

Use of Biographical and Case History Data in the Assessment of Malingering During Examination for Disability

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This study examined the relationship of biographical and case history data thought to be associated with malingering to known indices of malingering based on MMPI and sentence-completion test data. Subjects were 65 patients who had undergone formal psychiatric evaluations in connection with ongoing litigation over injury-related disability. Biographical/case history data were reduced to six factors, which were correlated with six MMPI and five sentence completion test variables. Of the 66 correlations, 24 were significant, supporting the relevance of biographical and case history data in assessing malingering under these circumstances.

Questions of malingering frequently arise in evaluations of disability status where there is potential financial gain, such as in personal injury and worker's compensation cases.^{1,2} This has become a costly problem.³ There is recent research in the detection of malingering in areas such as psychopathology,^{4,5} memory impairment,⁶ and claims of sexual abuse. However, there is little systematic research on malingering in disability-related settings. In general, the development of a systematic assessment tech-

nology has been hampered by the lack of an acceptable underlying theory of how people go about malingering in such settings.

Two recent research efforts have attempted to identify characteristics of malingerers in medical settings. A study of neurology clinic patients identified interview and examination-related components that were said to differentiate malingerers and nonmalingerers with a high degree of accuracy.^{8,9} The 29 items assessed seven general categories: exaggerated confidence in the doctor or other source of knowledge, questioning the competence of the present doctor or others, excessive focus on problem severity and its permanence, diminished quality of life, statements of personal enhancement, illogical or unlikely statements

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about the problem, refusal to acknowledge alternative explanations, and threats of retaliation to an unfavorable opinion. Despite some possible contamination between predictors and criteria in this study, the items do appear to possess validity for their intended purpose.

In a recent study of low back pain patients in a residential treatment setting, Chapman and Brena¹⁰ demonstrated relationships between malingering and a number of patient and program characteristics, such as increased focus on pain, highly dramatized complaints, lower levels of attention to and interest in treatment, less compliance with treatment, lower levels of physical activity, more inconsistent or negative responses when given injections to relieve pain, and fewer medical findings.

A number of studies have used objective tests, most notably the MMPI, in an attempt to distinguish between malingerers and nonmalingerers during evaluation for personal injury. A review of this work by Butcher and Harlow¹ led to the conclusion that elevations on the Hs and Hy scales of the MMPI were the most predictive of malingering. This conclusion is consistent with the general literature on the MMPI.^{11, 12}

In the realm of projective techniques, a recent study by the present authors used 12 categories derived from the empirically determined Barkemeyer and Callon⁸ and Chapman and Brena¹⁰ factors related to malingering to develop a content-based scoring system for malingering from responses to a 136-item sentence completion test (SCT-136).¹³

The sentence stems of the SCT-136 were originally developed on the basis of clinical judgment regarding their relevance to personal injury assessment situations, and they had been administered to 51 patients undergoing psychiatric assessment regarding their claims of disability based on personal injury. Three factor-based scales of malingering were developed from the initial 12-variable scoring system, each representing a clinically recognizable strategy for malingering. They were validated by their relationships to relevant MMPI scales, and were cross-validated in a simulation study with 39 undergraduates who were given specific instructions to fake the effects of personal injury using each of the three strategies in turn. The content of the scales represented the following malingering strategies: (1) angry negativity, complaining that the system is not giving the patient a fair deal; (2) exaggeration of physical difficulties and work disability; and (3) claims of excessive virtue, personal honesty, believability, and moral excellence.

The clinical experience of the first two authors has demonstrated the likelihood of stable relationships between malingering and a source of data that has not previously been studied in this regard, namely, biographical and case history information. It is noted that the definitions of malingering and related behaviors as presented in the DSM-III-R¹⁴ are consistent with the presence of meaningful relationships between the likelihood of malingering and patients' background characteristics and past behavior. In addition, biographical and case history in-

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formation, broadly conceived, forms a primary basis for the assessment of psychopathology in general and also contributes as much or more to specific diagnoses than do traditional psychological tests.¹⁵

Several different grounds thus exist for studying the utility of biographical and case history data in the assessment of malingering. The specific purpose of the present study was to empirically validate clinically observed relationships between patients' case variables and established measures of malingering based on objective test data.

Method

Subjects were 65 patients who were in litigation for personal injury, worker's compensation, or Social Security disability claims. All had been formally examined by the second author in order to determine the presence and extent of psychiatric and psychological factors and their relationship to the claimed disability. All had been assessed with a formal two-hour psychiatric case history and diagnostic interview, the MMPI, and the 136-item sentence completion test (SCT-136) described above. In addition, an average of four hours was spent for each case in reading and summarizing the prior medical records. The formal psychiatric report on each patient contained a separate section for biographical and case history data. Based on the clinical experience of the first two authors, the frequency of malingering in this population was judged to be 50 to 60 percent. There were 32 males and 33 females. Mean age was 40, with a range

of 20 to 65, and mean educational level was 12 years, with a range of 6 to 18.

Development of Malingering Indices
Indices with a clinically judged relationship to malingering were developed from case history and biographical data as follows.

1. On the basis of clinical experience, the first two authors made a systematic list of all variables that were believed to be related to malingering (see Table 1 for examples).

2. The list was structured by the first and third authors into a format that could be used to code the biographical and case history section of each patient's psychiatric report.

3. Ten patient reports were selected at random and were coded by the third author.

4. Based on these data, the coding system was developed into a multiple-choice scheme with two to five alternatives per item. Further refinements were made in the coding scheme to improve the ease and reliability of coding. Several items were deleted because they could not be coded reliably from the reports.

5. The final multiple-choice coding format contained 58 separate items, which were grouped by the first and third authors into six clusters on the basis of their similarity of content: demographic information, substance abuse data, mental health and interpersonal factors, health status prior to injury, health status following injury, and health-related visits since injury. The number of items in each cluster ranged from four for health-related visits since injury to 11 for interpersonal factors.

Table 1
Names of Six Factors and Item Content Representing Biographical and Case History Data

Factor Name	Item Content
Demographic variables	Years of education (-) ^a Vocational level (-) Number of children Number of siblings
Family substance abuse	Any indication of family history of alcohol involvement Any indication of family history of drug involvement
Personal substance abuse	Illicit drug use (current) Illicit drug use (more than five years ago) Self-reported illicit drug use as compared to results of urinalysis (-) Alcohol use (current) Alcohol use (more than five years ago) Cigarette use (current) Cigarette use (more than five years ago)
Physical problems post-injury	Degree of psychiatric damage sustained due to the accident (-) Degree of orthopedic (e.g., muscular, soft tissue) damage attributable to the accident Degree of general pain attributable to the accident Total number of currently prescribed pain medications
Current medications	Total number of currently prescribed psychoactive medications Total number of currently prescribed medically related medications (not including pain medications)
Doctor visits post-injury	Number of different therapists/counselors/psychologists or psychiatrists since the accident Number of different medical doctors (excluding psychiatrists) since the accident Number of different nondoctoral aids (e.g., physical therapist) since the accident

^a A negative sign indicates a negative loading on the factor.

6. This format was used by the third author to code 51 patient reports. A second coder was trained by the first coder by working collaboratively on five of the reports. The second coder then coded 14 additional reports, making a total of 65 cases. Both coders had had substantial experience in the coding of clinically relevant material. Although a quantitative determination of intercoder reliability was not made, it is noted that

the coding procedure was objective and highly structured.

Results

Frequency distributions were computed for all 58 items. For those items whose multiple-choice response distributions were not close to normal, two or more response alternatives were combined in order to make a better approximation to normal.

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To further reduce the data, individual exploratory factor analyses were conducted on each of the six clusters. Three solutions for each analysis were considered: unrotated, varimax, and Promax. These solutions yielded comparable factor structures within each item cluster. Four of the six clusters (demographic, substance abuse, prior health, post health) produced two interpretable factors, one cluster (post visits) produced a single interpretable factor, and one cluster (mental health and interpersonal) produced no interpretable factor. One of the demographic factors was dropped because the content of its items seemed unrelated in any meaningful way, leaving eight factors.

Discussion of the factors and items among the authors revealed that although the items that referred to prior mental and physical health appeared to have been coded reliably, there was considerable variability in the extent to which that material had been available for inclusion in the reports from which the coders worked. The two factors based on prior health (prior physical health and prior mental health) were therefore dropped at this point, leaving six factors for the remainder of the study.

Items with loadings of $\pm .4$ or beyond on a factor were considered for inclusion. Three items loaded on two different factors; each was retained on the factor with the higher loading. In addition, one item was dropped because its content was unrelated to the other items in the factor. Names for the six factors, and the items retained for each, are shown in Table 1.

These six factors represent the statistical grouping of the 58 original items that were judged to be related to malingering. The only original area of content that did not result in a factor involved patients' interpersonal history and personal stability, such as employment status, number of marriages, and history of physical or sexual abuse. However, it is noted that one of the existing factors included some personal history items (years of education; number of children).

Validation The factors were validated as indicators of malingering against two independent sources of data: relevant MMPI scale scores, and the three empirically based malingering strategy scales based on sentence completion test (SCT-136) responses developed independently of the present study by Timmons *et al.*¹³

The MMPI scales that are most consistently associated with malingering or exaggerating physical injuries for personal gain are Hs and Hy.¹ These scales were therefore used as indices of malingering of physical problems. The regular MMPI validity scales L and K were used to assess general defensiveness, and the F and Ds-r¹⁶ scales were used to assess the malingering of psychiatric symptoms. The F scale was used rather than the F-K index because it was desired to assess malingering separately from defensiveness.

Correlations between the six biographical data/case history factors and the MMPI scales are shown in Table 2. Fourteen of the 36 correlations were significant beyond the .05 level, all in the

Table 2
Significant Correlations ($p < .05$) of Biographical Data/Case History Factors Related to Malingering with Relevant MMPI Scales and With Malingering Scales Based on Sentence Completion Test Data

Biographical/Case History Factors	MMPI Scales						Sentence Completion Scales				
	L	F	K	Hs	Hy	Ds-r	AN	DE	EV	LC	Total
I. Demographic variables				.28	.26			.28		.30	.29
II. Family substance abuse		.37		.46	.41	.27				.44	.30
III. Personal substance abuse		.45	-.34			.41				.26	
IV. Physical problems post-injury				.38	.27				.30		.29
V. Current medications							.29				
VI. Doctor visits post-injury	-.28			.30	.26						.25

AN = angry negativity; DE = disability exaggeration; EV = excessive virtue; LC = lack of compliance with the sentence completion test instructions; Total = total sentence completion malingering score based on all 12 initial malingering variables.

direction representing an exaggeration of problems. By chance alone, only about two would be expected to be significant. Four of the six factors were significantly related to Hs and Hy, indicating their association with patients' excessive self-representation as being physically disabled. Both of the substance abuse factors were related to both MMPI indices of psychiatric malingering, suggesting that admissions of personal and family substance abuse were related to a desire to appear mentally disabled. The only one of the six factors not showing a significant correlation with at least two of the MMPI scales was current medications.

Correlations of the six biographical data/case history factors with the three Timmons *et al.*¹³ malingering strategy scales based on sentence completion test responses (AN—angry negativity, DE—disability exaggeration, and EV—excessive virtue) are also shown in Table 2. Also included was a fourth variable (LC) assessing patients' lack of compliance in following the instructions for the sen-

tence completion test itself, and a summary score (Total) of the initial 12-variable scoring system for malingering.

Table 2 shows that four of the six biographical data/case history factors correlated significantly with the sentence completion total malingering score, indicating a meaningful association between those factors and malingering. Three of the biographical data/case history factors correlated significantly with the sentence completion test lack-of-compliance variable, and three factors were significantly related each to a different one of the three sentence completion malingering strategy scales. Overall, 10 of the 30 correlations reached significance beyond the .05 level, compared with a chance expectation of about two.

As a stricter criterion for significance, the Bonferroni *t* procedure¹⁷ was applied to all the correlational data presented above. By this criterion, the eight correlations above .32 were significant beyond the .05 level. Four of these correlations were with Family Substance Abuse, and three were with Personal Substance Abuse.

Discussion

Results of the validation study showed a number of significant correlations, all in the expected direction, between the six biographical data/case history factors and independent test indicators of malingering based on the MMPI and the SCT-136. All factors except for “current medications” correlated significantly with four or more of the 11 criterion variables, indicating broad-based support for the relationship between those five factors and likelihood of malingering.

The study has several methodological limitations. First, the number of subjects (65) was the relatively small, limiting the extent to which multivariate statistical procedures could be used. However, it is noted that the data were obtained in a real-life setting and reflect actual clinical circumstances. Because such data are difficult to obtain in a form that is “clean” enough for research use, there is a necessary trade-off between sample size and sample relevance.

A second potential limitation has to do with the use of indirect measures of malingering (test scores) as validating criteria rather than some more direct outcome measure or integrated independent clinical judgment. But, by the nature of the real-life setting in which the study was conducted, direct measures would have been unavoidably influenced by the judgments regarding malingering that were made as part of each patient’s clinical examination. Thus, direct criterion data could only have been obtained if the biographical/case history information had not been used in mak-

ing decisions about each patient—a circumstance that is not possible in a real-life setting. It is noted that although the validation criteria that were employed were test scores, they were objective, well-established as representations of malingering, and fully independent of the variables that they were used to validate.

The results may be interpreted as follows. Most basically, they demonstrate significant and potentially useful relationships between a patient’s biographical/case history data and likelihood of malingering during litigation-related psychiatric examination for disability. The strongest relationships with the criterion measures involved the two substance abuse factors—personal and family. As shown in Table 1, the items comprising the personal substance abuse factor have mainly to do with the extended use of a variety of substances; thus, it would be possible for a patient to achieve a high score on this factor without admitting to any current use of illegal drugs.

Table 1 also indicates the content of the other relevant biographical data/case history factors related to the test measures of malingering likelihood. The demographic factor includes low education and vocational level and a high number of siblings and children. The factor representing physical problems post-injury includes a self-reported pain component, denial of injury-related psychiatric damage, and degree of orthopedic damage. Also validated was the factor representing the number of different health-related professionals seen by the patient

since the injury. The remaining factor, involving the number of current medications excluding pain medication, showed only minimal relationship to the test indices of malingering.

Also worthy of note are the consistent relationships of the biographical data/case history variables to the MMPI Hs and Hy scales. These scales represent not the presence of physical disorder, but the use of physical complaints in the service of other needs. Thus, the findings of the present study may be viewed as pointing to case background factors that indicate an increased likelihood of using physical complaints for personal gain.

What are the possible reasons why these biographical and case history factors are correlated with malingering? In regard to the substance abuse factors, it could be that high scorers are less socialized than average and more willing to deceive to meet their own personal needs. A similar explanation might be offered for the association between malingering and a cluster of demographic variables that include low education and low vocational level. It is possible that such persons might be more likely to take the view, either consciously or unconsciously, that they are entitled to all the compensation they can manage to get.

A review of the sources of data underlying Factor IV, representing physical problems post-injury, showed that this is essentially a self-report factor. It can be viewed as representing the degree to which patients claimed pain and physical damage but denied a psychological component to their problems. Likewise,

it is possible that Factor VI, indicating the number of post-injury doctor visits, is also relevant to patients' desires to be viewed (and to view themselves) as having severe physical difficulties. To address the question of how such a factor could distinguish patients who truly have severe pain and damage from those who do not, it is noted that malingerers typically do not know the norms and therefore overstate their difficulties, even when compared with persons with truly severe problems. It is of interest that Factor V, representing number of current medications, did not show a meaningful association with malingering. This factor might be viewed as representing a more objective appraisal of the true condition and needs of the patient.

To the extent that the biographical data/case history factors identified in the present study do not represent a patient's current behavior, but unchangeable aspects of his or her past, it is not appropriate to base a judgment of malingering on such data. However, the data can be used in a Bayesian sense to indicate higher (or lower) prior probabilities that the patient will malingering during a current examination; that is, they can indicate a propensity to malingering. The examination of patients who show such indications can thus be conducted with added attention to the possibility of malingering, for the dual purpose of identifying it if it does exist and affirmatively ruling it out if it does not.

It is recommended that further validation be conducted for the biographical/case history factors to better under-

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stand the reasons for their significance and to strengthen their practical utility. In doing so, it would be useful to code them objectively at the time of the psychiatric interview and the records review, so that the relevant information can be affirmatively obtained. The utility of the variables that were excluded from the present results due to incompleteness of the data could then be determined once it was ensured that they were fully represented.

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