \$5,000 in taxes	1.984	0.018	96.4	
U.S.A.	A person cheats on his Federal income tax return and avoids paying \$10,000 in taxes	2.126	0.014	133.7	-6.09***
Australia	A person steals \$5 worth of goods from a shop	1.242	0.018	17.5	
U.S.A.	A person steals \$10 worth of merchandise from the counter of a department store	1.677	0.011	47.6	-20.17***
Australia	A man beats his wife with his fists. As a result she spends a few days in hospital	2.462	0.015	289.7	
U.S.A.	A man beats his wife with his fists. She requires hospitalization	2.602	0.013	400.8	-6.91***

Australia	A person stabs a victim to death	2.977	0.015	948.4	
U.S.A.	A person stabs a victim to death	2.892	0.008	781.4	4.89***
Australia	A person illegally receives social security cheques worth \$1,000	2.206	0.016	160.7	
U.S.A.	A person illegally gets monthly welfare checks	2.208	0.012	161.4	-0.10
U.S.A.	A person illegally gets monthly welfare checks of \$200	2.257	0.012	180.9	-2.52*
Australia	A person armed with a gun robs a bank of \$5,000 during business hours. No-one is physically hurt	2.587	0.015	386.4	
U.S.A.	A person armed with a gun robs a bank of \$100,000 during business hours. No-one is physically hurt	2.587	0.014	387.1	-0.04
Australia	A worker had his leg caught in an unguarded piece of machinery because the employer knowingly failed to provide safety measures As a result the worker lost his leg	2.693	0.016	493.2	
U.S.A.	No USA equivalent				NA

***significant at 0.1%

**significant at 1%

*significant at 5%

**TABLE A2: MEANS, STANDARD ERRORS AND
F VALUES FOR LOG SERIOUSNESS SCORES BY AGE**

	14-19	20-29	30-39	40-49	50-59	60+	F value
	N	270	500	565	370	270	
Break Enter	1.93 (.03)	1.94 (.03)	2.00 (.03)	2.01 (.03)	2.02 (.04)	2.02 (.03)	1.88
Medicare Fraud	2.06 (.04)	2.11 (.03)	2.19 (.03)	2.15 (.03)	2.23 (.05)	2.17 (.03)	2.41*
Child Bashing	2.38 (.04)	2.52 (.03)	2.54 (.03)	2.42 (.04)	2.47 (.05)	2.37 (.03)	4.10***
Heroin Trafficking	2.64 (.05)	2.80 (.03)	2.89 (.03)	2.87 (.04)	2.97 (.05)	2.93 (.03)	7.56***
Homosexuality	1.00 (.07)	0.75 (.05)	0.71 (.04)	0.83 (.06)	1.01 (.08)	1.23 (.06)	13.10***
Pollution	2.64 (.04)	2.75 (.04)	2.81 (.03)	2.75 (.04)	2.85 (.05)	2.74 (.03)	2.58**
Tax Evasion	1.95 (.05)	1.91 (.04)	1.98 (.04)	1.95 (.05)	2.04 (.05)	2.08 (.04)	2.23*
Shoplifting	1.14 (.05)	1.26 (.04)	1.25 (.04)	1.16 (.04)	1.24 (.05)	1.33 (.04)	2.38*
Wife Bashing	2.40 (.05)	2.51 (.03)	2.51 (.03)	2.43 (.04)	2.45 (.05)	2.43 (.03)	1.51
Stab to Death	2.85 (.04)	2.98 (.03)	3.01 (.03)	2.94 (.04)	3.03 (.05)	3.01 (.03)	2.47*
Social Security	2.09 (.04)	2.13 (.03)	2.20 (.03)	2.24 (.04)	2.33 (.05)	2.25 (.04)	3.93**
Armed Robbery	2.42 (.04)	2.55 (.03)	2.60 (.03)	2.62 (.04)	2.70 (.05)	2.62 (.03)	4.74***
Industrial Accident	2.56 (.05)	2.68 (.04)	2.70 (.03)	2.70 (.04)	2.77 (.05)	2.73 (.04)	2.21

*** significant at 0.1%
** significant at 1%
* significant at 5%

**TABLE A3 : MEANS, STANDARD ERRORS AND F VALUES
FOR LOG SERIOUSNESS SCORES BY EDUCATION**

	Primary or Some Secondary	Complete Secondary	Some Tertiary or Graduate	F Value
N	1029	820	518	
Break Enter	2.04 (.02)	1.97 (.02)	1.94 (.03)	5.71**
Medicare Fraud	2.19 (.02)	2.15 (.02)	2.10 (.03)	2.78
Child Bashing	2.48 (.02)	2.46 (.02)	2.42 (.04)	1.77
Heroin Trafficking	2.89 (.02)	2.81 (.02)	2.85 (.03)	2.68
Homosexuality	1.11 (.04)	0.83 (.04)	0.60 (.04)	35.01***
Pollution	2.77 (.02)	2.74 (.03)	2.78 (.04)	0.49
Tax Evasion	2.06 (.03)	1.94 (.03)	1.90 (.04)	7.87***
Shoplifting	1.28 (.03)	1.24 (.03)	1.17 (.04)	3.27*
Wife Bashing	2.49 (.02)	2.46 (.02)	2.40 (.03)	2.50
Stab to Death	3.01 (.02)	2.96 (.02)	2.94 (.03)	1.58
Social Security	2.27 (.02)	2.22 (.03)	2.07 (.03)	11.86***
Armed Robbery	2.62 (.02)	2.59 (.03)	2.52 (.03)	3.66**
Industrial Accident	2.75 (.02)	2.66 (.03)	2.64 (.04)	4.65**

***significant at 0.1%

**significant at 1%

*significant at 5%

TABLE A4 : HOMOSEXUALITY SERIOUSNESS BYAGE AND EDUCATION

		E D U C A T I O N		
		Some Tertiary or Graduate	Complete Secondary	Primary or Some Secondary
A G E	14-19	.55 (.19) N = 33	1.12 (.11) N = 128	.99 (.11) N = 103
	20-29	.58 (.08) N = 142	.70 (.07) N = 234	1.03 (.12) N = 108
	30-49	.53 (.06) N = 261	.73 (.06) N = 307	.94 (.07) N = 350
	50+	.82 (.13) N = 85	.98 (.09) N = 161	1.27 (.06) N = 450

Source	F Value
Education	9.92***
Age	5.22***
Education x Age	0.97

*** significant at 0.1%

TABLE A5 : SERIOUSNESS OF TAX EVASION AND
SOCIAL SECURITY FRAUD BY
EMPLOYMENT STATUS AND INCOME

	Tax Evasion	Social Security Fraud
Home Duty N = 619	2.09 (.03)	2.29 (.03)
Pensioner N = 265	2.05 (.08)	2.21 (.05)
Student N = 145	1.99 (.07)	2.07 (.06)
Unemployed N = 69	1.78 (.11)	2.03 (.09)
Under \$10,000 N = 288	2.09 (.05)	2.24 (.05)
\$10,000 - 15,000 N = 210	2.05 (.06)	2.32 (.06)
\$15,000 - 20,000 N = 306	1.99 (.05)	2.18 (.04)
\$20,000 - 30,000 N = 317	1.82 (.05)	2.19 (.04)
\$30,000 + N = 186	1.73 (.07)	2.04 (.06)
F value by Income Level	6.67 ^{***}	2.11 [*]

*** Significant at 0.1%

* Significant at 5%

TABLE A6 : RANK CORRELATIONS OF SERIOUSNESS SCORES

	B r e a k	M e d i	C h i l d	H e r o i n	H o m o s e x	P o l l u t	T a x	S h o p	W i f e	S t a b	S o c i a l	R o b b e r y	I n d u s t
Break Enter	1.0												
Medicare Fraud	.68	1.0											
Child Bashing	.52	.60	1.0										
Heroin Traffic.	.50	.58	.71	1.0									
Homosex- uality	.10	.09	.05	.06	1.0								
Pollution	.48	.59	.71	.81	.07	1.0							
Tax Evasion	.44	.54	.46	.47	.17	.48	1.0						
Shop- lifting	.17	.11	.12	.10	.15	.11	.22	1.0					
Wife Bashing	.50	.57	.82	.69	.10	.71	.49	.15	1.0				
Stab to Death	.47	.54	.69	.81	.08	.81	.47	.11	.74	1.0			
Social Security	.51	.58	.54	.56	.18	.57	.65	.25	.58	.56	1.0		
Armed Robbery	.53	.59	.64	.73	.08	.72	.54	.16	.69	.74	.69	1.0	
Indust. Accident	.46	.57	.68	.74	.07	.79	.51	.12	.72	.79	.62	.76	1.0

**TABLE 1 : MOST COMMONLY SELECTED PENALTIES AND
MODAL CHOICES OF FINE OR DURATION OF IMPRISONMENT**

Offence	Modal Punishment	Modal Fine/Prison Term
Homosexuality	No Penalty (69%)	n.a.
Shoplifting (\$5)	Warning (51%)	n.a.
Tax Evasion (\$5000)	Fine (61%)	\$5,000 - \$10,000
Break and Entry	Prison (60%)	6 mth - 2 yrs
Medicare Fraud	Fine (60%)	\$10,000 - \$50,000
Social Security Fraud (\$1000)	Fine (41%)	\$1,000 - --\$2,000
Child Bashing	Prison (47%)	6 mth - 2 yrs
Wife Bashing	Prison (36%)	6 - 12 mth
Armed Robbery (\$5000)	Prison (85%)	2 - 5 yrs
Industrial Accident	Fine (66%)	\$50,000 or more
Pollution	Fine (57%)	\$50,000 or more
Heroin Trafficking	Prison (42%)	5 - 10 yrs
Stabbing to Death	Life (53%)	n.a.

TABLE 2 : COMPARISON OF SENTENCING RESULTS FROM SURVEY

WITH 1983 COURT STATISTICS OF N.S.W.

Surveyed Offence and Nearest Corresponding Statistical Category	Penalty Type (Percent)								
	N o P e n	W a r n	F i n e	P r o b a t	C S O	P r i s o n	L i f e	D e a t h	T o t a l
1. Stab to Death Murder (N = 43)	- -	- -	- -	- -	- -	17 24	53 76	29 n.a.	100 100
2. Heroin Trafficking Drugs Import/Export(N=63)	- -	- -	2 5	1 15	1 -	42 80	36 -	18 n.a.	100 100
3. Industrial Pollution Pollution of Waters *	- -	2 -	57 -	2 -	3 -	28 -	6 -	1 -	100 -
4. Industrial Accident Industrial Negligence *	1 -	4 -	66 -	3 -	2 -	22 -	2 -	- -	100 -
5. Armed Robbery Armed Robbery (N = 401)	- -	1 -	5 -	3 15	3 5	85 80	3 -	- n.a.	100 100
6. Child Beating Assault Child (N = 74)	- -	7 24	4 27	24 42	13 -	47 6	2 -	- n.a.	100 100
7. Wife Beating Assault ABH (N = 693)	9 -	11 11	7 11	21 60	16 6	36 12	1 -	- n.a.	100 100
8. Social Security Fraud	1	6	41	10	24	17	-	-	100
9. Medicare Fraud	-	3	60	6	6	24	-	-	100
10. Tax Fraud	2	8	61	7	8	13	-	-	100
Fraud and Misappropriate (N = 608)	-	4	1	59	8	29	-	n.a.	100
11. Break and Enter Break Enter and Steal (N = 1589)	- -	1 2	17 10	11 46	11 10	60 32	- -	- -	100 100
12. Homosexuality No Offence	69 -	10 -	3 -	4 -	3 -	6 -	1 -	1 -	100 -
13. Shoplifting Shoplifting (N = 6270)	3 -	51 15	11 68	15 12	11 1	8 3	- -	- n.a.	100 100

* No Comparable Figures Available

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LIST OF FIGURE CAPTIONS

Figure 1 Comparison of geometric means for twelve offences for U.S.A. and Australia.

Figure 2 Mean log seriousness scores for 13 offences by Age group.

Figure 3 Mean log seriousness scores for 13 offences by Education.

Figure 4 Mean log seriousness scores for Homosexuality by Age and Education.

Figure 5 Mean log seriousness scores for Tax Evasion and Social Security Fraud by Employment Status and Income.

Figure 6 Plots of Crimes against first two Principal Components of Crime Seriousness Correlations

* represents Heroin, Pollution and Stabbing offences.

(a) Untransformed Seriousness Scores.

1st PC 52% of variance.

2nd PC 11% of variance.

(b) Log Transformed Seriousness Scores.

1st PC 54% of variance.

2nd PC 10% of variance.

(c) Rank Correlations of Seriousness Scores.

1st PC 56% of variance.

2nd PC 10% of variance.

Figure 7 Plots of Crimes representing their Seriousness Correlations in 2-D by Multidimensional Scaling.

- (a) Untransformed Seriousness Scores.
Stress = .11, $R^2 = .964$.
- (b) Log Transformed Seriousness Scores.
Stress = .06, $R^2 = .994$.
@ represents Robbery, Medicare offences.
\$ represents Tax, Social Security offences.
represents Stabbing, Child Bashing, Pollution, Industrial Accident and Heroin offences.
- (c) Rank Correlations of Seriousness Scores.
Stress = .07, $R^2 = .992$
\$ represents Tax, Social Security offences.
represents Medicare, Stabbing, Heroin, Pollution, Child Bashing, Robbery and Industrial Accident offences.
- (d) Rank Correlations of Seriousness Scores,
Omitting Homosexuality and Shoplifting.
Stress = .07, $R^2 = .98$
represents Heroin, Pollution and Wife Bashing offences.

Figure 8 Cumulative Percent of Respondents Ascribing Different Punitive Measures for 13 Offences.

- Figure 9 (a) Percent of Respondents Advocating Prison or Life Sentence or Death Penalty by Age for 7 Offences.
- (b) Percent of Respondents Advocating Life Sentence or Death Penalty by Age for Stabbing a Victim to Death and for Heroin Trafficking.

Figure 10 (a) Mean Fine (Log Dollars) for Five Crimes by Age Group.
Figures indicate sample sizes.

(b) Mean Length of Incorrelation (Log Years) for Four Crimes
by Age Group.
Figures indicate sample sizes.

Figure 11 (a) Percent of Respondents Advocating Life Sentence or Death
Penalty for Stabbing and Heroin Trafficking by Education.

(b) Percent of Respondents Advocating Imprisonment, Life
Sentence or Death Penalty for 7 offences by Education.

Figure 12 (a) Mean Log Years Imprisonment by Education.

(b) Mean Fine (Log \$) by Education.

Figure 13 Mean Log Seriousness for Pollution and Industrial Accident
by Choice of Sentence.

Figure 14 Scatterplot of Log Fine for Social Security Fraud against Log
Seriousness.

Seriousness Geometric Mean

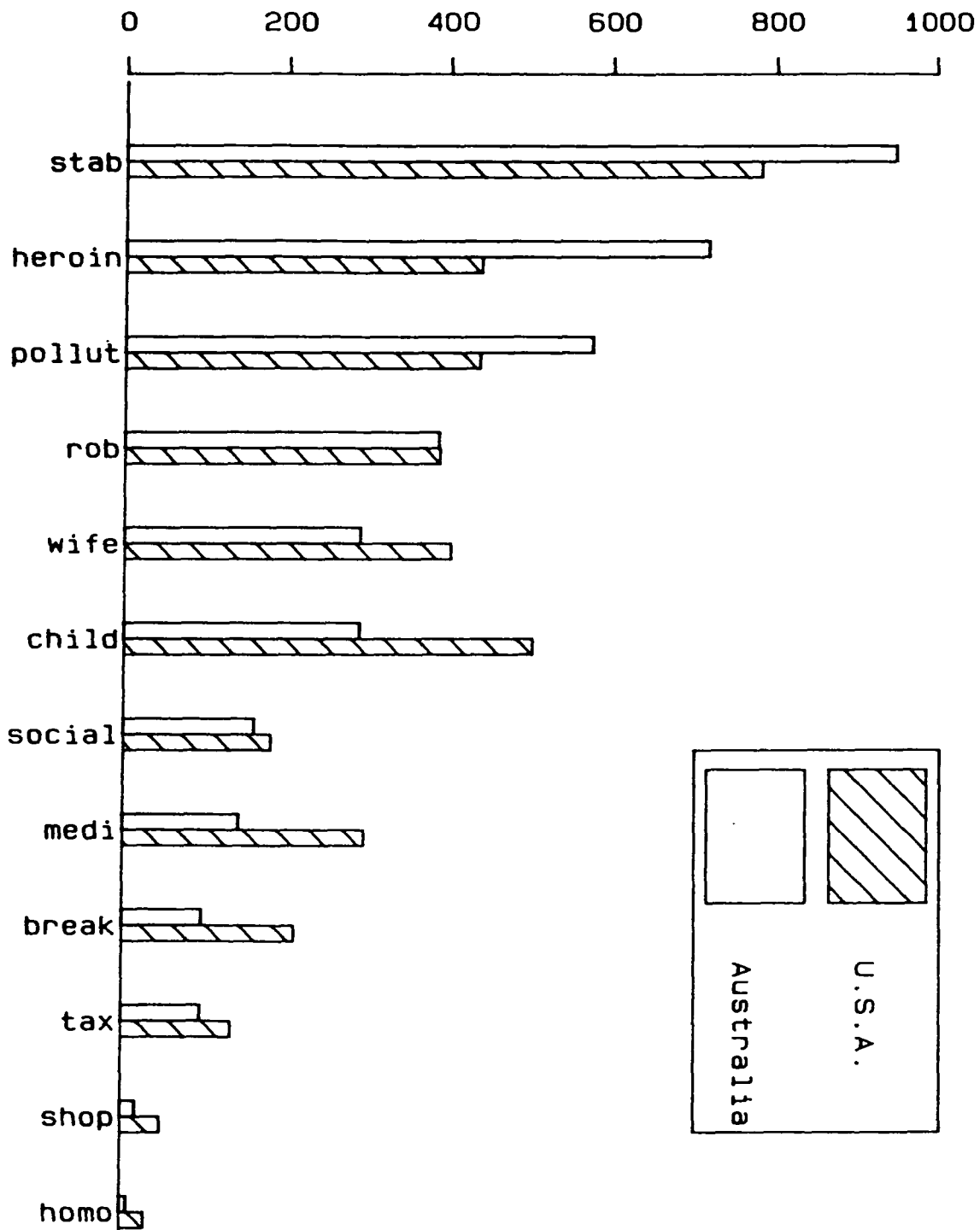


FIG. 1

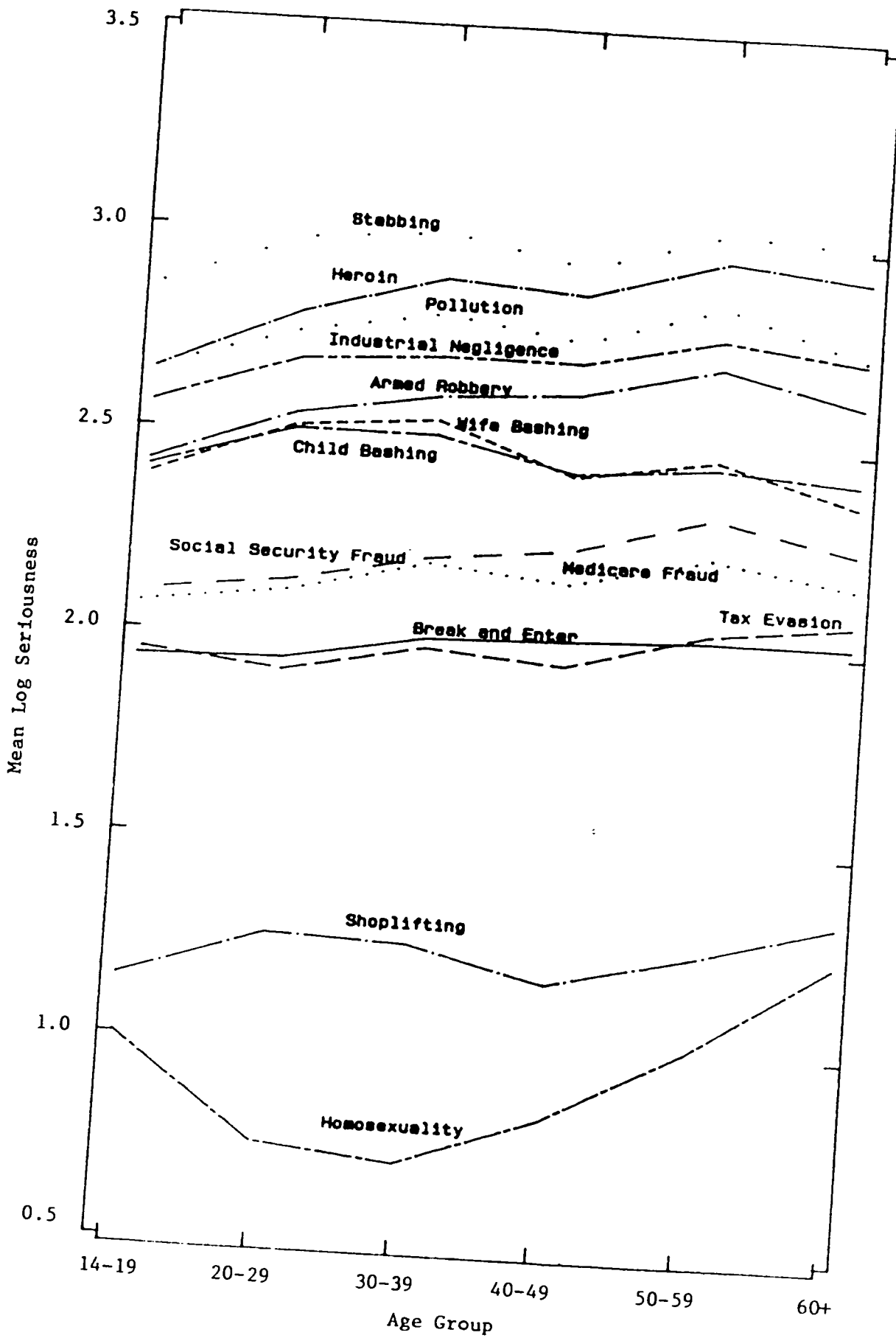


Fig. 2

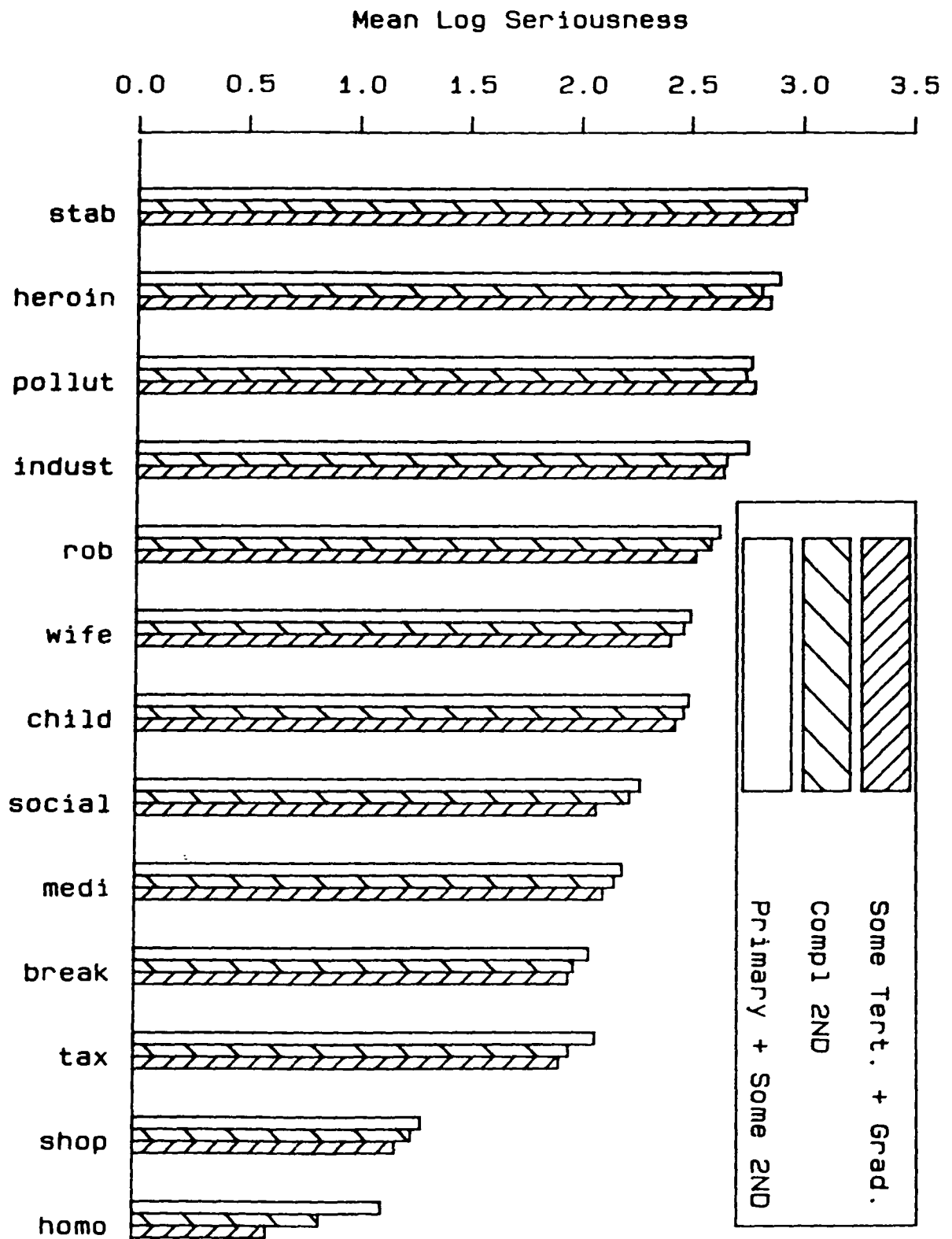


FIG. 3

Mean Log Seriousness for Homosexuality

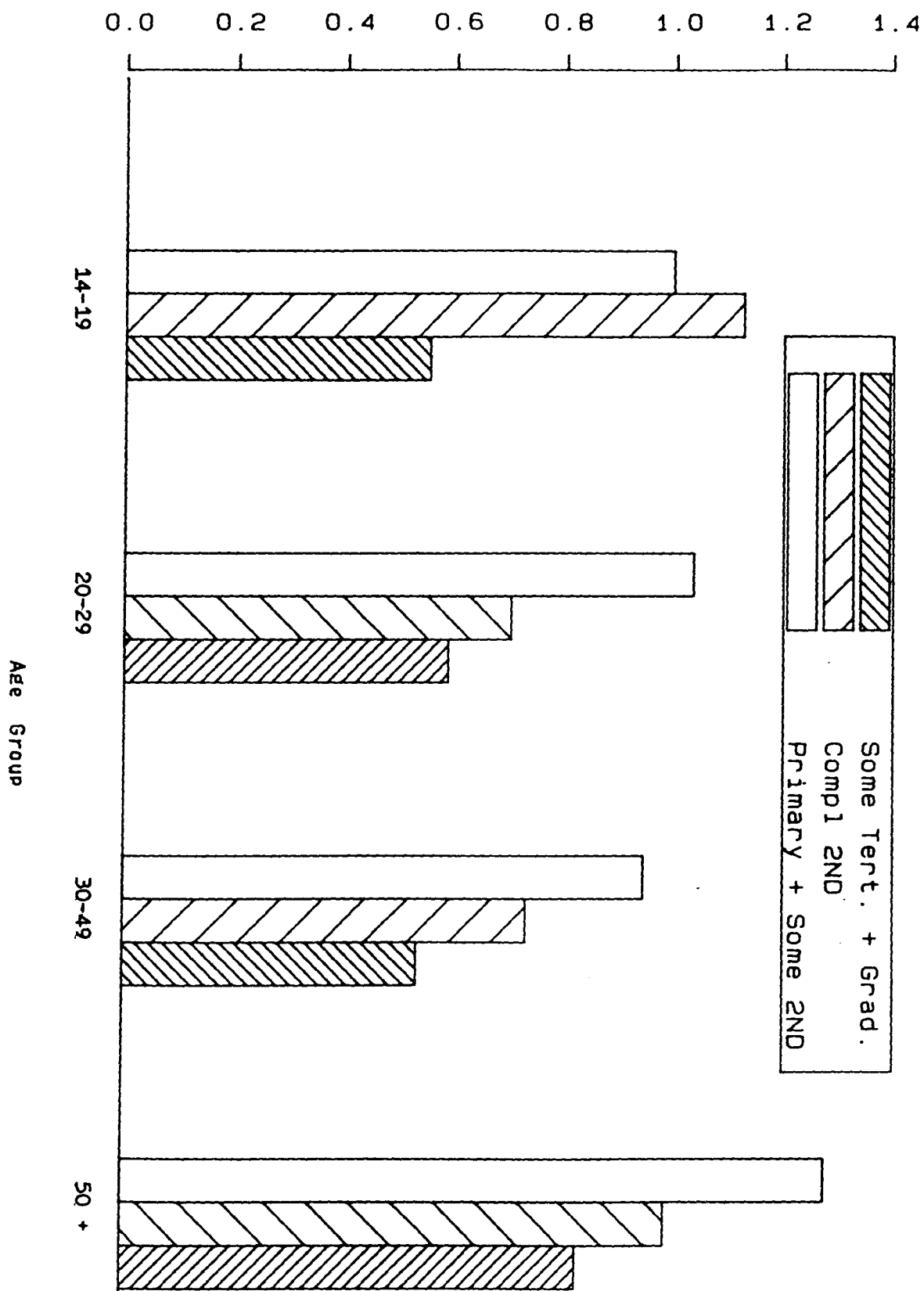


FIG. 4

Mean Log Seriousness

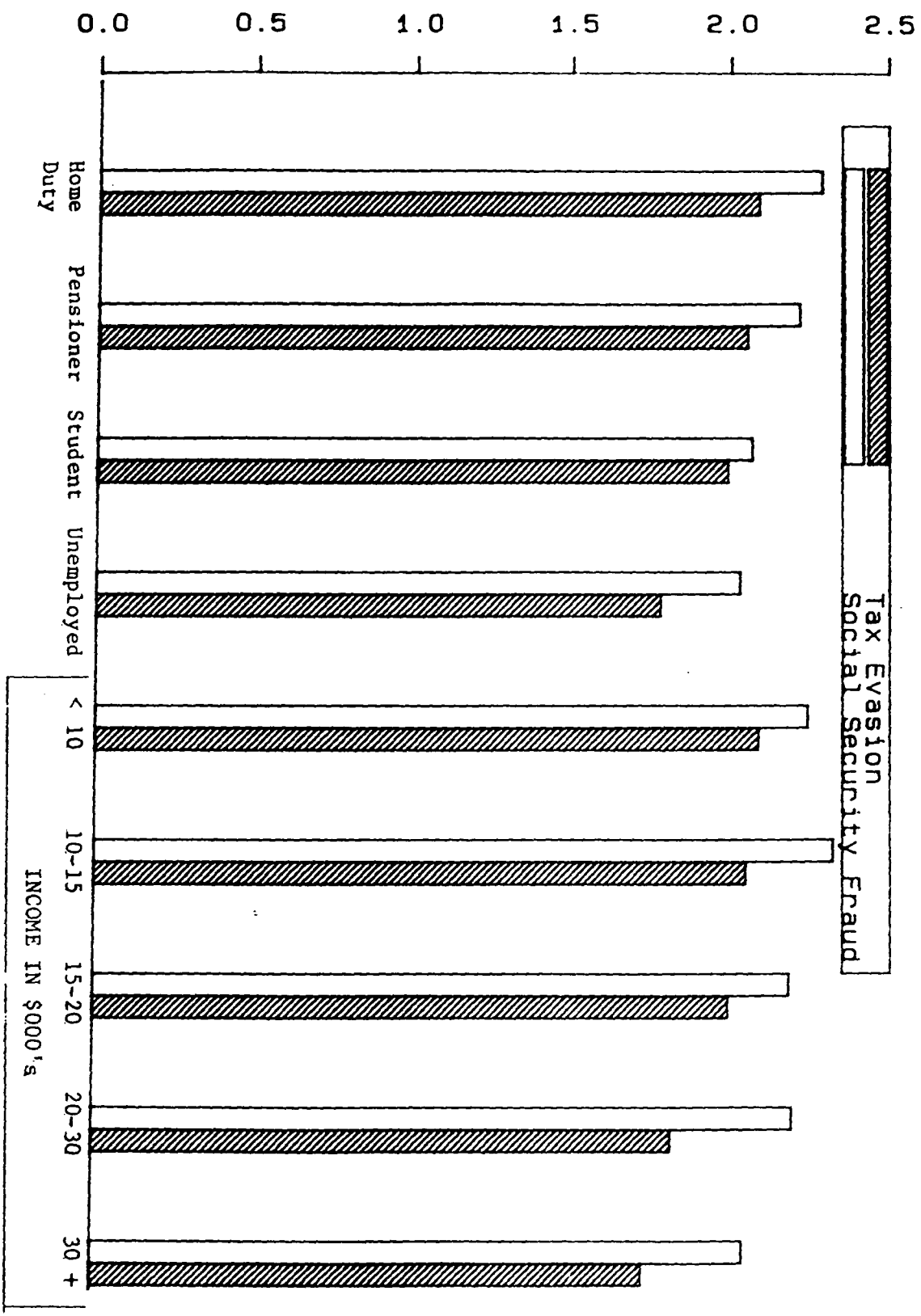


Fig. 5

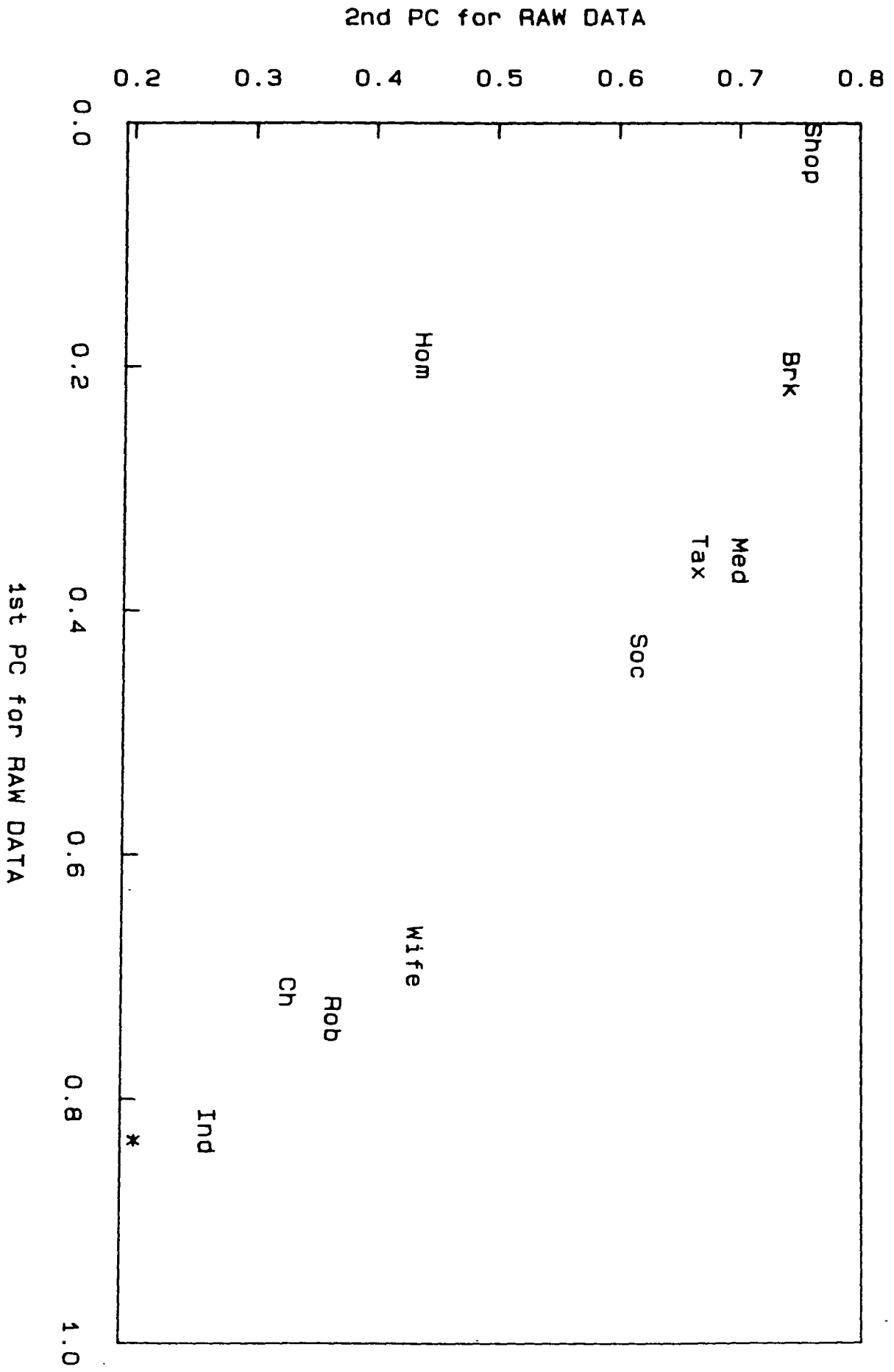


Fig. 6a

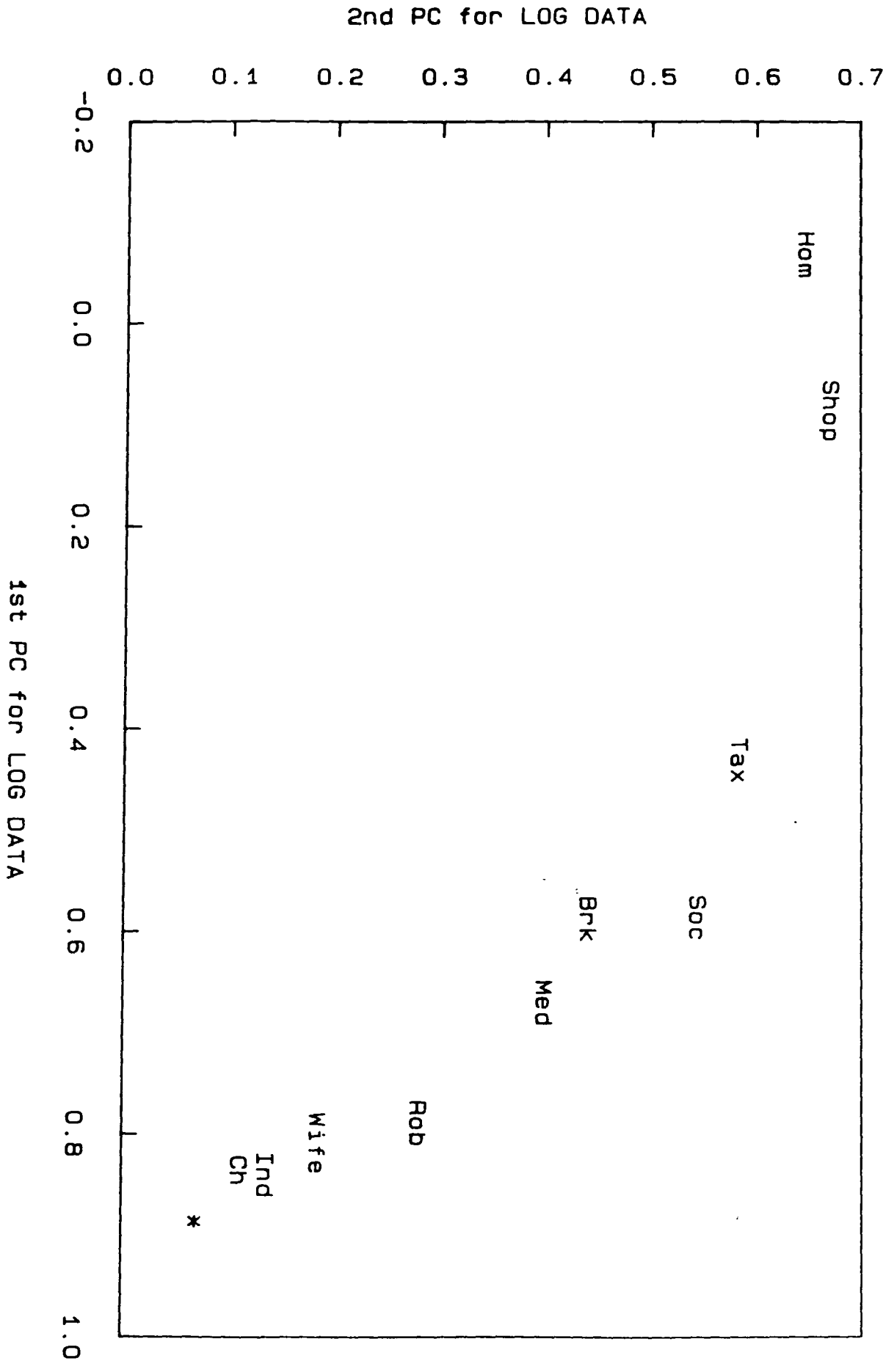


Fig. 6b

2nd PC for RANK DATA

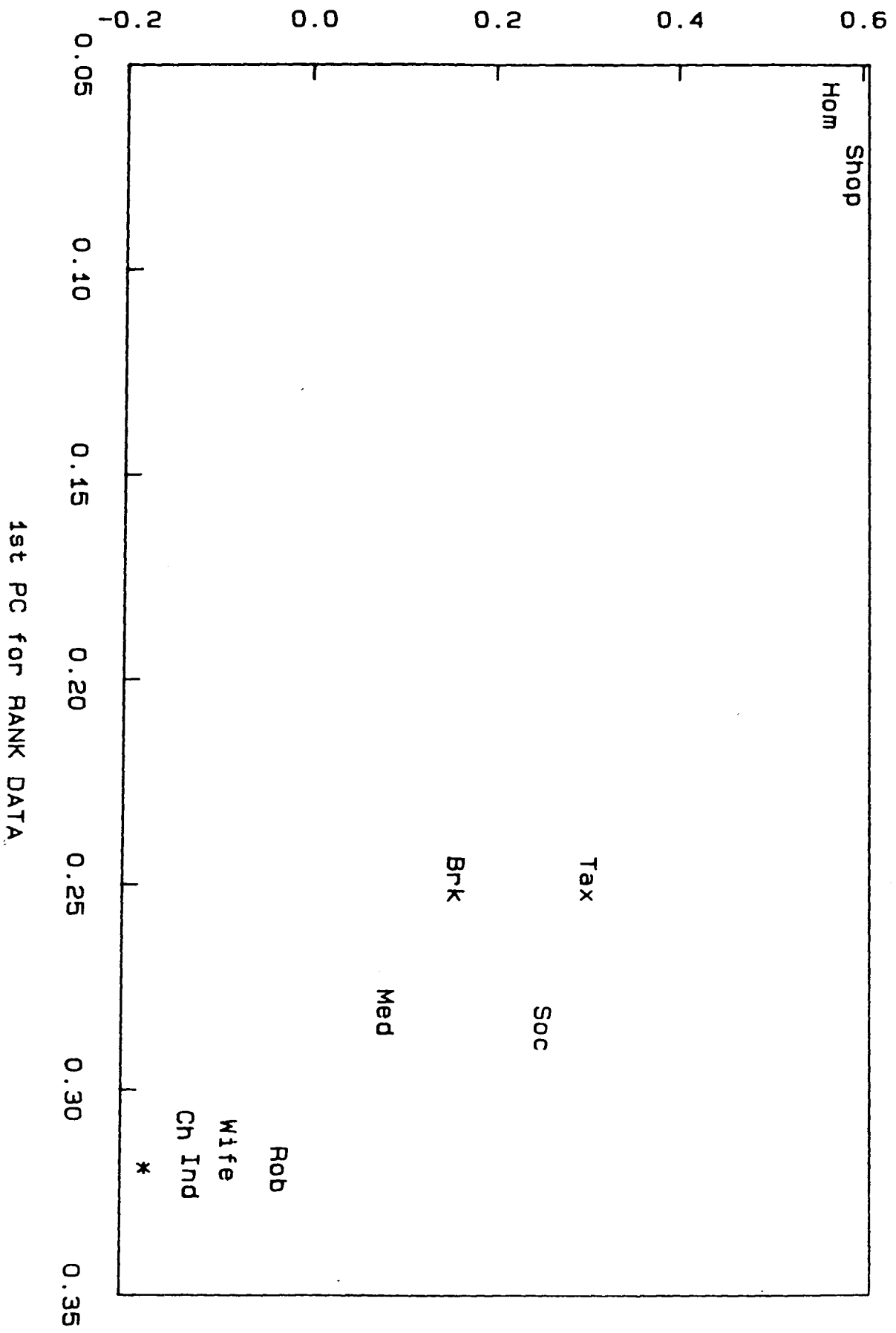


Fig. 6c

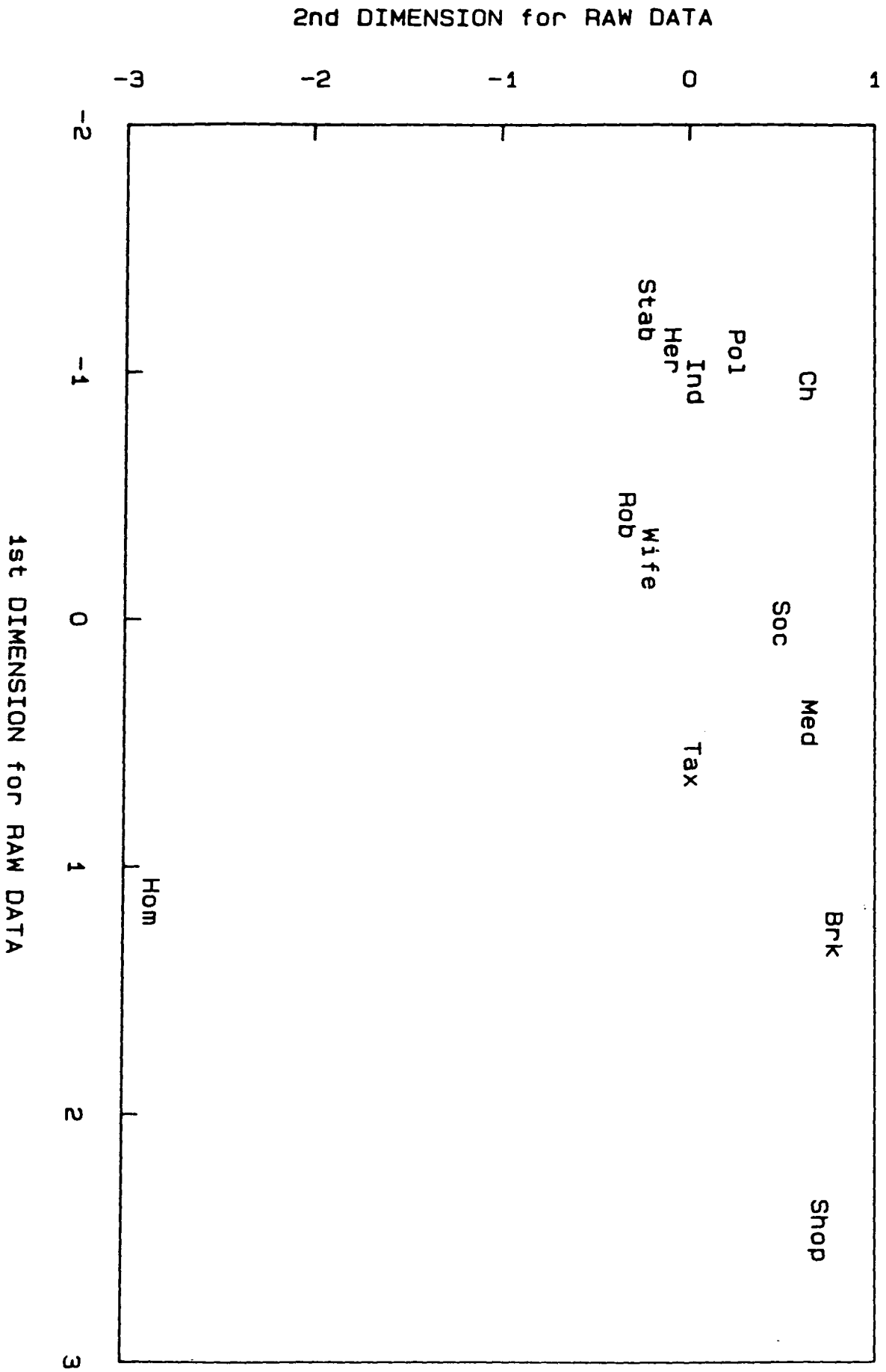


Fig. 7a

2nd DIMENSION for LOG DATA

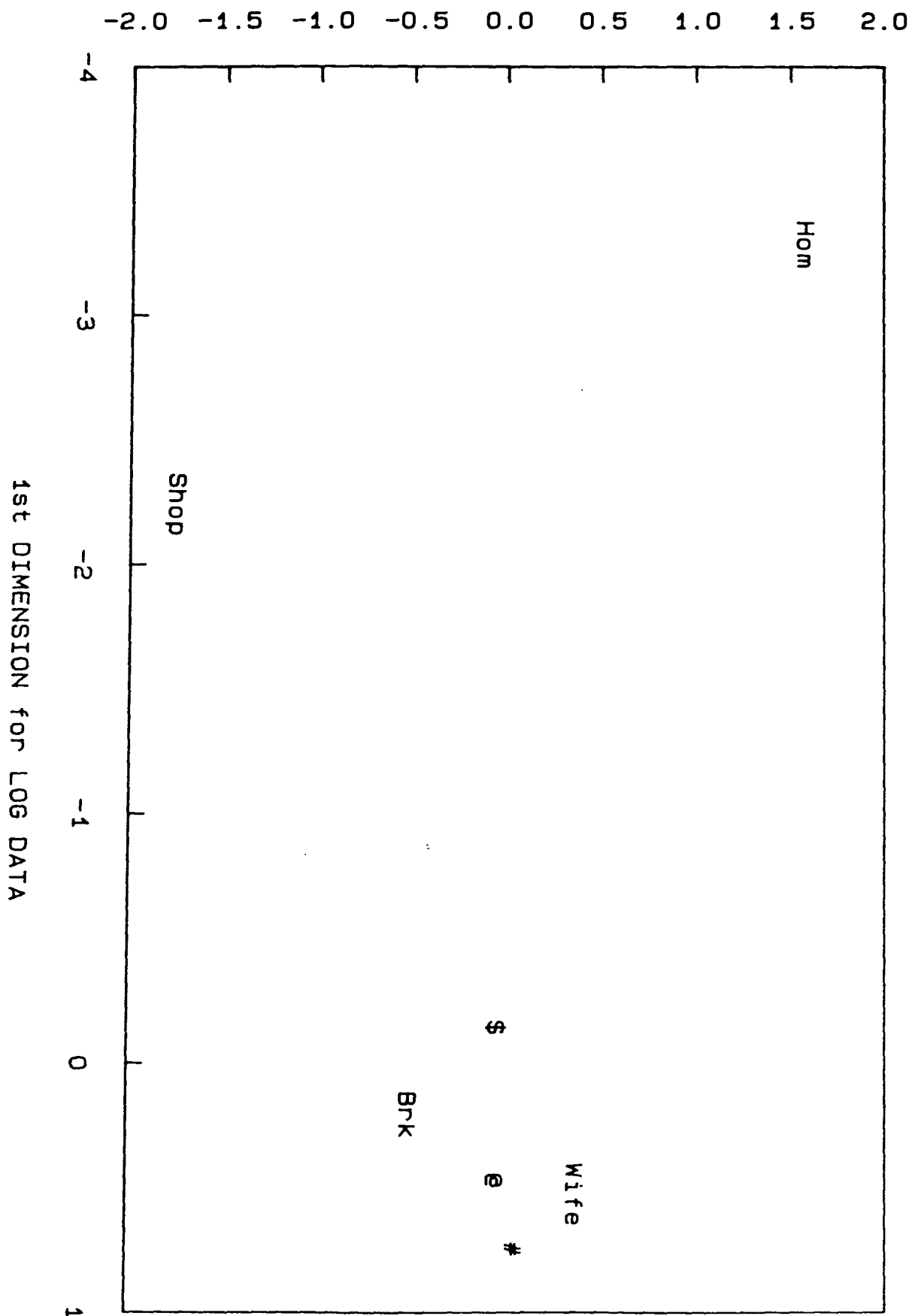


Fig. 7b

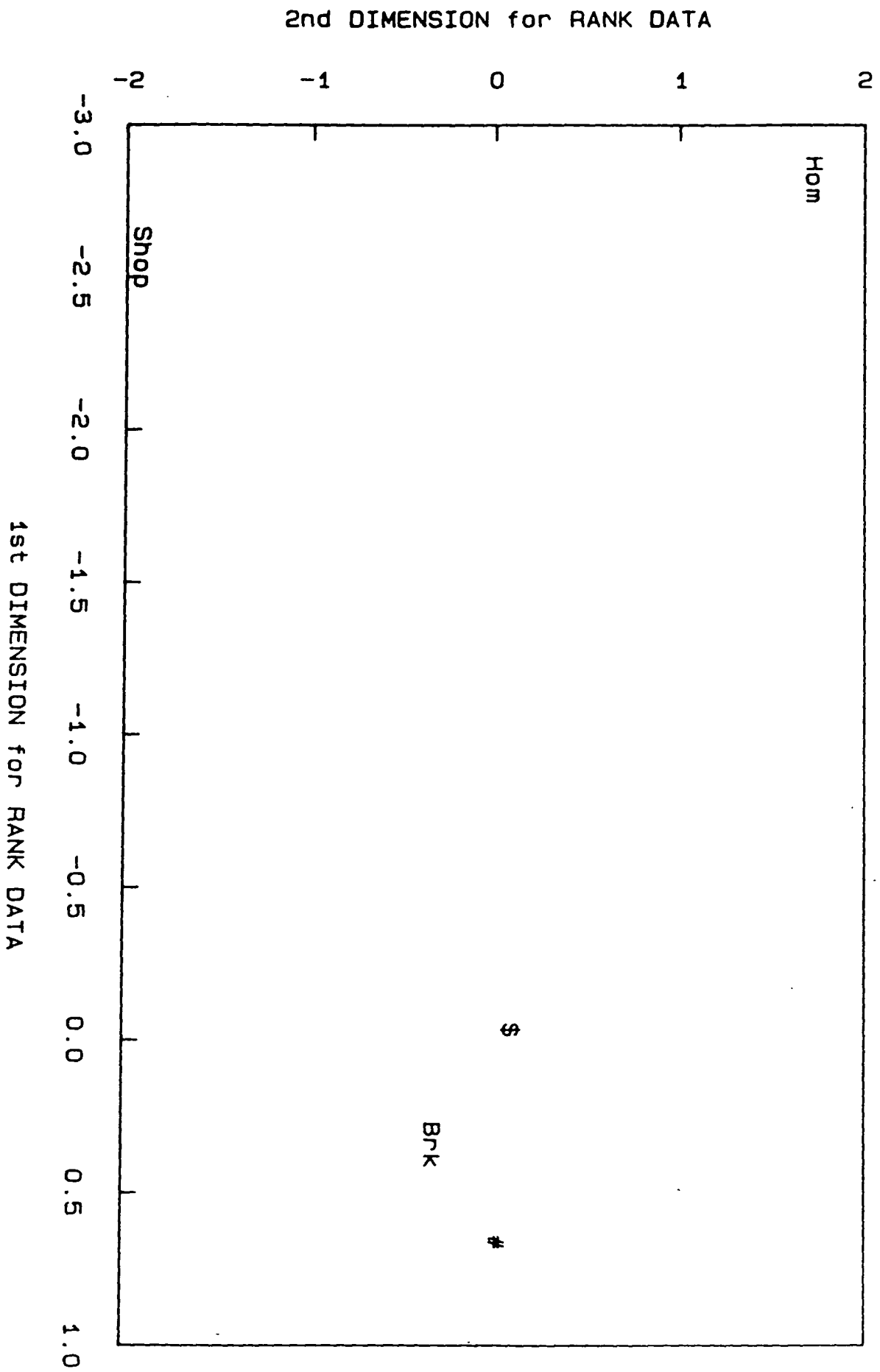


FIG. 7c

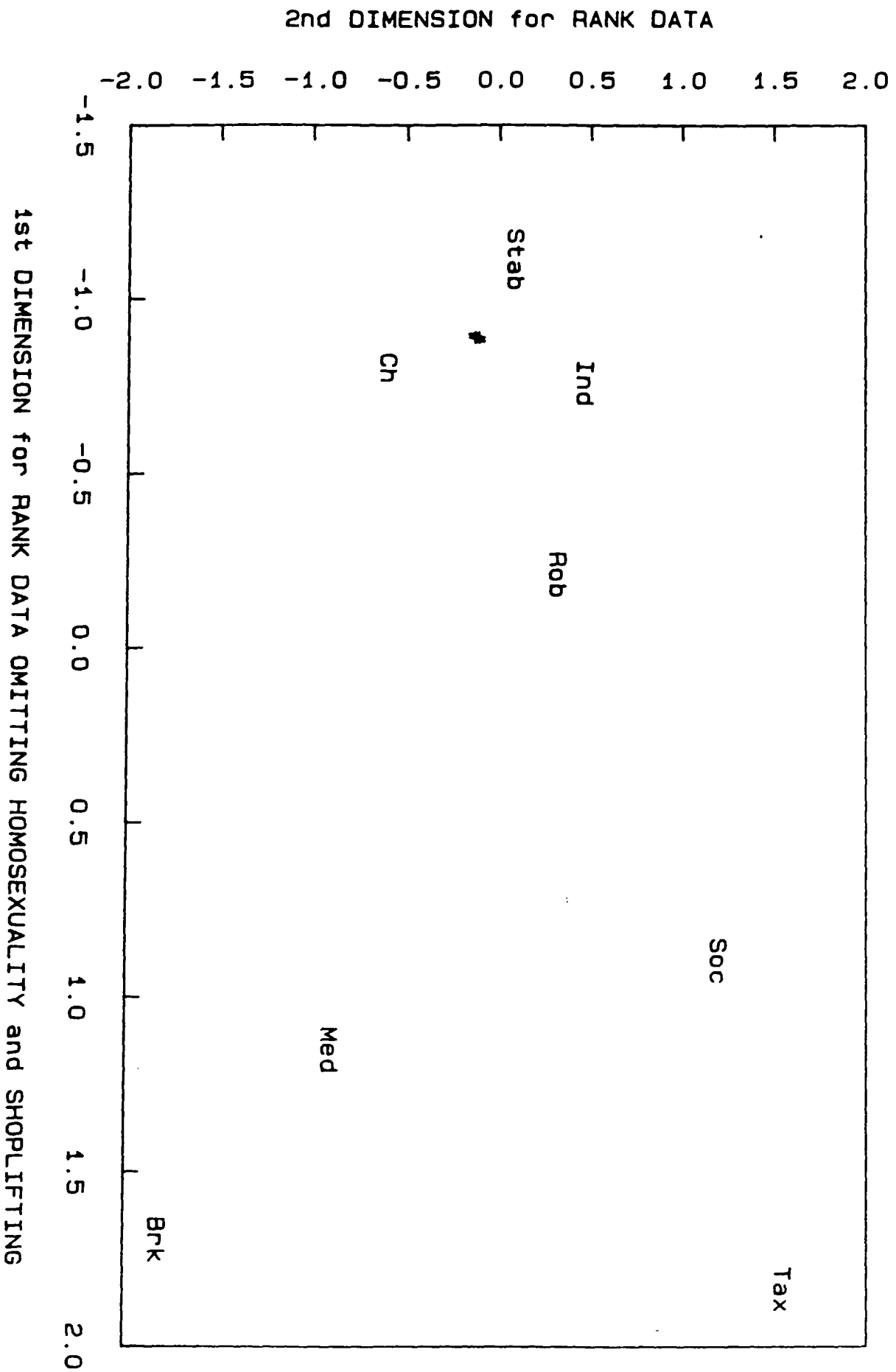


Fig. 7d

Cumulative Percent of Respondents

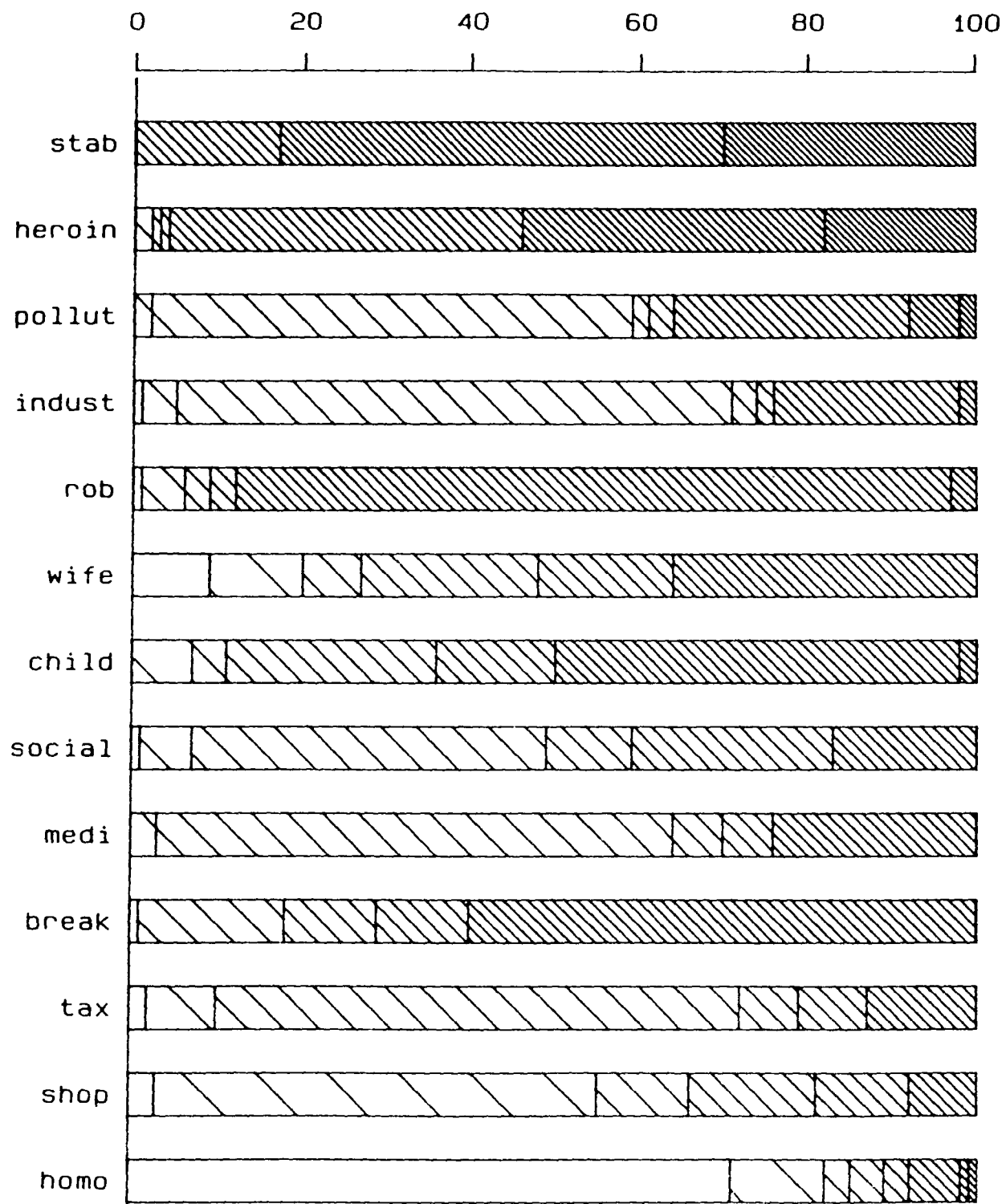
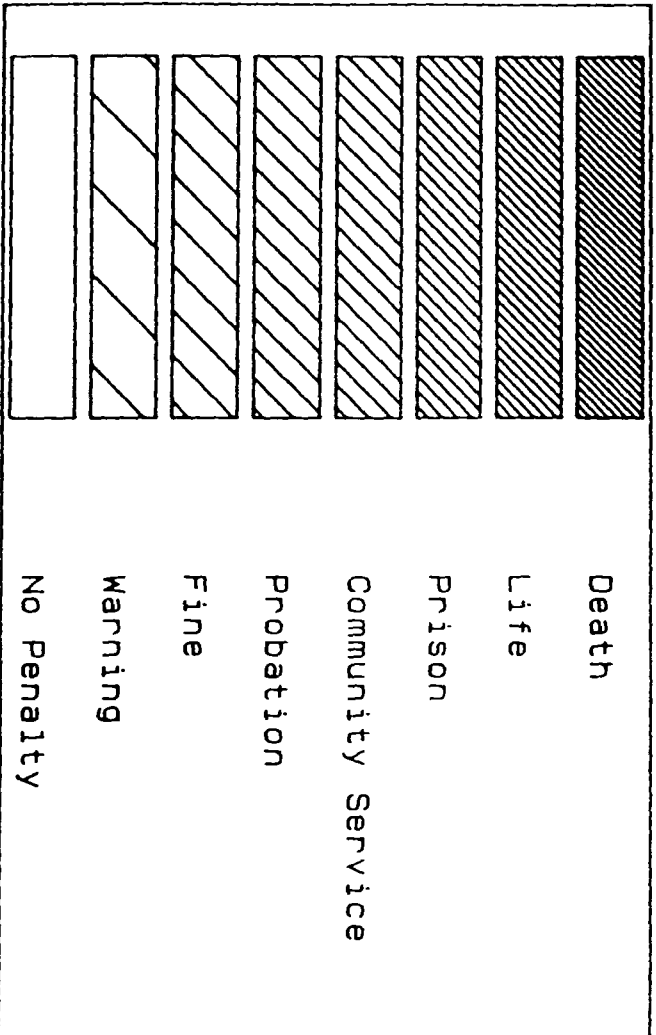


FIG. 8

Legend for Fig. 8



Percentage of Respondents Giving Prison or Life or Death

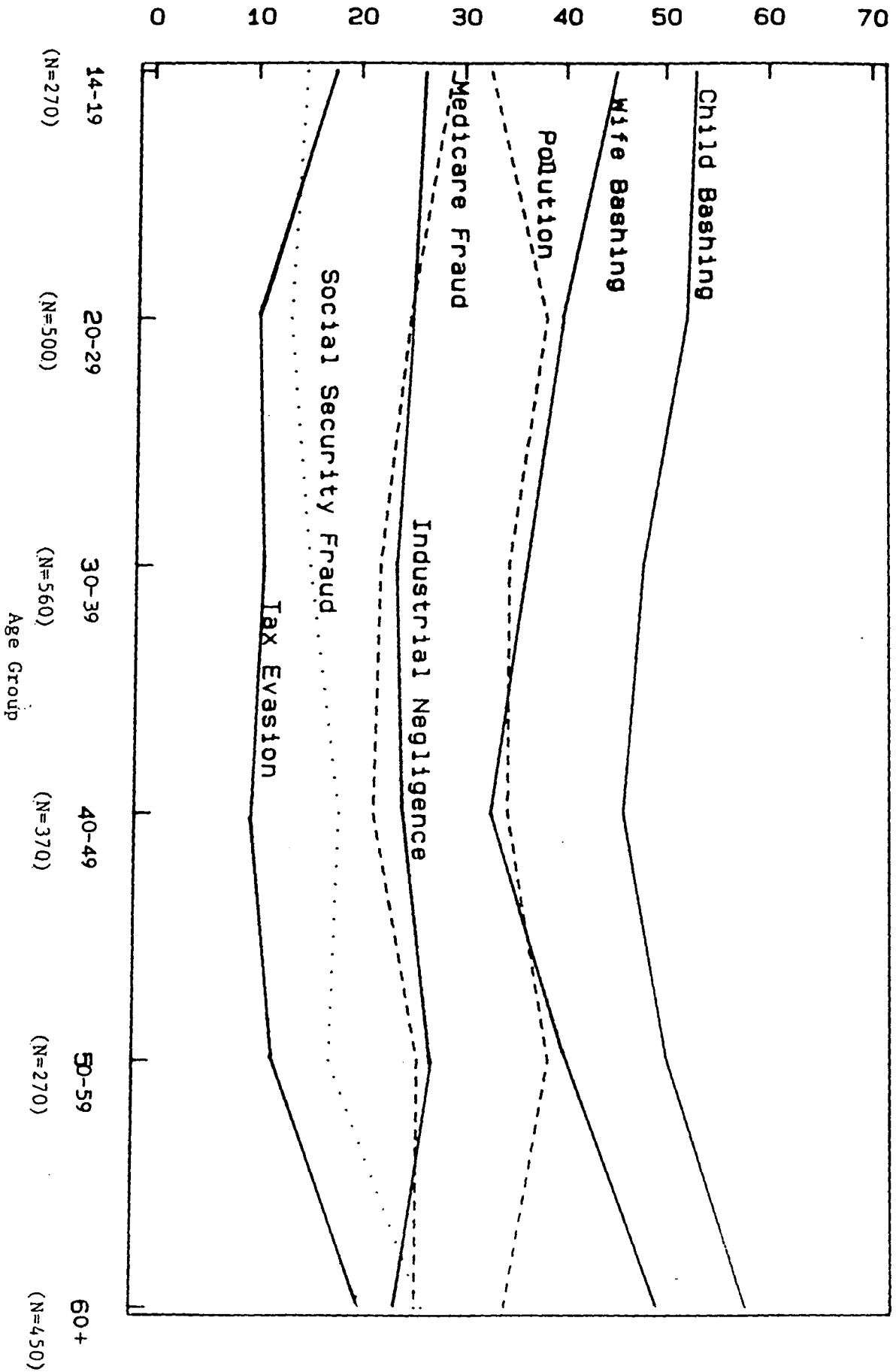


Fig. 9a

Percentage of Respondents Giving Life or Death

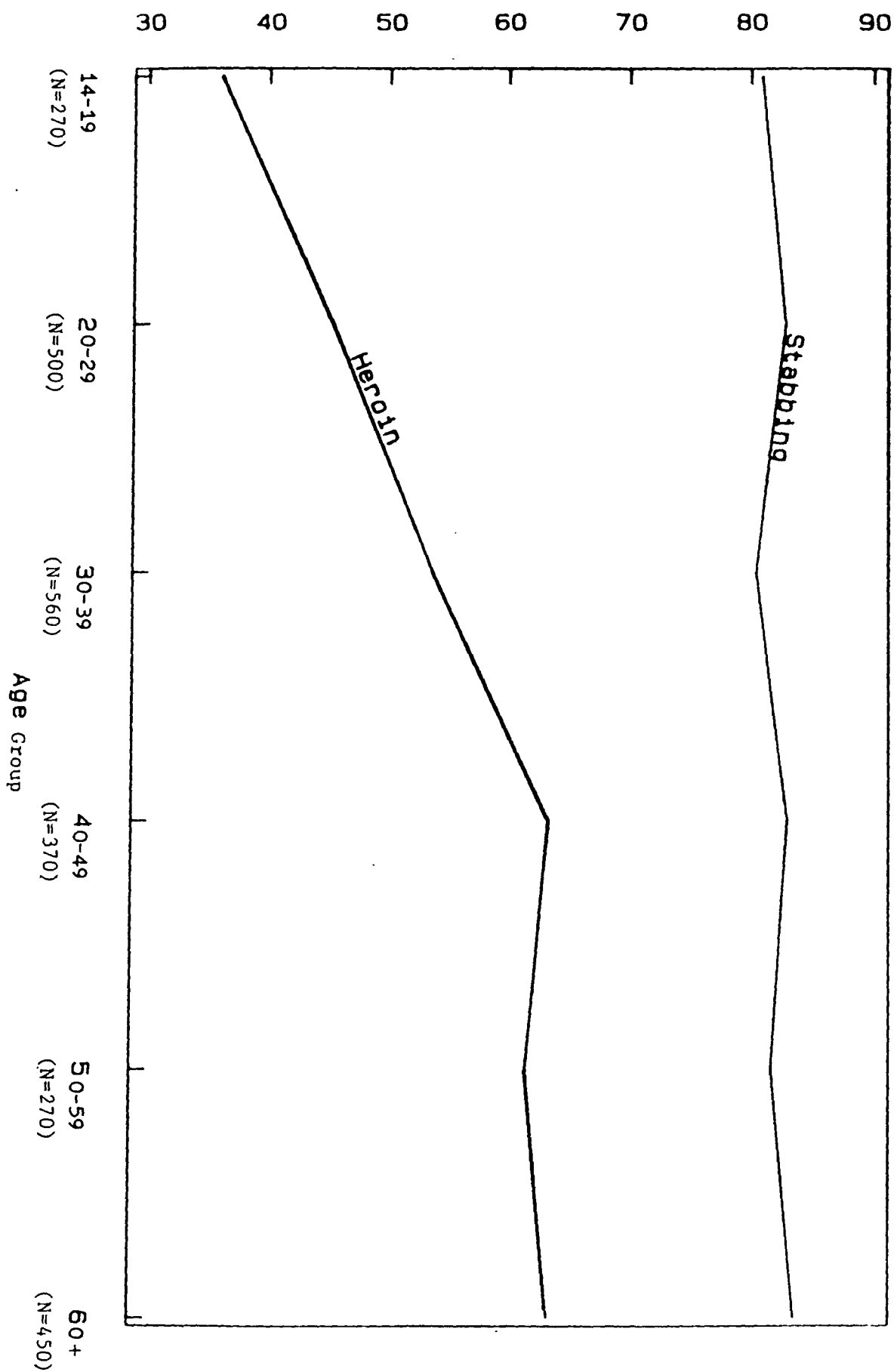


Fig. 9b

Average Log Dollars Fine

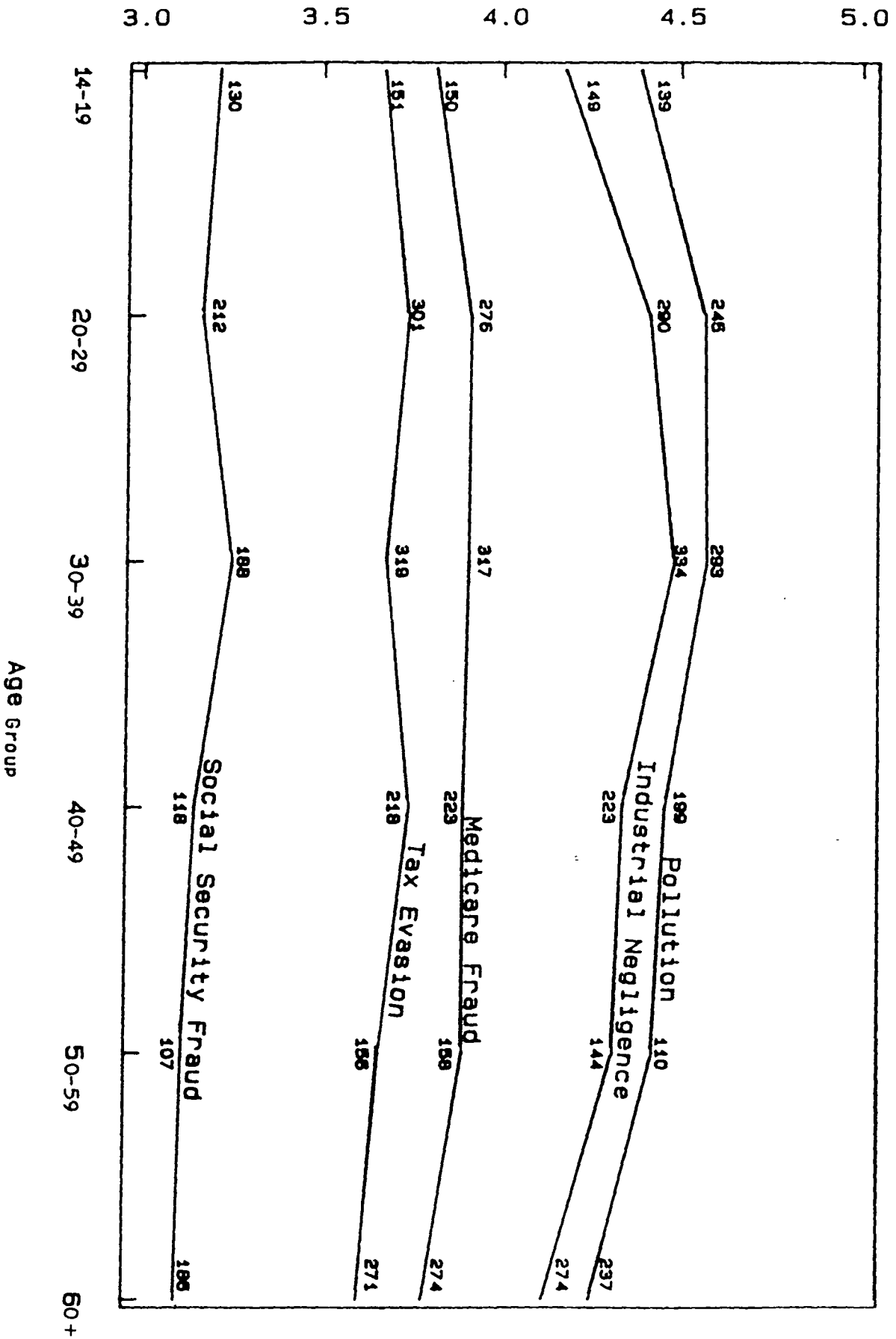


Fig. 10a

Average Log Years in Prison

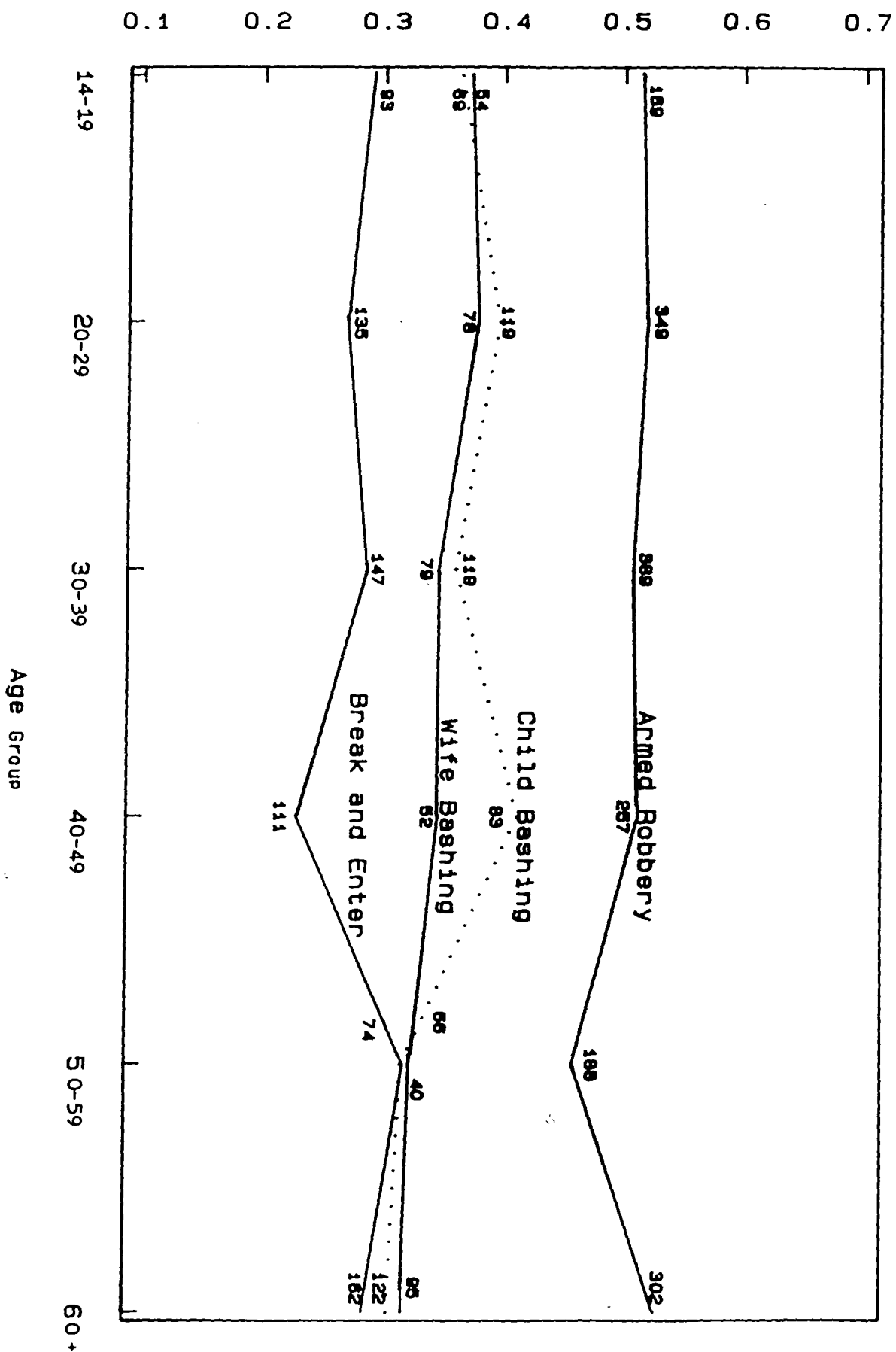


FIG. 10b

Percentage Giving Life or Death

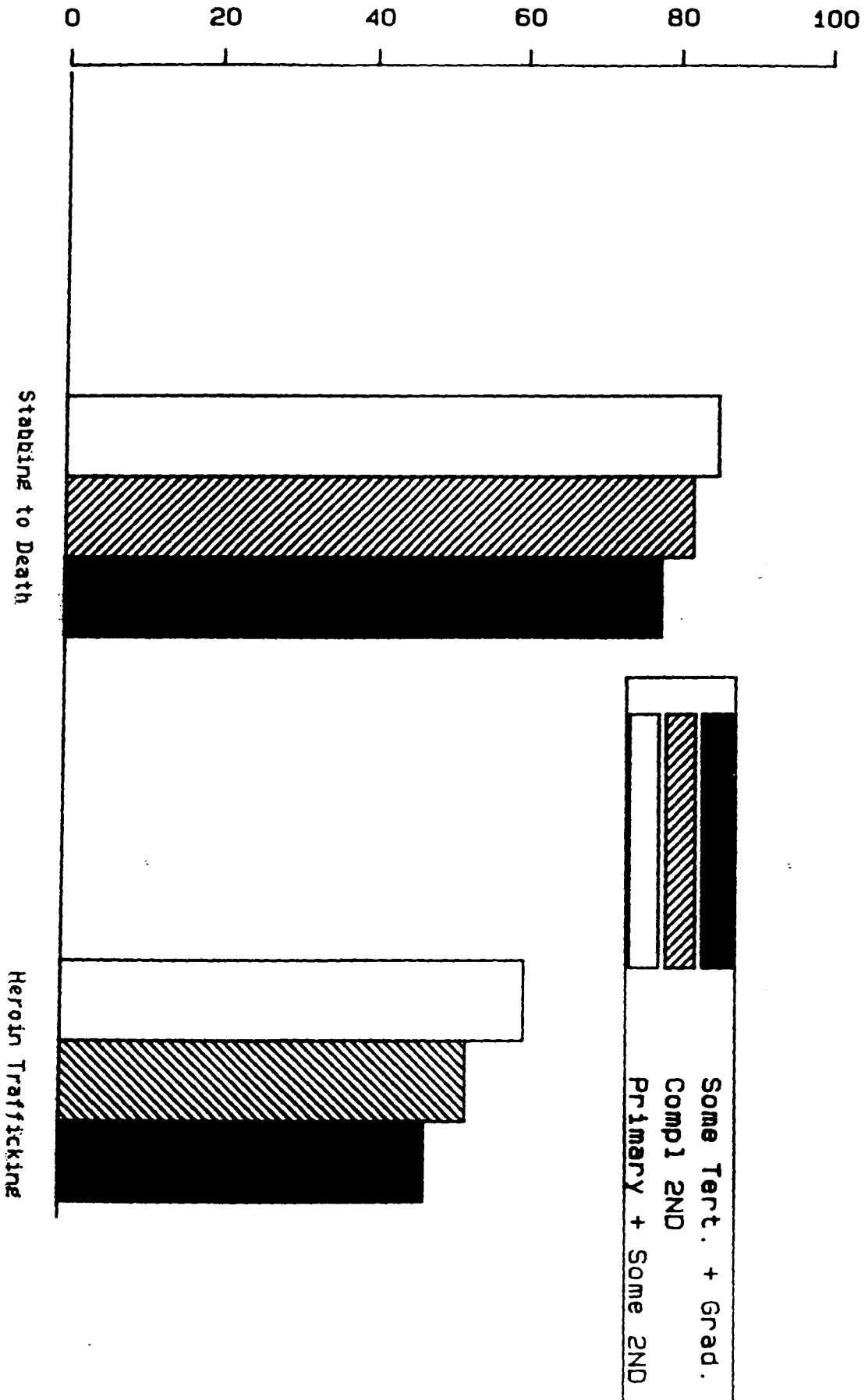


Fig. 11a

Percentage Giving Prison or Life or Death

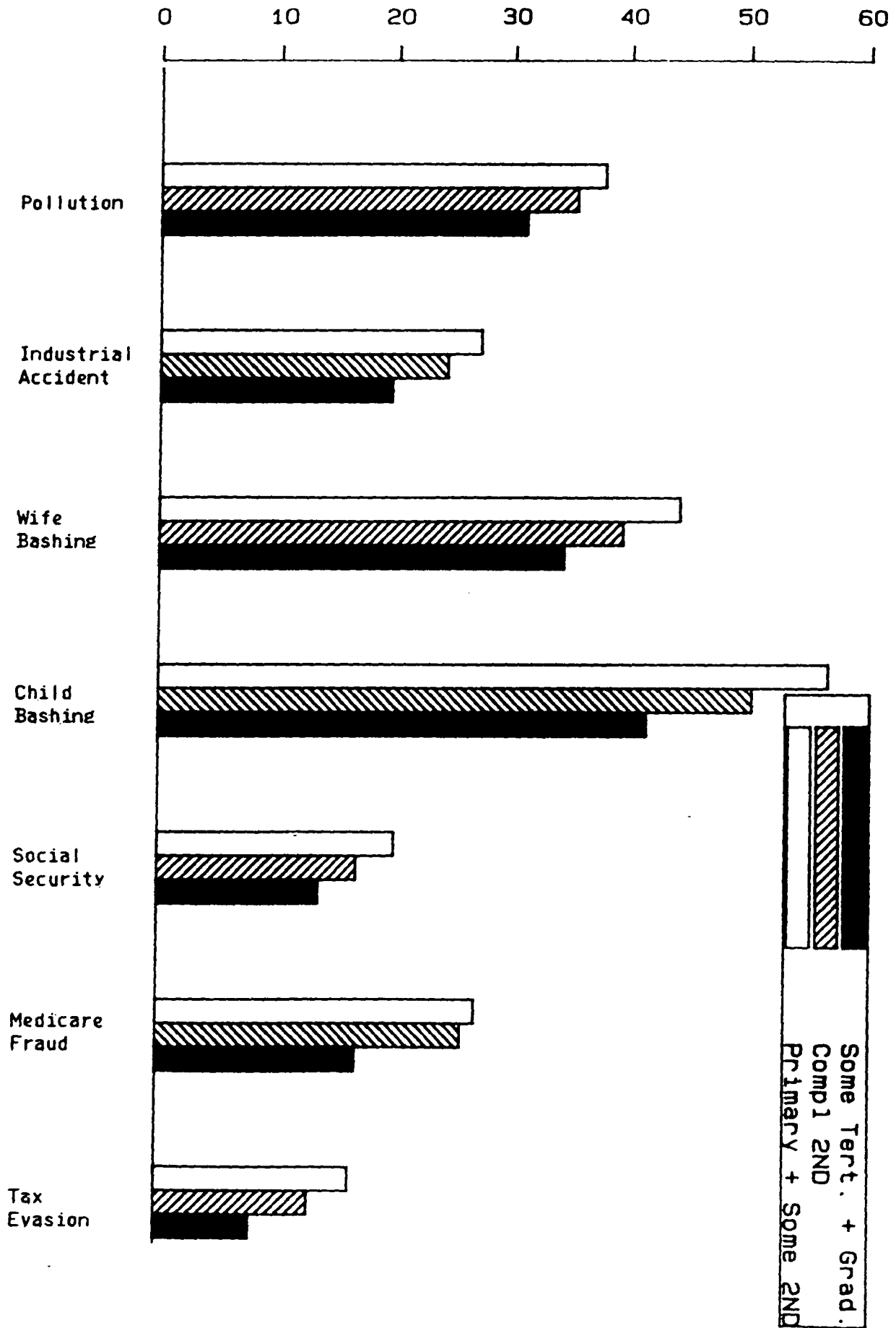
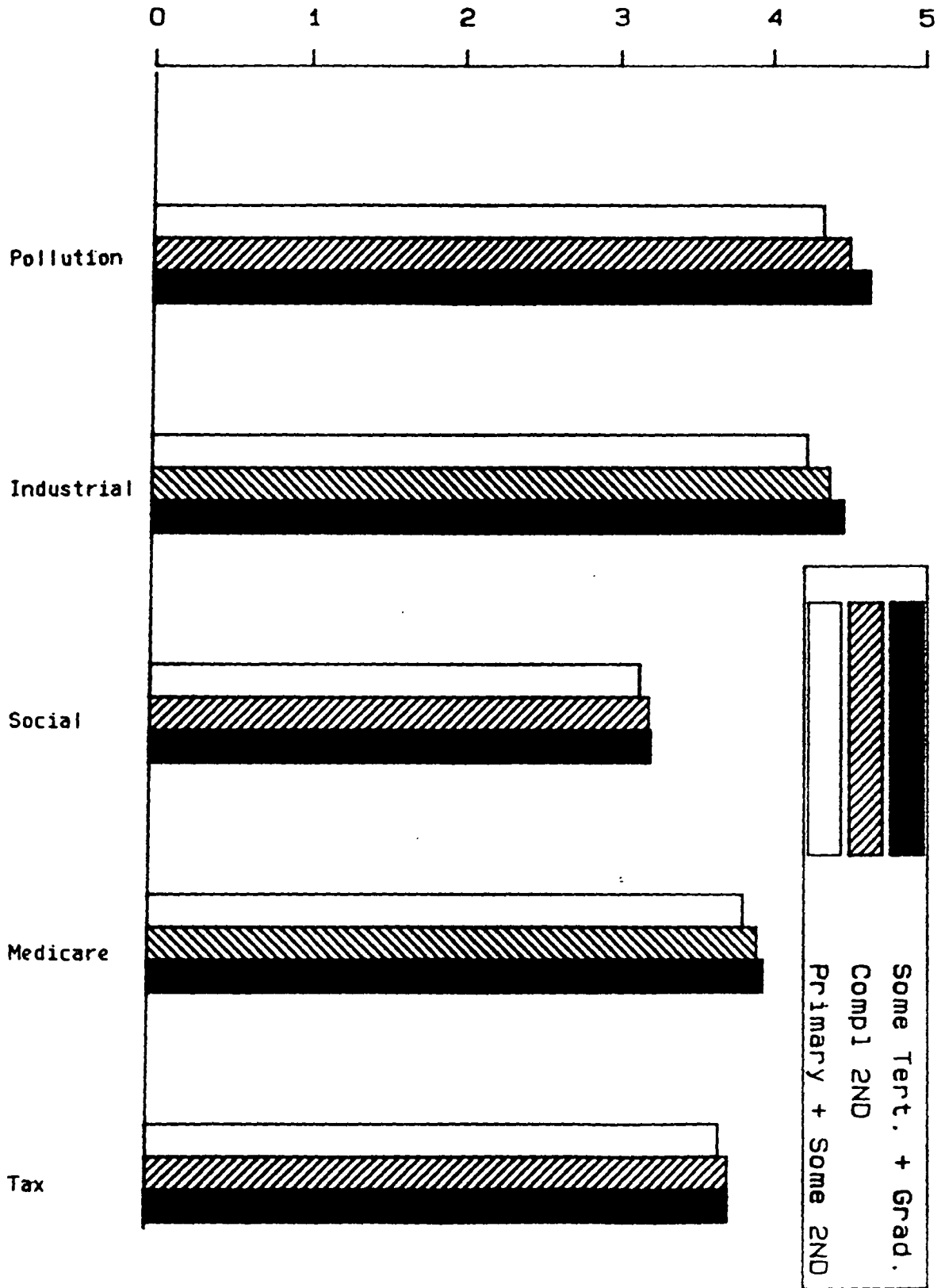


Fig. 11b

Mean Log Fine (\$)



Mean Log Years Imprisonment

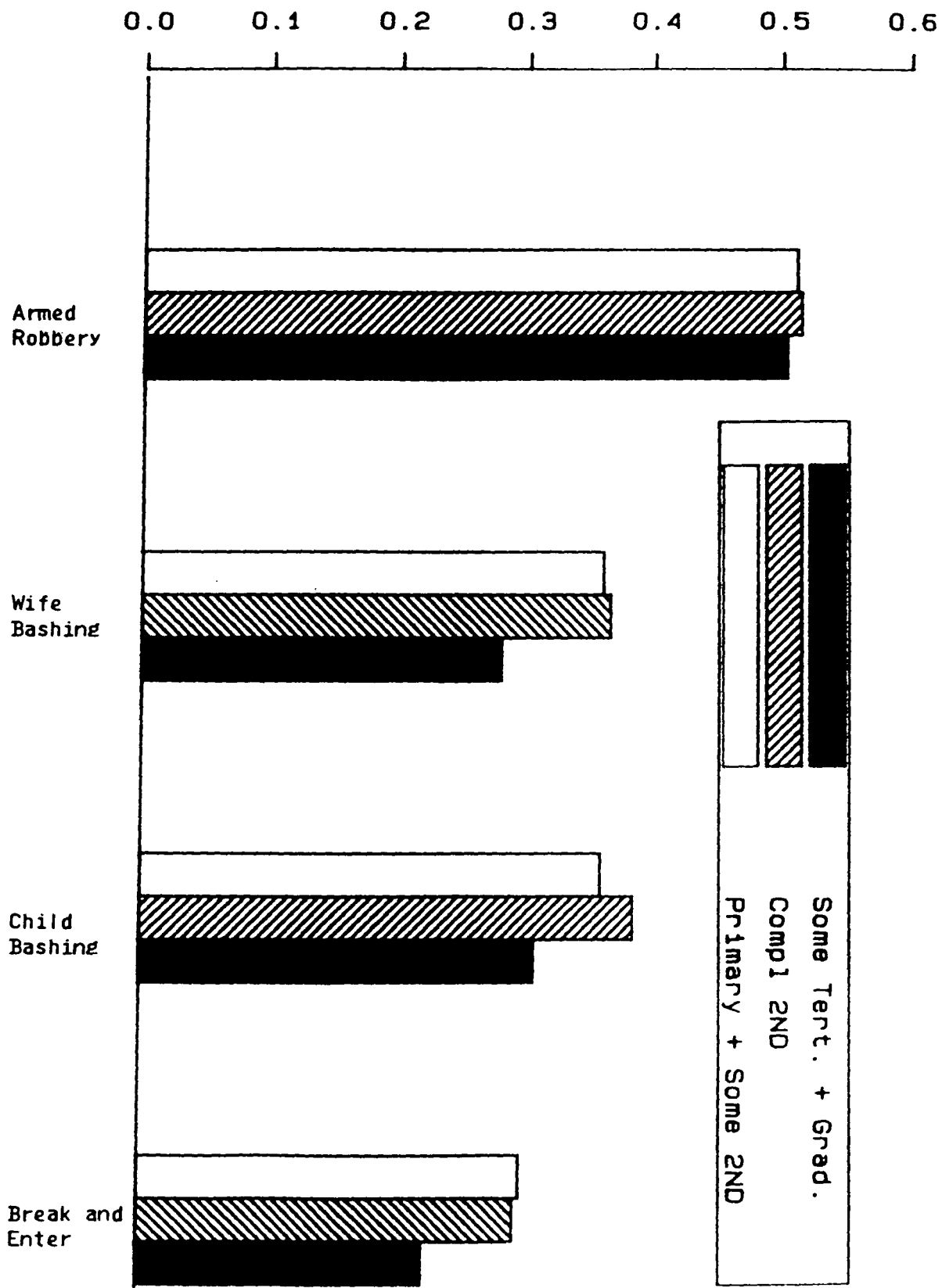


FIG. 12a

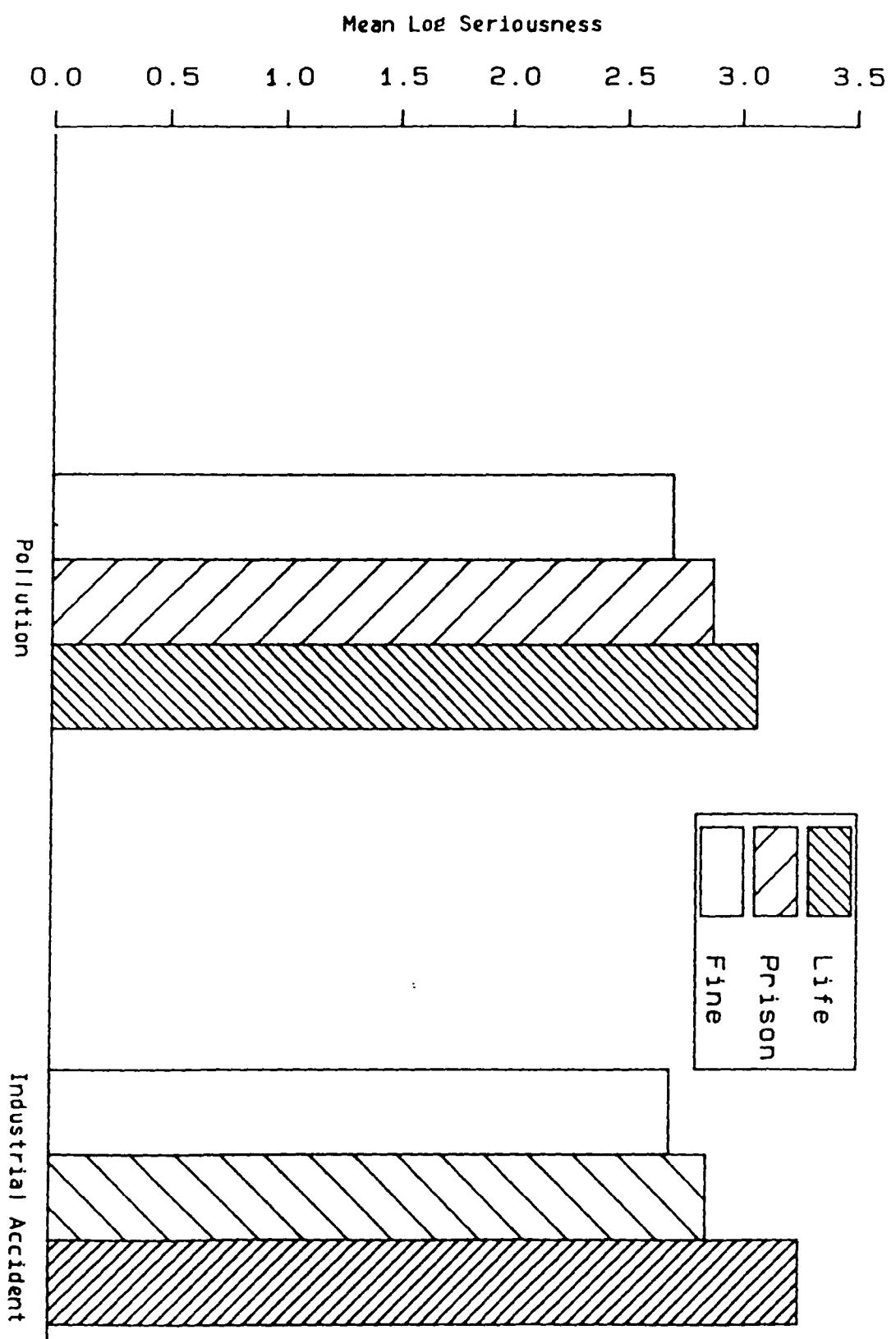


Fig. 13