The Competency Screening Test: Validation and Malingering[1]

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Abstract

The Competency Screening Test (CST) was constructed by McGarry et. al. (1973) to be an objective, preliminary screening instrument to identify individuals who may be legally incompetent. The present series of studies were designed for two purposes: (a) to provide evidence for the validity or invalidity of the CST, and (b) to study to what extent it is possible to malinger, that is, fake incompetency, on the CST. In the first experiment, using male federal prisoners, validity was found to be moderate using the MGarry et.al. (1973) recommended criterion of 20 with 70% correct identification of incompetents and 27% incorrect identification of competents as incompetent. Competents instructed to respond in an incompetent manner, however, were classified as incompetent in 81% of the cases. Malingering was possible, then, with only minimal instruction. The second study attempted to identify malingering inmates using a multiple-choice form of the test (MCST). Results indicated that it was possible to identify malingering inmates better than 50% of the time without falsely labeling an inordinate number of true incompetents as malingering (13%). The third study used college students and also found that malingering was possible with minimal instruction and that there was a significant relationship between scores on an intelligence test and the ability to do well, or poorly, on the CST. Implications and discussion of potential uses and misuses are included.

The Competency Screening Test: Validation and Malingering

A mutual understanding or definition of competency between the legal and mental professions has failed to develop since its necessity was first recognized in the trial process. This lack of communication has been prevalent and even natural due to each professions' ignorance of the abilities and needs of the other (Pfeiffer, Eisensteing, and Dubbs, 1967; Bkatman, Foy, and DeGrazia, 1971).

Briefly, competency is a legal term used to describe a defendant's ability to contribute to his defense. To accomplish this, a defendant would, by legal definition, need to (1) understand the purpose of the legal proceeding concerning him, (2) be aware of the possible consequences, and (3) be able to assist his lawyer in the preparation and presentation of his case (Comment, 1967).

The question of a defendant's competency or a request for an evaluation can be made by the court, prosecutor, or defense attorney (Cooke, Johnson, and Pganz, 1973). Typically, the defendant is transferred to and examined in a state or federal institution. The courts is then notified of the competency evaluation of the staff of the institution. Usually, the court accepts the staff recommendation based on tests and observations. If the defendant is judged competent, trial is scheduled. If the defendant is described as incompetent, trial is postponed and some form of treatment may be provided. If improvement is not observed in a reasonable time, the court usually commits the defendant to a mental institution for an indefinite period (Comment, 1967).

Health, Education, and Welfare statistics indicate that there were over 9,000 competency evaluations in 1974 (Roesch and Golding, 1977) and that defendants were being evaluated for competency with increasing frequency in the following years.

Unfortunately, many psychiatrists and psychologists are not aware of what the legal elements or requirements of competency are. They appear to confuse a need for therapy with incompetency (Rosenberg, 1970). Also, the courts tend to accept competency recommendations by clinical staffs with little question (Bukatman, Foy, and DeGrazia, 1971; McGarry et. al. 1973). This lack of communication, therefore, makes it possible that a defendant can be misdiagnosed. If he is incompetent, he can be unjustly tried. If he is competent, he can be committed indefinitely and, in effect, presumed guilty without the benefit of a trial (Szasz, 1963; Robey, 1965). Out of these unmet needs, several attempts have been made to create a screening device or check list to aid in determining competency, i.e., Robey (1965); Bukatman, Foy, and DeGrazia (1971); and McGarry et al (1973). It is necessary at this point to emphasize that a defendant can be retarded or subject to personality disorders and still be competent. If these or other conditions do not prevent the defendant from functioning within the legal parameters as defined, he can be considered competent (McGarry, 1965).

In order to standardize and simplify the evaluation task, McGarry and his colleagues at the Harvard Medical School (McGarry et. al, 1973) developed the Competency Screeing Test (CST) to screen out clearly competent individuals and thus avoid a lengthy evaluation. The CST is a sentence

completion test with 22 items of the form "If Ed's lawyer suggests that he plead quilty, Ed _____." Each item is scored with a 0 - no evidence of competence, 1- some indication of competence, or 2- competent. The following is an example of the scoring system for the preceding item:

Score	Answer
0	will be put away
	he won't do it
1	he started to worry
	would try to get him off a light sentence
2	will probably go along with it
	would seek further advice

McGarry et. al. (1973) recommended a cut-off score of 20 out of a possible 44 for a decision of competence.

While considerable effort was made to insure that the test was adequately reliable in terms of inter-rater reliability, only a minimal attempt to validate the test was made. Comparing staff recommendations with the decision made by the CST for 43 patients, McGarry et. al., (1973) correctly identified 17 as competent and 16 as incompetent with 7 false incompetents and 3 false competents. The difficulty here is not only with the small number of cases, but the selection of a criterion. Staff recommendations may or may not reflect the true competency or incompetency of a person being evaluated.

Various personality and projective tests were also completed by prisoners in the predictive validity study. Among these, the only significant correlation was with the MMPI validity scale (-.475, p .01). That

is the higher the CST score, the lower the validity scale score. Tests that were not significantly correlated with the CST were the Draw-a-Person Test (male and female), other scales of the MMPI, the Weschler Adult Intelligence Scale, the Graham Kendall Memory for Design Test, and the Rorschach. This was assumed to indicate that the CST was not measuring intelligence or other personality variables.

The CST has also been critized by Brakel (1974) for its lack of face validity. Many of the items did not appear to him to be measures of competency. He argued, justifiably, that a person might receive a low score on the CST because of a cynical attitude toward legal procedures. However, if the test has criterion validity the question of face validity is less important.

An aspect of the competency proceedings which has been little studied is the possiblity of faking incompetent (malingering). Although Roesch and Golding (1977) provide statistics indicating that incompetent defendants do not necessarily receive lesser sentences, have their case dropped, or be found innocent more often than competent defendants, it has been the experience of the staff at the Medical Center for Federal Prisoners at Springfield that malingering regularily occurs. Much of the psychologists and psychiatrists time is spent testifying on such cases in court with no basis for decision except subjective judgment and a few psychological tricks, such as deviant scores on the MMPI which do not conform to known pathologies or inconsistencies across tests or stories.

The currect studies pose two questions with respect to malingering. (1) Is it possible to malinger on the CST?, and (2) Is it possible to

detect malingering with a test? The answer to the first question was found by instructing competent inmates to malinger and comparing their scores to true incompetents and competents. Because of the nature of the CST, it is readily identified as a test of competency by potential malingering inmates. It was predicted that malingering could be easily accomplished.

Expirement I

Method

Subjects. The subjects were 208 male prisoners at the Medical Center for Federal Prisoners in Springfield, Missouri. Three different classi fications of prisoners participated in the study:

1. Groups I and II were 118 competent prisoners i.e., they had been found competent, tried, and found guilty. They were assigned maintenance work at the center.

2. Group III was compsed of 21 individuals who had been found incompetent by the court and sent to the Medical Center for treatment. Many were receiving some medication and were in various stages of recovery.

3. Group IV consisted of 69 prisoners of an uncertain competency who were sent to the Medical Center for evaluation. Many were receiving treatment and/or medication.

Stimuli and Apparatus. The instrument used was the same as that devised by McGarry et. al., (1973) and consisted of 22 open-ended sentence completion items.

Procedure. The CST was given to prisoners after they had completed

the standard testing program at the institution for Groups I, III, and IV. The standard tests in cluded the MMPI and in some cases other tests, such as the Shipley, Beta, and IGPF. Group II took only CST and MCST. In all cases the CST was given in the psychological testing room at the institution in groups of five to twenty and took from ten to twenty minutes to complete. As Ss finished the regular testing at varying times, individual instructions were given for the CST. The instructions there were two more short tests to take for research purposes only. As in all testing at the institution, prisoners had the right to refuse to take the test. If an inmate refused the additional testing, he did not have to sign a form to that effect, as he did if he refused regular testing. Approximately twenty-five percent of the prisoners refused to take standard tests and of those who took the stantdard tests approximately ten percent refused to take the additional tests.

In all cases the Ss were told that the research test scores and tests would not be available to the institution staff or court. Neither the tests nor the socres were placed in personal files of the prisoners. Subjects wrote neither their name nor their number on the test, although a coding scheme was devised in order to identify individuals at a later date with respect to competency decisions by the institution staff. In no case was the institution staff informed of the scores made by any of the participants of the study.

On the CST the Ss were read the instructions at the top of the test booklet. Questions, if asked, were answered in a general fashion. If any questions were left unanswered, the S was requested once to complete those items.

For the three or four prisoners who were illiterate, questions were read for them be the tester, who also wrote the sentences for the CST and marked the responses for the MCST.

The testing of Group II was done on other than the regular testing days and subjects were instructed to malinger on the test. A hypothesized situation was outlined, demonstrating circumstances where it might be advantagious to an individual to be found incompetent. Following this, they were instructed about the three prerequisities for competency outlined in McGarry et. al., (1973).

The scoring on the CST was done according to the scoring system designed by McGarry et. al., (1973). One member of the research team did all the scoring without knowledge of the classification or group membership of the inmates.

Design. Two different aspect of competency were examined in this study. There were:

1. Validation of the CST--comparison of scores made by Group I (competent) and Group III (incompetent) will give an index of the concurrent validity of the test. Comparing staff recommendations for Group IV with test scores will yield an index of predictive validity.

2. Possibility of malingering on the CST--comparison of scores made by Group I and Group II will provide evidence on the difficulty of malingering on the CST.

Results The distribution of scores for each of the four groups is given in Figure 1, while the means and standard deviations are presented in Table 1. Two aspects of these data were of major interest: (1) Whether

the CST was a valid instrument in determining competency and incompetency, and (2) whether the test could be faked by deliberately malingering. Each aspect will be examined separately in the following sections.

The mean CST scores of Groups I, II, and III were found to be significantly different from each other using an ANOVA with ($F(2, 132) = 27.8379$, $p < .001$). A post-hoc analysis (Neuman-Keuls) yielded significant differences between all possible pairs of means ($p < .01$).

The difference between the means of Group I (23.76) and Group III (18.94) gives an indication of the power of the test to differentiate between known competents and know incompetents. Result of setting various cut-off points for a competency decision on the percentage of correct and incorrect decisions is presented in Table 2. Together these results give an indication of the concurrent validity of the test and would seem to indicate that the CST can do a reasonably good job of discriminating between individuals judged incompetent by the courts and those judged competent. It also appears that the choice of a score of 21 or above as a cut-off value for competence is one which discriminates fairly well without making an inordinate number of false placements.

The predictive validity of the CST can be estimated by comparing scores made by the two subgroups of undetermined status (Group IV); those recommended as competent by the staff and those recommended as incompetent. Table 1 presents the means and standard deviations of these two groups while Table 3 presents the decision-making accuracy of various cut-off values. The difference between the means of these two groups was not significant ($F(1,68) = 2.4711$, $p > .05$). In this case the CST is of questionable predictive validity.

The second aspect of interest with respect to the CST was the ability of an individual to fake incompetent (malinger). The mean of competent individuals (Group I was much greater than for malingering individuals (Group II) while true incompetents (Group III) scores somewhere between these groups. Table 2 presents the decision-making accuracy for judgments made within the malingering group. Using the McGarry et. al (1973) cut-off value of 21, we found that 81% of the malingering group would have been found incompetent by the CST. These data leave little question that malingering is possible.

Discussion. The results of this study indicate that although the CST demonstrated reasonable concurrent and predictive validity for a screening instrument, the ease of malingering raises serious doubts about the usefulness of the test.

Experiment II

Even if the CST proved to be a valid instrument in discriminating between competent and incompetent defendants, it is of limited use if malingering is possible. This study is a first attempt to put together a more complete scale. This second instrument, the Multiple-Choice Competency Screening Test (MCST) was developed by the present authors to detect malingering.

Proceeding from the conclusion of McGarry et. al (1973) that a forced-answer method was unable to differentiate between competent and incompetent individuals, a multiple-choice version of the CST was constructed in hopes of differentiating between malingerers and non-malingerers. A pilot study was carried out in which prisoners were randomly selected and requested

to answer a multiple choice CST. One half of these pilot subjects were instructed to malinger, i.e., try to answer as an incompetent while the other half were instructed to answer as best they could. This preliminary version of the MCST was constructed by taking all the sample grading answers given by McGarry et. al (1973) as alternatives. Each S checked one of the alternatives for each sentence. One sentence was inadvertently omitted. Four alternative were selected for inclusion in the final version of the MCST; two most commonly selected by the malingering group and two most commonly selected by competent individuals (one question only used three responses). If the alternative was commonly selected by both groups, it was not used and a different alternative was selected. Thus, the alternatives best differentiated between the two group.

Method

Subjects. A subset of the subjects who participated in the first experiment also participated in the present experiment. Fourty subjects were lost because of nonparticipation, experimenter error, and the later development of the MCST.

Stimuli and Apparatus. The MCST was distributed as a test booklet.

Procedure. The MCST was administered after the CST and in a manner similar to the CST. If no items or multiple items were selected on the MCST the S was asked to correct the test.

Hypothesis. Detection of malingering--the MCST was designed to detect malingering. If this test succeeds, then it would be expected that Groups I and II would be approximately equal, while Group II should do worse than either of the other two. The lower the score on the MCST, the greater the possibility of malingering.

Results. Figure 2 presents the distribtuions of the four groups on the MCST while Table 1 presents the means and standard deviations. This test was designed to differentiate between those who were malingering and those who were not, both competent and incompetent. An ANOVA revealed significant differences of mean MCST scores between the three groups ($F(2,110) = 30.3357$, $p < .001$). Post-hoc analysis (Newman-Kuels, $p < .05$) revealed significant differences between all pairs of groups except Group I and III. Decision making accuracy is presented in Table 4. Thus, as concluded by McGarry, et. al, (1973) a multiple-choice format does not discriminate between competent and incompetent individuals, but does hold promise of discriminating between malingering and non-malingering individuals.

Discussion. The MCST provided a first attempt at detecting deliberate faking although serious problems would prohibit its widespread use.

There is a justifiable fear that a few defense attorneys or interprising inmates could obtain information about the MCST, deseminate this knowledge through the prison population, and greatly reduce the MCST's usefulness. The MCST can be easily faked when it is known by the inmates that they should respond to the less extreme choices.

Perhaps what would be most useful would be an instrument that tested the various aspects of competency obliquely as the scales of the MMPI. Such an instrument would have separate scales for each part of definition of competency along with a malingering scale. This would require a great deal more research to define and illuminate the parameters and relationships of competency along with considerable experimentation with test items.

The problem of selecting a criterion for the validation of any competency instrument must also be faced. Using staff recommendations or court

decisions poses not only the problems of criterion contamination and criterion reliability, but also the quality of the criterion. In order to insure a proper criterion perhaps a cognitive criteria, defined by formal game theory, could best determine the though mechanisms underlying an understanding of court procedures.

Although the results of the present study give direction for future research, considerable research must be done before the problems associated with competency decisions may be overcome.

Experiment III

Roesch and Golding (1977) in a comprehensive review of the current research and literature regarding competency, pointed out that the development of the scoring system of the CST was not explained. Also, alternate hypotheses of what the CST measured were not fully examined. They suggested a low score may be the result of a "feeling of powerlessness to control one's outcome within" (p. 40) the criminal justice system. They also suspected along with Brakel (1974) that high scoring defendants may be responding in a socially idealized manner. To examine these hypotheses, the CST, Slossen IQ Test, Rotter Internal-External Locus of Control Scale (I/E), Marlow-Crowne Social Desirability Scale (MCSDS), and other data were obtained from defendants within three days of their arrival at a state institution. Roesch and Golding (1977) assumed that if the defendants were partly responding on the CST due to a sense of helplessness, there would be a negative correlation between the I/E and CST. Also, if the defendants were responding to social role playing, there would be a positive correlation between the CST and MCSDS.

Only two correlations were significant. Intelligence and CST scores of competent and incompetent defendants were positively correlated, .42, $N = 122$, $p < .001$. This was in conflict with McGarry et. al. (1973) study, as intelligence was not found to correlate with CST scores. Also, there was a negative correlation between CST and I/E scores of competent defendants, -.35, $N = 74$, $p < .001$. That is, defendants who responded as though they lacked control over their lives (high I/E score) were likely to score low in competency. Those who perceived they controlled their lives were more likely to score as competents. It was not found that responding in a socially desired way (high MCSDS score) was related to CST scores. Consequently, Roesch and Golding suggested the CST may partly reflect intelligence and perceived locus of control. They also noted its questionable predictive validity.

The objectives of this research are fourfold and deal with conflicting data, replication, and experimentation.

(1) Is there a positive correlation between CST and IQ scores? (McGarry et. al., 1973 versus Roesch and Golding, 1977)?

(2) Can it be replicated that the CST and I/E scores have a negative correlation (Roesch and Golding)?

(3) Can it be replicated that competents can purposely score as as incompetents?

(4) Is the ability to malinger on the CST a function of IQ and/or IE scores?

Three independent variables will be considered: CST scores, IQ, and I/E. Two dependent measures were whether or not the subject was instructed to malinger, and sex.

Method

Subjects. Thirty-eight male and 69 female students at a midwestern state university taking introductory classes in Psychology were used as subjects. It was a course requirement that the students participate as subjects in an approved experiment or write a research paper.

Stimuli and Apparatus. The Shipley Institute of Living Scale, Rotter Internal-Esternal Locus of Control Scale (I/E), and the CST were used as measures in the experiment.

Procedure. Subjects were randomly assigned to either the control or malingering groups. General instructions were given to both groups, while the malingering group received additional written instructions to malinger and were given information about the legal definition of competency. In the general instructions, subjects were told this experiment would take about an hour, their results are confidential on the three tests, and that there was no deception involved. Any questions were answered, and the subjects were asked to read the instructions carefully for each test.

The Shipley, I/E, and CST were then administered in that order. All testing occurred in group in a testing room.

Results

The major results are presented in Table 5. An ANOVA revealed a main effect for Group ($F(1,105) = 68.884$, $p < .001$), and an interaction between Group and Sex ($F(1,105) = 7.078$, $p < .05$). As can be seen, males scored slightly higher than females in Group I and females scored higher than males when asked to malinger. An analysis of covariance was performed

with I/E and IQ scores as covariants and the results were similar to the ANOVA. A Pearson Correlation Coefficient of the control group for IQ and CST scores was .252 ($p < .05$). Thus, subject who scored high on the Shipley was likely to score high on the CST and the converse. For malingerers, there was a correlation of -.276 ($p < .05$) between Shipley and CST scores. When a subject scored higher on the IQ scale and was instructed to malinger, he received a lower CST score and the converse. Also, there was a significant correlation between the sex of the malingerer and CST score (.328, $p < .05$).

Discussion

Foremost in consideration is the fact the population is probably significantly different from the one used to develop the CST. All conclusions and inferences are specifically for college students. There is a sufficient correlation between IQ and CST scores of normals to believe the first hypothesis is supported, as suggested by Rouesch and Golding (1977). However, no correlation was found between CST and I/E scores. Since subjects were tested within three days of their arrival at the institution (Rouesch and Golding, 1977), it could be expected they would have responded differently after they had become adjusted to their surroundings (Rotter, 1966). The students were not subject to the same stress or uncertainty, and this may account for the different results.

As in the first study, it appears a competent subject can score incompetent with minimal instruction. Also, as in earlier studies, it is obvious the CST nees refinement. Even as a screening device, its decision making accuracy is crude for students.

The significant correlations between IQ scores and the CST for both groups suggest the CST may include elements of intelligence contrary to McGarry et. al, (1973). Finally, the interaction between male and female and groups may be explained by the fact the CST was designed using only males.

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Table 1

Means and Standard Deviations for All Four Groups on the CST and MCST

Group	CST			MCST		
	N	$\bar{X}$	s	N	$\bar{X}$	s
I. Competent	70	23.76	6.94	57	16.84	3.18
II. Malingering	48	12.96	8.33	48	10.13	5.87
III. Incompetent	17	18.94	9.00	8	14.88	3.27
IV. Undetermined	69	20.37	9.23	51	15.58	4.14
A. Competent by Staff	64	21.31	8.64	49	15.39	4.41
B. Incompetent by Staff	5	15.00	8.71	2	14.00	5.66

Table 2

Effects of Different Criteria on the Number of Correct and Incorrect Decisions Made on the Basis of Score on the CST

Competent Score 17 or above

		Group I	Group III	Group II
CST Decision	Competent	87% (61)	70% (12)	27% (13)
	Incompetent	13% (9)	30% (5)	73% (35)
		100% (70)	100% (17)	100% (48)

Competent Score 21 or above

		Group I	Group III	Group II
CST Decision	Competent	73% (51)	30% (5)	19% (9)
	Incompetent	27% (19)	70% (12)	81% (39)
		100% (70)	100% (17)	100% (48)

Competent Score 25 or above

		Group I	Group III	Group II
CST Decision	Competent	44% (3)	18% (3)	10% (5)
	Incompetent	56% (39)	82% (14)	90% (43)
		100% (70)	100% (17)	100% (48)

Table 3

Comparison of Decision by Staff and Decision Based on CST for Prisoners of Undetermined Status (Group IV)

Competent Score 17 or above

		Decision by Staff: Incompetent	Decision by Staff: Competent
Decision by CST	Competent	40% (2)	77% (49)
	Incompetent	60% (3)	23% (15)
		100% (5)	100% (64)

Competent Score 21 or above

		Decision by Staff: Incompetent	Decision by Staff: Competent
Decision by CST	Competent	40% (2)	59% (38)
	Incompetent	60% (3)	41% (26)
		100% (5)	100% (64)

Competent Score 25 or above

		Decision by Staff: Incompetent	Decision by Staff: Competent
Decision by CST	Competent	20% (1)	34% (22)
	Incompetent	80% (4)	66% (42)
		100% (5)	100% (64)

Table 4

Accuracy of the MCST in Detecting Malingering

For Cut-off Score of 8 or Less for Malingering Decision

		Group I	Group II	Group III
Decision of MCST	Malingering	4% (2)	0% (0)	52% (25)
	Not Malingering	96% (55)	100% (8)	48% (23)
		100% (57)	100% (8)	100% (48)

For Cut-off Score of 11 or Less for Malingering Decision

		Group I	Group II	Group III
Decision of MCST	Malingering	7% (4)	13% (1)	60% (29)
	Not Malingering	93% (53)	87% (7)	40% (19)
		100% (57)	100% (8)	100% (48)

Table 5

Means and Standard Deviations for the Shipley, Rotter I/E, and CST for Control and Malingering Groups

		Control Group			Malingering Group		
Test		Males	Females	Total	Males	Females	Total
N		17	36	53	21	33	54
Shipley	$\bar{X}$	62.588	62.500	62.528	62.762	62.030	62.315
	s	8.471	6.474	7.097	4.404	6.573	5.804
I/E	$\bar{X}$	8.000	10.056	9.396	8.762	9.576	9.259
	s	2.958	4.660	4.271	4.194	3.052	3.524
CST	$\bar{X}$	24.941	23.500	23.962	8.857	14.939	12.547
	s	5.093	4.93	4.566	9.150	8.426	9.133

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