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IS MENS REA A COMPONENT OF PERCEIVED OFFENSE SERIOUSNESS?*

LESLIE SEBBA**

Since the publication in 1964 of Sellin and Wolfgang's *The Measurement of Delinquency*, much scholarship has been devoted to the topic of seriousness scales. Some of the studies have emphasized the validity and reliability of the scales while others have raised doubts about their methodology and usefulness.¹ The present article will address a question that has received only sporadic attention in the related literature; namely, the extent to which offense descriptions used in evolving a seriousness scale should take into consideration the mental attitude of the offender at the time of commission.

Sellin and Wolfgang were concerned with only the external attributes of the delinquent event. Thus, a typical offense description employed in their original study read as follows: "The offender wounds a person with a gun. The victim lives but requires hospitalization."² No indication was given of the mental state of the offender at the time he fired a gun. Was he attempting to murder the victim? Or merely trying to frighten him? Was he provoked? Or was it an unintentional act, perhaps the result of insufficient care on the part of the offender while cleaning his weapon? Beyond the knowledge that the act constituted an offense, the respondent was not enlightened. The state of mind of the offender appears to have been regarded by the authors of the study as irrelevant for purposes

of the measurement scale. This is confirmed in their description of the scoring system resulting from the study.³ The main elements of this system were the number of victims injured and the nature of their injuries, the number of victims of forcible sexual intercourse and various forms of intimidation, the number of premises forcibly entered, the number of motor vehicles stolen, and the value of property stolen, damaged, or destroyed. With the possible exception of the intimidation factor,⁴ no weight was attached to the mental attitude of the offender at the time of the commission of the offense.

Among subsequent studies, the only one directly concerned with this issue was that conducted by Riedel.⁵ The Riedel study concluded that "perceivers assess the seriousness of criminal events in ways that make unimportant inferences of whether the offender intended the act," with the implicit consequence that "external aspects of the event, such as the amount of injury, theft, or damage is all the respondent needs to make a reliable assessment of social injury."⁶

The question raised here is an important one in view of recent suggestions that seriousness scales may be relevant not only in the development of criminal statistics, for which they were designed initially, but also for the decisionmaking process of police,⁷ prosecutors,⁸ and the courts.⁹ According to this approach, the severity of the sentence would be determined by the seriousness weighting attrib-

* The research on which this article is based was conducted while the author was a visiting Fellow at the Center for Studies in Criminology and Criminal Law, University of Pennsylvania. Facilities for its implementation and constant encouragement were provided by Marvin E. Wolfgang, Director of the Center, and Terence Thornberry, former Deputy Director. The author wishes to thank Mark Keintz for his assistance with the computer programming.

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¹ These studies have been reviewed in Turner, *Introduction to the Reprint Edition*, in T. SELLIN & M. WOLFGANG, *THE MEASUREMENT OF DELINQUENCY* (reprint ed. 1978), and Welford & Wiatrowski, *On the Measurement of Delinquency*, 66 J. CRIM. L. & C. 175 (1975). A nationwide replication study—the National Survey of Crime Severity—is currently being conducted by the University of Pennsylvania in conjunction with the U.S. Department of Justice.

² T. SELLIN & M. WOLFGANG, *supra* note 1, at app. D.

³ *Id.* at app. F.

⁴ Here the emphasis was mainly on objective factors, such as the offender's possession of a weapon, but included also the use of verbal threats, which are more clearly indicative of a state of mind.

⁵ Riedel, *Perceived Circumstances, Inferences of Intent and Judgments of Offense Seriousness*, 66 J. CRIM. L. & C. 201 (1975).

⁶ *Id.* at 208.

⁷ Heller & McEwen, *Applications of Crime Seriousness Information in Police Departments*, 1 J. CRIM. JUST. 241 (1973).

⁸ Roth, *Prosecutor Perceptions of Crime Seriousness*, 69 J. CRIM. L. & C. 232 (1978).

⁹ Wolfgang, *Seriousness of Crime and a Policy of Juvenile Justice*, in *DELINQUENCY, CRIME & SOCIETY* 267 (1976); Wolfgang, *Current Trends in Penal Philosophy*, 14 ISRAEL L. REV. 43 (1979).

uted to the offense. Since, however, the mental attitude of the offender traditionally has played an important part in the definition of offenses and, a fortiori, in their punishment, the omission of any reference to the mental element in developing scales could result in a radical departure in penal philosophy. This development would have to be justified on ideological grounds. However, insofar as this policy derives solely from the empirical finding that the degree of intentionality attributed to the perpetrator of an offense does not affect the judgment of its seriousness, it seems essential to reexamine the validity of this finding.

PREVIOUS STUDIES

Apart from the Riedel study to be considered below, there is very little direct evidence on the significance of nonphysical aspects of the offense in the construction of a severity scale. As noted, the original Sellin-Wolfgang study did not allude to the mental state of the offender. In a replication study conducted in New England, Lesieur and Lehman used a definition of homicide that specified that the injury was inflicted "intentionally."¹⁰ However, there was no attempt to evaluate the effect of introducing this modification—assumed by Turner¹¹ to have been a "negligible change"—nor were its implications discussed. In another study by Rossi, Waite, Bose, and Berk,¹² 140 offense descriptions were employed, some of which alluded to the mental element. While the study did not focus on this aspect, the table of mean scores shows that "planned killings" of a policeman, a spouse, or an acquaintance were rated more serious than were "impulsive killings" of the same types of victim.¹³ Similarly, a survey conducted on behalf of the British government found that a majority (62%) of respondents regarded the premeditated nature of the offense as a ground for imposing a more severe sentence.¹⁴ Finally, a study in which Ontario magistrates were asked what information

relating to the offense most influenced their sentencing decisions concluded that "most magistrates consider the 'moral quality' of the criminal act to be more important than the actual harm incurred by the victim."¹⁵

Riedel's study was concerned specifically, as its title indicated, with *Perceived Circumstances, Inferences of Intent, and Judgments of Offense Seriousness*. It concluded that the attribution of intent to the actor did not affect the assessment of seriousness.¹⁶ It may be argued both on substantive and methodological grounds that Riedel's findings do not justify such a far-reaching conclusion. The "intent" variable, which was defined by Riedel in psychological rather than in legal terms, was not introduced directly into his questionnaire as an independent variable; rather, it was inferred from a variety of surrounding circumstances relating to either "environmental constraints" (threat, victim precipitation, reward, alien control) or "personal dispositions" (hostile attitude or subcultural values). Six offenses each were described in eight different ways, incorporating all combinations of environmental constraints and personal dispositions. In addition to scoring the event, respondents were asked to specify the importance of various factors in leading the offender to commit the offense. This was done to determine whether respondents in fact related to the independent variable. However, the positive findings in this respect seem to evidence the significance attributed by respondents to causal factors rather than to inferences of intent.

The "environmental constraints" and "personal dispositions" incorporated into the defense descriptions introduced a number of diffuse legal concepts. Reward, hostile attitude, and subcultural values normally would be irrelevant to the question of guilt (unless the hostility verged on the psychotic) and would affect the exercise of judicial discretion only at the sentencing stage. Victim precipitation

¹⁰ Lesieur & Lehman, *Remasuring Delinquency: A Replication and Critique*, 15 BRIT. J. CRIMINOLOGY 69, 75 (1975); see also Gold & Reimer, *Changing Patterns of Delinquent Behavior Among Americans 13 Through 16 Years Old: 1967-72*, 7 CRIME & DELINQUENCY LITERATURE 483 (1975).

¹¹ See Turner, *supra* note 1, at xvi-xvii.

¹² Rossi, Waite, Bose & Berk, *The Seriousness of Crimes: Normative Structure and Individual Differences*, 39 AM. SOC. REV. 224 (1974).

¹³ *Id.* at 228.

¹⁴ Banks, Maloney & Willcock, *Public Attitudes to Crime and the Penal System*, 15 BRIT. J. CRIMINOLOGY 228, 233 (1975).

¹⁵ J. HOGARTH, *SENTENCING AS A HUMAN PROCESS* 233 (1971). Other studies have suggested that offender and victim characteristics influence respondents' attitudes. See, e.g., Turner, *supra* note 1, at xv (reporting a study by Nugent & Chansley); Banks, Maloney & Willcock, note 14 *supra*; Newman, *Acts, Actors and Reactions to Deviance*, 58 Soc. & Soc. RESEARCH 434 (1974); Rossi, Waite, Bose & Berk, note 12 *supra*. T. SELLIN & M. WOLFGANG, *supra* note 1, at 267, on the other hand, found that varying the age attributed to the offender did not significantly affect seriousness evaluations. In addition, a recent study has reached a similar conclusion regarding the social class of the offender. See Walker, *Measuring the Seriousness of Crimes*, 18 BRIT. J. CRIMINOLOGY 348, 359-60 (1978).

¹⁶ Riedel, *supra* note 5, at 208.

might, in an extreme case of provocation, reduce a charge from murder to manslaughter. Alien control, on the other hand, if it negated the voluntary character of the act, would be a complete defense to the charge;¹⁷ the same is true of threat (the example specified threat to the life of the offender).¹⁸ Thus, the last examples, while they undoubtedly involved "social injury," strictly speaking, were not concerned with "crime" at all.

It is thus all the more surprising to learn that the variations Riedel introduced into his case descriptions, differentiating as they did between offenses which would result in heavy penalties and nonculpable acts, did not affect their perceived seriousness. This conclusion may be attributed partly to the criteria employed by Riedel to test the significance of the variance in his data. In fact, he found not only considerable variations in the geometric means for the different versions of the offenses against the person,¹⁹ but also "regression coefficients . . . substantially different from the hypothesized criteria of 1.00."²⁰ Riedel regarded these positive findings as neutralized by the correlation coefficients, most of which approximated to 1.00.²¹ These coefficients reflected the logarithmic relationship of the magnitude estimation scores.²² However, an indication of a consistent logarithmic relationship²³ between two scales should not be regarded as the decisive test for evaluating the effects of variations in the descriptions of individual items. This is especially true when such a small number of items is involved.²⁴

¹⁷ Cf. MODEL PENAL CODE § 2.01 (Proposed Official Draft 1962)(voluntariness requirement for liability not satisfied by reflex, convulsion, conduct during sleep or hypnosis, or bodily movement not otherwise a product of actor's determination or effort).

¹⁸ Cf. *id.* § 2.09 (it may be pleaded as an affirmative defense that the charged conduct resulted from a threat to use unlawful force against the defendant).

¹⁹ Riedel, *supra* note 5, at Table I. There is no indication, however, that the "crimes" where the perpetrator may have had a complete legal defense were perceived as less serious than the others.

²⁰ *Id.* at 206, Table II.

²¹ *Id.* at Table III. Riedel attributed some of his positive findings to the small size of his cells, which when "collapsed" tended to eliminate variations in the dependent variable. By this method, however, variations in the independent variable also had been eliminated.

²² *Id.* at 202.

²³ On the problem of what constitutes consistency in this context, see Akman, Figlio & Normandeau, *Concerning the Measurement of Delinquency—A Rejoinder and Beyond*, 7 BRIT. J. CRIMINOLOGY 442, 444 (1967).

²⁴ This point may be illustrated by some hypothetical findings. Suppose four offenses are presented, each in an

Finally, one further aspect of Riedel's questionnaire may have contributed to the limited variance in his results. Riedel clearly differentiated between the event to be scored and the surrounding circumstances, but in the "Rating of Seriousness" sections of the questionnaires only the event itself was specified.²⁵ It is possible that some respondents were at this point scoring the event in isolation of the surrounding circumstances. This would, of course, tend to eliminate variance among responses.

THE PRESENT STUDY

The study to be described here was designed to reexamine the relevance of the mental element to the perceived seriousness of offenses. Unlike the Riedel study, which was concerned more broadly with different types of circumstances surrounding the offense, the present study emphasized the legal components of the offense itself, differentiating not only between the mental and the physical elements, but also between the various gradations of mental element.

The criminal law takes cognizance of four levels of mental state that may accompany the performance of a prohibited act. Under the common law, criminal responsibility will be imposed only if the actor knows that his conduct may inflict the prohibited harm. Such foreknowledge may take one of two forms. The more serious form consists of an intent to inflict that harm;²⁶ the less serious is an

"intentional" and an "unintentional" version. The mean scores obtained are as follows:

	Unintentional Version	Intentional Version
Offense A	1.0	1000.0
Offense B	2.0	2000.0
Offense C	3.0	3000.0
Offense D	4.0	4000.0

The correlation coefficient between the two versions across offenses is 1.0, but it hardly can be inferred that intentionality does not affect responses. This coefficient may be an appropriate criterion when comparing the responses of different populations to the same offense definitions (for which indeed it was proposed), especially if no modulus is provided. Allowance thereby will be made for the fact that the respondents may be employing different ranges. It is inappropriate when the respondents are derived from the same population and the variable is the offense definition, as in the instant case. (The correlation coefficient might be an appropriate criterion here if the mean scores for the two versions were placed in either column on a random basis.)

²⁵ See M. Riedel, *The Perception of Crime: A Study of the Wolfgang-Sellin Index* (1972) (unpublished Ph.D. dissertation).

²⁶ The Model Penal Code prefers the term "pur-

attitude of recklessness or indifference to whether the harm is inflicted.²⁷ While either form of foreknowledge is usually sufficient to give rise to criminal responsibility, there are instances in which proof of intent is required, especially where one of the elements of the offense is that the act has been performed to achieve a particular result.

The third level of mental state is negligence, which describes the situation in which the actor did not foresee the consequence of his conduct, but, as a reasonable man, should have.²⁸ There has been extensive discussion of whether negligence is properly subsumed under the term *mens rea*²⁹ and, more especially, of the desirability of punishing negligent conduct.³⁰ However, there is no doubt that criminal responsibility will be imposed in some cases upon proof of negligence,³¹ but the offense committed in such cases frequently will be less grave than if the same act had been committed knowingly.

The fourth level of mental state is in fact a total absence of any such element, where the law imposes "strict" or "absolute" liability—as it does in an increasing number of technical offenses, *e.g.*, traffic violations. Since such responsibility is not imposed for more traditional crimes, this level was not

considered in this study.

The first and main hypothesis of this study was that respondents will attribute greater seriousness to prohibited acts committed with a higher level of mental element than to the same acts committed with a lower level of mental element. If this hypothesis is valid, the significance of earlier seriousness scales based upon questionnaires that did not specify the mental state of the actor comes into question. What level of mental element were respondents attributing to the offender in those studies? It is assumed that laypersons adopt the well-known presumption of criminal law that an offender is presumed to intend the natural consequences of his acts. Thus it is hypothesized that where no mental element is specified, respondents attribute intentionality to the actors.

Previous studies appear to have assumed that respondents were concerned with only physical harm. The present study hypothesized that the mental element is relevant to the degree of seriousness attributed to the criminal act. Since, however, most earlier studies did not differentiate between mental and physical elements, it is conceivable that, if the first two hypotheses are substantiated, differential scores for different offenses do not reflect the seriousness of the perceived actual harm at all, but rather the perceived seriousness of the intent or other mental state attributed to the offenders. This would be the case if the evaluation of offense seriousness was in fact a reflection of the moral blameworthiness of the perpetrator. A member of the Finnish Penal Law Committee has recommended. "[T]he punishment should be in a direct proportion to the offender's degree of intent or recklessness at the time of the offense. Later consequences should not affect the punishment."³²

Yet it is indisputable that the degree of harm actually inflicted, whether or not foreseen by the offender, traditionally has played a significant role in the criminal law,³³ and it seems probable that

posely." MODEL PENAL CODE § 2.02(2)(a) (Proposed Official Draft 1962). Where the conduct in question is not undertaken specifically for the purpose of causing the harmful consequence, but the perpetrator is aware that this consequence will almost certainly follow, the term "knowingly" is used. This term also connotes a maximal level of responsibility. *Id.* § 2.02(5). These terms have recently been reviewed by England's Law Commission. GREAT BRITAIN LAW COMM'N, CRIMINAL LAW REPORT ON THE MENTAL ELEMENT IN CRIME (1978).

²⁷ There sometimes are variations, however, in the meaning of the term "recklessness." See H. HART, PUNISHMENT & RESPONSIBILITY 117 (1968); G. WILLIAMS, THE MENTAL ELEMENT IN CRIME 9-60 (1965). Such offenses require specific or ulterior intent.

²⁸ Some confusion is caused by the fact that negligence is used in an entirely different objective sense to refer to the degree to which the offender's conduct deviated from the standard of the reasonable man. In this respect, the Model Penal Code specifies that there must be a "gross deviation from the standard of care that a reasonable person would observe." MODEL PENAL CODE § 2.02(2)(d) (Proposed Official Draft 1962).

²⁹ H. HART, *supra* note 27, at 139-40.

³⁰ Compare O. W. HOLMES, THE COMMON LAW 50-51 (1881) with Hall, *Negligent Behavior Should be Excluded from Penal Liability*, 63 COLUM. L. REV. 632 (1963).

³¹ A typical approach is that found in the Model Penal Code, which specifies that foreknowledge is required to give rise to criminal responsibility unless the law specifies that negligence will be sufficient. MODEL PENAL CODE § 2.02(3) (Proposed Official Draft 1962).

³² Törnudd, *Crime Statistics Based on Damage: Experience and Plans in Scandinavia*, in OFFENCE CLASSIFICATION & RATING 107 (1977). See also Schulhofer, *Harm and Punishment: A Critique of Emphasis on the Results of Conduct in the Criminal Law*, 122 U. PA. L. REV. 1497 (1974).

³³ Where, however, criminal liability is predicated on the intentionality of the harm inflicted, the harm intended must have been of the same kind as that which actually resulted. See MODEL PENAL CODE § 2.03(2) (Proposed Official Draft 1962). This does not apply, of course, where the prohibition is on negligently giving rise to the infliction of a particular type of harm, but the penalties in such cases are relatively low. See Fisher, *Criminal Lia-*

public attitudes, to some degree, would reflect such "objective" concepts of seriousness.³⁴ Therefore, it will be hypothesized that, in addition to the significance of the mental element, the seriousness of the physical act constitutes an independent component in the judgment of offense seriousness.

METHOD

Eighty items were included in the experiment. They can be classified conveniently in four groups (apart from "controls"). The first group was designed to measure the effects of different mental elements and, thereby, to test the first hypothesis. Six offenses were selected, some of which approximated to offenses included in the original Sellin-Wolfgang study. The mental state of the offender at the time of the offense was described in up to four different ways, corresponding to the four levels of mental state. The most serious form was where the offender not only acted intentionally, but attempted to cause a more serious outcome than that actually achieved. An example would be a wounding by shooting where the actual intent was to kill. The second form was where the object achieved was what was actually intended. The third form was where the offender was reckless as to the consequences of his act, as where the possibility of injury was foreseen, but not desired. The final form was where the offender neither intended nor foresaw any harm but was negligent. All the items included in the questionnaire were offenses under the Pennsylvania Code. Moreover, their designation as "offenses" clearly indicated to respondents that the conduct was penalized under the prevailing law.

The questionnaire included four formulations of the offense, each with a mental element of different gravity. The offenses used were wounding, homicide, arson, and the sale of adulterated goods.³⁵ Similarly, three formulations for the offenses of pollution and for driving without insurance were included. The reason for this lack of uniformity was that "attempting something worse" when driving without insurance or polluting was not easy to illustrate.

To test the second hypothesis, an additional control formulation was included for all types of

offenses described wherein no mental state was specified. These formulations were the closest in form to the descriptions of offenses in the original Sellin-Wolfgang study.

The second group of items (designed to test the third hypothesis) was concerned with different consequences. Here a specific mental state, either intent or recklessness, was attributed to the offender and a number of formulations of the offense were presented which, while holding constant this mental state, varied in the seriousness of the consequences of the criminal act. Thus an intent to wound by stabbing could result in death,³⁶ amputation of a limb, a mild injury, or even no injury at all if the intended victim succeeded in avoiding the blow. Similarly differentiated results from arson, reckless driving, the sale of adulterated goods, rape, and misrepresentation of goods were presented. A number of control formulations were added, describing different outcomes but not specifying any particular mental element.

The third and fourth groups of offenses were designed to investigate, respectively, the relative seriousness attributed to principals and accessories to the crime and the perceived seriousness of certain "new" types of offenses, in particular administrative regulations and white-collar crimes. These aspects of the study are of no direct concern in the context of the present article and will not be reported here.³⁷

Since a single respondent could not be expected to relate to eighty items, the questions were divided into three groups and responses were elicited from three subsamples of respondents. The selection of offenses was structured so that where the same offense was described in four ways, two versions were included in subsample A and two in subsample B, each version appearing in discrete halves of its respective subsample.³⁸ The allocation and order

³⁶ Under many criminal codes, where death results from the commission of an unlawful act, the offense is classified as manslaughter, without the requirement of foreknowledge on the part of the offender. This "upgrading" of the offense was not alluded to in the course of the experiment, however, since one of the objectives was to determine how far the respondents themselves would perceive the offense as more serious without definitional stimuli.

³⁷ The nature of these offense definitions may be relevant, however, to certain methodological considerations such as the range and variation in the number of items with which individual respondents were presented.

³⁸ There was an exception caused by the fact that item 23 fell both within the "mental element" and the "consequences" parts of the experiment.

bility of Negligent Conduct in the United States, in *LAW IN THE UNITED STATES OF AMERICA IN SOCIAL AND TECHNOLOGICAL REVOLUTION* (1974).

³⁴ Törnudd, *supra* note 32, at 109.

³⁵ The final questionnaire in fact referred to contaminated goods. See note 42 *infra*.

TABLE 1

THE SERIOUSNESS OF OFFENSES BY MENTAL ELEMENT: LOG MEANS AND STANDARD DEVIATIONS (WITH GEOMETRIC MEANS IN PARENTHESES)*

Offense	Intended a Worse Result (i)			Intended (ii)			Reckless (iii)			Negligent (iv)		
	Item no.	\bar{X}	s	Item no.	\bar{X}	s	Item no.	\bar{X}	s	Item no.	\bar{X}	s
Homicide	1	2.3326 (215.08)	0.9142	2	2.6106 (407.94)	1.9319	3	2.1519 (141.87)	0.8881	4	2.0567 (113.95)	1.0211
Wounding	6	2.0196 (104.62)	0.9646	7	1.9323 (85.57)	0.6435	8	1.9564 (90.45)	0.6602	9	1.5819 (38.19)	0.6285
Arson	22	1.9312 (85.35)	0.7727	23	1.7625 (57.88)	0.4895	24	1.6569 (45.38)	0.7595	25	1.1844 (15.29)	0.6810
Pollution	-	-	-	41	2.1578 (143.81)	1.2697	42	1.6918 (49.18)	0.7437	43	1.5137 (32.64)	0.6715
Driving Uninsured	-	-	-	45	1.1873 (15.39)	1.1111	46	0.7806 (6.03)	0.6625	47	0.4783 (3.01)	0.5939
Adulterated Goods	49	1.3578 (22.79)	0.9321	50	1.4848 (30.54)	0.4919	51	1.7002 (50.14)	0.8702	52	1.2700 (18.62)	0.6280

*The n value for each cell was either 37 or 38, depending on the respondent subsample within which it fell. In two cells, however, there were one and two missing values respectively, while for "driving uninsured" only 33, 34, and 27 responses were recorded for the three offense versions.

of the items were randomized. Subsample C included all the control versions to avoid, as far as possible, the juxtaposition of formulations specifying a mental element with formulations which did not do so, as a respondent might become aware of the incompleteness of the information in the second case. Two control items were included in all three questionnaires. The questions were clipped together in booklet form to discourage comparisons with previous responses.

The booklets were accompanied by directions, which explained, in the traditional form, that the respondent was required to scale the offenses in terms of seriousness, using car theft as a modulus. No indication was given, either in the written directions or in the accompanying oral clarifications, of the particular attributes of the offense being investigated in this study, such as the mental element or the unforeseen consequence.

The questionnaire was anonymous, but respondents, all university students,³⁹ were asked to state sex, race, age, year of study, and area of specialization. The main sample consisted of ninety-one students attending courses in the Sociology Department at Temple University.⁴⁰ Of these, twenty-

³⁹ On the use of students as respondents in seriousness scaling studies, see T. SELLIN & M. WOLFGANG, *supra* note 1, at 249-50.

⁴⁰ A larger number of students was required for extensions of the study not reported here. I would like to offer my thanks to Professor Stanley Turner for his kind cooperation in making the appropriate arrangements and to Professors Buerkle, Gerstle, Rosen, Savitz, and Wilson, all of whom suffered interruptions to their courses.

nine comprised subsample A, thirty-one subsample B, and thirty-one subsample C. The questionnaires, however, had been pretested on a group of students attending sociology classes at Drexel University.⁴¹ Of twenty-two students, eight responded to booklet A, seven to B, and seven to C. Since only one minor modification was introduced to the questionnaire after the pretest,⁴² it was possible to incorporate the responses of these students into the analysis. The results thereby obtained did not differ substantially from those obtained from the Temple students alone, but the enlargement of the sample improved the technical quality of the analysis.

RESULTS

Table 1 shows the mean log scores⁴³ for the items formulated to test the effect of the mental element on the estimation of offense seriousness.

Comparison of the mean scores for the three "orthodox" forms of mental state (intention, recklessness, and negligence) shows that with only two exceptions the order of magnitude of the serious-

⁴¹ I am grateful to Suzanne Fleming for making these students available.

⁴² The term "adulterated" was replaced by the term "contaminated" since one student had required an explanation of the former.

⁴³ Geometric means consistently have been employed in the measurement studies; they have the advantage of reducing the distortive effect of outlying values. The analysis was conducted on the logarithmic values, but in tables 1 and 5 the antilogs have been added in parentheses to indicate more clearly the order of magnitude of the geometric means.

TABLE 2
ANALYSIS OF VARIANCE ON COLUMNS (ii) THROUGH (iv) OF TABLE 1

	Sum of Squares	d.f.	Mean Square	F	p
Main Effects	143.720	7	20.531	25.875	< .001
Type of Offense	118.701	5	23.740	29.919	< .001
Mental Element	28.249	2	14.124	17.800	< .001
Two-Way Interaction	8.572	10	0.857	1.080	.375
Explained	152.872	17	8.992	11.333	< .001
Residual	507.036	639	.793		
Total	659.908	656	1.006		

ness scores was in the hypothesized direction, *i.e.*, intended was greater than reckless, which was greater than negligent. The exceptions relate to wounding and sale of adulterated goods, for which recklessness scored somewhat higher than intention. For the four items for which an "intended a worse result" formulation was included, in two cases, wounding and arson, this item was rated the most serious. For homicide it was rated second, and for sale of adulterated goods, it was rated only the third most serious. Generally speaking, however, there appeared to be meaningful differences in the expected direction, as reflected most clearly by comparing columns (ii) and (iv) of table 1.

To test the significance of the differences, an analysis of variance was conducted. This analysis must be treated with a degree of caution since the assumption of independence was not met fully, the same respondents having scored more than one item. The results of the analysis, limited to columns (ii) through (iv) of table 1 and taking account of the interaction effects,⁴⁴ are shown in table 2.

The effect of the mental element is significant⁴⁵ at the 0.1% level. When column (i) of table 1 was included in the analysis, which was then limited to

⁴⁴ This could not be done if column (i) were included, in view of the missing items.

⁴⁵ The correlation coefficients, adopted in earlier studies as an indication of the similarity of slopes, calculated on the Temple sample, were as follows: .80 (columns (ii) and (iii)); .96 (columns (iii) and (iv)); and .91 (columns (ii) and (iv)). The deviations from 1.00 are of somewhat greater magnitude here than in Riedel's study, but, in any case, it has been argued above that this test is inappropriate as a measure of the effects of variations in offense formulations in the present context.

main effects only,⁴⁶ the F value for the mental element was again significant.⁴⁷

In view of the level of significance produced by the data ($P = <.001$), it seemed doubtful that the lack of independence of the data could have affected the results of the analysis substantially. Moreover, approximate critical values were computed by the Statistics Department of the Hebrew University⁴⁸ to take the effect of the lack of independence into account, and the significance level of the hypothesis of the equality of means was again substantially less than 1%. Finally, t tests applied to the means for the "intended" and "negligent" versions of each offense showed these means to differ significantly for each of the six offenses.⁴⁹ This result is demonstrated in table 3.

In the original study by Sellin and Wolfgang,⁵⁰ as well as in many of the replications, the scores of individual respondents were standardized so that all raters had a similar mean and variance for the items they scored.⁵¹ This was done to neutralize the effect of differences in the ranges of the scores that

⁴⁶ In table 2, however, the interaction effect was shown not to be significant.

⁴⁷ $s.s. = 29.766$; $d.f. = 3$; $F = 12.419$; $p < .001$.

⁴⁸ These computations were performed by Dr. Moshe Pollak and Professor Gad Nathan.

⁴⁹ The t test employed here was that for nonindependent samples or "paired means" since the same respondents scored both the "intended" and the "negligent" versions.

⁵⁰ T. SELLIN & M. WOLFGANG, *supra* note 1, at 277-78.

⁵¹ The formula employed was $Z = (X - \bar{X})/\sigma$. Scores were measured in standard deviation units from the mean. This formula would seem to be more appropriate when comparing different rating groups that have been asked to score the same items, rather than in the present instance when the definitions of the items varied.

TABLE 3
THE SERIOUSNESS OF OFFENSES, INTENDED AND NEGLIGENT VERSIONS: LOG MEANS, STANDARD DEVIATIONS,
AND *t* TESTS*

Offense	Intended			Negligent			<i>t</i>	d.f.	p**
	Item no.	\bar{X}	s	Item no.	\bar{X}	s			
Homicide	2	2.611	1.932	4	2.057	1.021	2.66	37	< .01
Wounding	7	1.967	0.617	9	1.582	0.628	4.60	35	< .001
Arson	23	1.729	0.450	25	1.184	0.681	5.01	36	< .001
Pollution	41	2.158	1.270	43	1.514	0.672	3.78	37	< .001
Driving Uninsured	45	1.226	1.143	47	0.478	0.594	3.33	26	< .01
Adulterated Goods	50	1.485	0.492	52	1.270	0.628	2.60	37	< .01

*The *t* test employed here is that used for "paired means." Consequently, the log means for certain items in this table deviate slightly from the corresponding means in Table I; for if a value was missing for one version, that respondent was omitted from the analysis in respect of the other version also.

**A one-tailed test of significance was used here.

different individuals might employ. When this method was employed in the present study,⁵² the picture that emerged was not substantially different from that presented in table 1, except in relation to the relative magnitude of the first three versions of the offense of wounding, where the differences were small. The *F* value of the "mental element effect" was again significant at the 0.1% level. Thus, the first hypothesis, that the level of the mental element affects seriousness scores, was confirmed.

To test the second hypothesis, that where no mental element was specified in the offense formulation respondents would attribute intentionality, the mean scores for the "intended" versions of the offenses appearing in table 1 were compared with the mean scores for the control versions of the same offenses in which no mental element was specified. The *t* test for independent samples⁵³ was applied to each pair of means. The results are shown in table 4.

For five out of six offenses there was no significant difference between the means for the "intended" and the "control" versions respectively, the exception being the offense of pollution. This finding lends some support to the hypothesis. However, a comparison of the mean scores for the

control versions and all other versions included in table 1 indicates that for both pollution and driving without insurance the mean for the control version was most similar to the mean for the reckless version, while for sale of adulterated goods it was nearer to the negligent version.⁵⁴ It seems fair to conclude that, for traditional "street" crimes, intentionality generally is attributed to the offender, but not for the more modern "regulatory" offenses. This is in keeping with legislative policy that tends not to take cognizance of differentiations in the mental element in regulatory offenses. The second hypothesis was thus confirmed only in part.⁵⁵

Finally, table 5 shows the mean log scores for the items concerned with the harmfulness of the outcome of the offense. The different degrees of harm are labelled "maximum harm," "medium harm," "minimum harm," and "no harm." For the first six offenses in the table, the mental element was held constant; intentionality was specified for

⁵⁴ It was nearer still, however, to the "intended worse" version. The values obtained for this offense were somewhat inconsistent.

⁵⁵ An analysis of variance conducted on table 4 showed the differences in mean scores between intended and control versions for all offenses to be significant (s.s. = 4.529; d.f. = 1; *F* = 5.014; *p* < .05). However, this can be attributed to the last three items. Moreover, while two-way interactions were not significant in this analysis, when replicated on the standardized scores, the interaction, as well as the main effects, was significant. (Main effects for mental element: s.s. = 10.680; d.f. = 1; *F* = 15.745; *p* < .001; interaction effects: s.s. = 9.008; d.f. = 5; *F* = 2.656; *p* < .05.)

⁵² The standardization was based upon all the items which were scored by the respondent, not just those included in table 1.

⁵³ As explained earlier, the control versions of the offense were scored by a different sample of respondents.

TABLE 4

THE SERIOUSNESS OF OFFENSES, INTENDED AND CONTROL VERSIONS: LOG MEANS, STANDARD DEVIATIONS, AND *t* TESTS

Offense	Intended			Control			<i>t</i> *	d. f.	p
	Item no.	\bar{X}	s	Item no.	\bar{X}	s			
Homicide	2	2.611	1.932	5	2.394	1.269	0.58(S)	63.91	> .05
Wounding	7	1.932	0.643	10	1.901	0.524	0.23(P)	73	> .05
Arson	23	1.763	0.489	26	1.859	0.576	-0.78(P)	74	> .05
Pollution	41	2.158	1.270	44	1.680	0.530	2.14(S)	49.50	< .05
Driving Uninsured	45	1.187	1.111	48	0.750	0.704	1.93(S)	53.59	> .05
Adulterated Goods	50	1.485	0.492	53	1.344	0.610	1.11(P)	74	> .05

*Where the *F* value for testing the equality of variance was significant at the 5% level, the separate variance estimate (S) was employed in calculating the value of *t*. In other case, the pooled variance estimate (P) was used. However, the *t* values were in fact almost identical whichever estimate was used.

wounding and arson, recklessness for dangerous driving and sale of adulterated goods. The formulations for rape and misrepresentation did not specify the accompanying mental element, but intentionality clearly was implied. The last three items in the table relate to control formulations, which, as in the original Sellin-Wolfgang study, left the nature of the mental element equivocal.

Comparison of the mean log scores in table 5 indicates a clear and uniform tendency for the means to decline with the degree of harm inflicted. Moreover, when the means were calculated for the standardized scores, the decline in mean scores with reduction in harm inflicted was again uniform.

Analyses of variance performed on the first six rows in table 5 taken separately, and on the table as a whole, indicated that the "degree of harm" effect was significant at the 0.1% level.⁵⁶ An analysis of the first five rows and first three columns also took interactions into account. It indicated that "degree of harm" was significant as a "main effect" at the 0.1% level, while the interaction effect did not seem to be substantial.⁵⁷ Moreover, similar results were obtained when the same analyses were

⁵⁶ Here again, the assumptions of analysis of variance were not met fully. However, in addition to the evidence presented above for the significance of the effect of the gravity of the outcome, *t* tests for paired means were performed on the maximum harm and minimum harm versions of the first four offenses in table 5. All four differences in the means were significant at the 0.5% level (applying a one-tail test).

⁵⁷ s.s. = 2.596; d.f. = 8; *F* = 0.534; *p* = .331.

replicated on the standardized scores.⁵⁸ It thus may be concluded that differential perception of seriousness of offenses involving the infliction of varying degrees of harm does not reflect merely the differential degree of moral turpitude attributable to the perpetrators. Rather, it is independent of such differentiation; even where the degree of moral turpitude, as indicated by the mental state, remains constant, the measure of seriousness varies in accordance with the gravity of the result.

However, even in table 5 there is some evidence that respondents may be influenced not only by the seriousness of the outcomes of the offense, but also by differences in mental element which they associate with those outcomes. The range of scores tended to be greater for control versions of the offense, listed in the bottom three rows of table 5, than for their counterpart formulations, listed in the first, third, and fourth rows respectively, where the mental element was held constant.

Having established that the judgments of seriousness are influenced both by the mental element accompanying the offense and the degree of harm inflicted, it is pertinent to ask which of these two variables is the more important. On the whole, differences were greater between gradations of outcome, catalogued in table 5, than between forms of mental element, recorded in table 1. This is not a scientific criterion, however, since gradations of outcome, "maximum harm," "medium harm," "minimum harm," and "no harm," are arbitrary.

⁵⁸ The interaction effect was somewhat greater here: s.s. = 5.303; d.f. = 8; *F* = 1.611; *p* = .118.

The difference between "medium harm" and "minimum harm" in the case of arson cannot be regarded as equal to the corresponding difference in the case of, say, dangerous driving. A fortiori, these gradations cannot be compared with those concerned with a different parameter, namely, the forms of mental element.⁵⁹

Another way to examine this question is to counterpose the mean scores for two items, one in which the degree of moral turpitude as reflected in the mental element was high but the outcome relatively trivial and the other where the reverse was the case. Examples of the former in the present study are stabbing with intent to wound resulting in only a mild wound or no wound and attempted rape. Examples of offenses where the mental element was relatively modest but its implementation resulted in the loss of human life were where unintentional death resulted from shooting, arson, dangerous driving, and sale of adulterated goods. Since the mean scores for the latter group were higher than those for the former, as demonstrated in tables 1 and 5, it might be argued that the gravity of the harm inflicted is shown to be more important than the wickedness of the intention. Here again, however, the selection of the items compared, and their formulation, must be considered arbitrary.

SUMMARY AND CONCLUSIONS

In view of the critical role played by the mental element in criminal law and the concomitant differentiation between intention, recklessness, negligence, and strict liability as possible bases for criminal responsibility, the question raised here was why the scales developed to measure the seriousness of criminality or delinquency have tended to ignore this dimension.

The empirical investigation reported here tested three hypotheses and found: (i) that the form of mental element accompanying the offense, controlling for the degree of harm inflicted, has a significant effect on the estimation of offense seriousness; (ii) that where no mental element is specified in an offense definition respondents generally are attributing intentionality to the perpetrator of the offense, if it be of a traditional "street-crime" nature; they may be attributing only recklessness or negligence where regulatory offenses are con-

cerned (*e.g.*, offenses concerned with protection of the environment); and (iii) that the degree of harm inflicted, controlling for the mental element, has a significant effect on the estimation of offense seriousness.

These findings should be taken into account when interpreting the results of other measurement studies. The questionnaires employed in these studies were measuring simultaneously the seriousness of both the harm inflicted and the mental state; the scores obtained thus reflect the combined weights of both these dimensions. Moreover, the respective contributions of these two elements to the resulting scores may not be constant since the possibility of interaction between the weights contributed by type of mental element and type of offense cannot be altogether excluded⁶⁰ and since where the mental element is not specified in the offense definition, the mental element attributed by respondents may vary by type of offense.⁶¹

There are implications here for the construction of future questionnaires scaling offense seriousness. The minimum objective in this respect should be to control for the mental element by its specification in the offense description. This will ensure greater reliability of the components of the event to which ratings relate.⁶² Optimally, different combinations of mental element and physical act would be presented in the questionnaire.

Of greater importance are the implications regarding the application of the seriousness scales derived from the questionnaires. Whenever such a scale is to be employed, careful consideration must be given to the relevance of the mental element to the purpose contemplated. If the purpose of the scale is to arrive at an accurate measure of the amount and seriousness of crime committed in a particular location during a particular period, a scale which took no account of the mental element would seem to be deficient for intentionality constitutes an essential element in offense seriousness. Moreover, if it is sought to apply a seriousness scale

⁶⁰ However, they were not shown to be significant in the present study. See table 2 *supra*.

⁶¹ The distortion caused by ignoring this finding may be limited by the possibility that the nature of the mental element attributed (intentionality for "street crimes" and recklessness or negligence for regulatory offenses) may correspond to the mental element which most frequently accompanies these offenses.

⁶² A number of the offense formulations incorporated in the national replication study being conducted by Wolfgang and his associates specify the mental element. See note 1 *supra*.

⁵⁹ This problem arises even if one assumes the unidimensionality of the underlying scale, *i.e.*, that gradations of mental element and harm inflicted can be measured on the same scale.

TABLE 5
THE SERIOUSNESS OF OFFENSES BY HARMFULNESS OF OUTCOME: LOG MEANS AND STANDARD DEVIATIONS (WITH GEOMETRIC MEANS IN PARENTHESES)*

Offense	Maximum Harm			Medium Harm			Minimum Harm			No Harm		
	Item no.	\bar{X}	s	Item no.	\bar{X}	s	Item no.	\bar{X}	s	Item no.	\bar{X}	s
Stabbing (Intentional)	11	2.1621 (145.24)	0.7085	12	2.1510 (141.58)	0.8366	13	1.8679 (73.77)	0.6532	14	1.7021 (50.36)	0.5930
Arson (Intentional)	27	2.3195 (208.69)	1.3053	28	2.0054 (101.25)	0.6479	23	1.7625 (57.88)	0.4895	29	1.5606 (36.36)	0.5220
Dangerous Driving (Reckless)	33	1.9849 (96.58)	0.7571	34	1.7545 (56.82)	0.7033	35	1.6652 (46.26)	0.6603	36	1.3171 (20.75)	0.7515
Adulterated Goods (Reckless)	54	2.0564 (113.87)	0.8210	55	1.7157 (51.96)	0.4974	51	1.7002 (50.14)	0.8702	-	-	-
Rape	21	2.1772 (150.38)	0.7863	20	2.1503 (141.35)	1.1357	19	1.8566 (71.88)	0.6461	-	-	-
Misrepresentation	-	-	-	58	1.1525 (14.21)	0.6073	-	-	-	59	0.7983 (6.28)	0.7058
Stabbing (Controls)	15	2.3944 (247.97)	0.9526	16	2.0821 (120.81)	0.5178	17	1.7075 (50.99)	0.5614	18	1.5993 (39.75)	0.5620
Dangerous Driving (Controls)	37	2.1109 (129.09)	0.6728	38	1.5832 (38.30)	0.5702	39	1.5160 (32.81)	0.6217	40	1.0405 (10.98)	0.6287
Adulterated Goods (Controls)	56	2.0783 (119.76)	0.6936	57	1.6989 (49.99)	0.5795	53	1.3435 (22.05)	0.6098	-	-	-

*The n value for each cell was either 37 or 38, depending on the respondent subsample within which it fell. There were missing values, however, for item 36 (n=36) and 59 (n=32), while for item 19 there were 119 respondents since all subsamples responded to this item.

to determine the appropriate penalty to be imposed by the court, whether in combination with other variables or as the sole criterion, it is almost inconceivable that the scale, whether intended to reflect concepts of "just deserts," deterrence, denunciation, or any other philosophy, would not take the mental element into account. Determination of sentence must be based upon a scale that incorporates variations in the mental element accompanying the offense.⁶³

One further topic requires consideration: the problem of the weight to be attributed to unforeseen harm resulting from the commission of the offense. While the criminal law traditionally has inflicted heavier penalties where greater harm is caused even though such harm was not anticipated, the classical example being the felony-murder doctrine, this approach has been strongly criticized on grounds of morality and efficacy. In an exhaustive analysis of the possible justifications for this practice, Schulhofer concluded that it was retaliatory

in nature and consistent with none of the more accepted objectives of punishment, *i.e.*, retribution, deterrence, and preventive restraint.⁶⁴ Törnudd concluded: "A rational and just criminal code should in principle mete out punishment according to the degree of subjective guilt of the offender, regardless of the eventual and unforeseeable final outcome of the act."⁶⁵

On the other hand, the present study indicates that the public (at least as represented by student respondents) in fact attributed seriousness weighting to resulting harm, even where unforeseen. Thus, if, as recently advocated, punishment is to be based on "just deserts," the fact that people perceive the infliction of greater harm, even where unforeseen, as deserving of heavier punishment must be taken into consideration. This, of course, only can be inferred from the present study, which ostensibly dealt with "offense seriousness" without directly raising the issue of punishment. Whether this is relevant to the sentence actually imposed will depend on the role attributed to public opinion

⁶³ Alternatively, a scale which held constant the mental element could be used and allowance made where a different mental element was present in the instant case, but this assumes the absence of an interaction between the form of mental element and the type of offense.

⁶⁴ Schulhofer, *supra* note 32, at 1603-07.

⁶⁵ Törnudd, *Towards Crime Statistics Based on Damages*, in *SOME DEVELOPMENTS IN NORDIC CRIMINAL POLICY & CRIMINOLOGY* 36, 39-40 (1975).

in determining the seriousness of the offense for sentencing purposes.⁶⁶

The implications of studies of the measurement of offense seriousness have become acutely relevant to contemporary criminal policy in light of the trend away from rehabilitation toward a more retributive justice model of sentencing, with its emphasis on proportionality between the gravity of the offense and the severity of the sentence.⁶⁷ The

precise orientation of such a model may take different forms.⁶⁸ In particular, in determining the gravity of the offense, emphasis may be laid either on the seriousness of the harm inflicted, following the ancient concept of "talion," or on the moral gravity of the act, as reflected in the term "just desert."⁶⁹ Insofar as this new penal philosophy is to reflect public attitudes, it seems that both these concepts have a role to play; for in determining the seriousness of a criminal offense, respondents relate to both the mental element which accompanied it and its harmful consequences.

⁶⁶ See A. VON HIRSCH, *DOING JUSTICE: THE CHOICE OF PUNISHMENTS* 18 (1976). Schulhofer takes the view that "unless it can be shown that a departure from emphasis on results would substantially undermine respect for the law, it would seem that popular attitudes as such should be ignored, and the approach adopted should be the one that is considered sound in principle." Schulhofer, *supra* note 32, at 1514.

⁶⁷ See D. FOGEL, "... WE ARE THE LIVING PROOF..." (1975); A. VON HIRSCH, note 66 *supra*; Wolfgang, *Current Trends in Penal Philosophy*, note 9 *supra*.

⁶⁸ See H. HART, *supra* note 27, at 233-34.

⁶⁹ See Bedau, *Concessions to Retribution in Punishment*, in *JUSTICE AND PUNISHMENT* 51 (1977); Gardiner, *The Renaissance of Retribution—An Examination of 'Doing Justice'*, 1976 *WIS. L. REV.* 781.