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Explanatory Models of Malingering

A Prototypical Analysis*

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Rogers (1990a, 1990b) proposed three models to explain why certain persons malinger mental illness: pathogenic, criminological, and adaptational. Highly experienced forensic experts (N = 320) performed prototypical ratings on attributes associated with each model; the highest ratings were given to the adaptational model. In addition, a principal components analysis provided initial empirical support for these three explanatory models. The relevance of these findings to theory and clinical practice is discussed.

The bulk of malingering studies, as noted in recent reviews (e.g., Berry, Baer, & Harris, 1991; Franzen, Iverson, McCracken, 1990; Rogers, 1988; Rogers, Harrell, & Liff, 1993; Schretlen, 1988), have addressed primarily the clinical identification of malingerers. These efforts have been divided between the establishment of validity indices on standard psychological tests and the generation of specific measures devoted to the evaluation of feigning and related response styles. Much less attention has been paid to understanding who malingers and their chief motivations.

Rogers (1990b) categorized the three explanatory models for malingering of mental illness: pathogenic, criminological, and adaptational. According to this typology, the pathogenic model applies to persons who are motivated by underlying psychopathology. The pathogenic model includes the explicit prediction (see Jung, 1903/1957) that the voluntary production of bogus symptoms will eventually

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erode and be replaced by a genuine disorder. In contrast, the criminological model, as characterized by DSM-III and DSM-III-R, postulates an antisocial and oppositional motivation for malingering. The criminological model proposes that psychopaths will be undeterred by either social convention or criminal law and may feign mental disorders to obtain unearned and undeserved rewards. Finally, the adaptational model assumes that malingering is a constructive attempt, at least from the feigner's perspective, to succeed in highly adversarial circumstances. The adaptational model is consistent with a risk–benefit analysis in the choice of malingering over other alternatives.

Our understanding of explanatory models is important for at least two reasons. First and foremost, knowledge of why certain persons under particular circumstances opt to feign mental and/or physical disorders would enable psychologists to refine their clinical techniques and develop assessment measures that would take into account both trait and situational variables. Second, psychologists' beliefs about motivations for malingering may bias their evaluation and subsequent recommendations. For example, the DSM-III-R's endorsement of a criminological model emphasizes, rightly or wrongly, antisocial backgrounds and forensic settings (see Rogers, 1990a, 1992).

The explanatory models, as proposed by Rogers, have yet to be empirically tested. Without research, we do not know whether psychologists tend to subscribe to a single explanatory model and what are the ramifications of these explanations on their forensic and clinical practices. For example, do clinicians who endorse a pathogenic or adaptational model tend to see malingerers as more treatable than clinicians from a criminological perspective? Moreover, how do these models affect the frequency with which malingering is perceived/detected?

Prototype theory (Rosch, 1973, 1978) is often applied within psychological practice to address ambiguous clinical constructs (see Broughton, 1990). Prototypical analysis addresses the core or central elements of a psychological construct by asking respondents, often experts, to identify the most representative attributes. This approach has been successfully applied to such diagnostic categories as depression (e.g., Horowitz, Post, French, Wallis, & Siegelman, 1981) and antisocial personality disorder (Rogers, Dion, & Lynett, 1992; Rogers, Duncan, Lynett, & Sewell, 1993). We selected prototypical analysis for the present study as an initial method of evaluating the various attributes that may be associated with explanatory models of malingering.

The selection of experts for prototypical analysis is an important decision. We wanted to identify trained forensic psychologists who generally had extensive experience with actual malingerers. We did not attempt to select "malingering experts" for two reasons: (a) insufficient numbers for prototypical analysis and (b) no objective criteria for demarcating such experts.

METHOD

Rogers constructed a list of attributes for each of the three explanatory models. Individual attributes were generated by a careful review of the theoretical

literature (Rogers, 1990a, 1990b). The final list consisted of 32 items that were subdivided into pathogenic, criminological, and adaptational. Consistent with Rogers (1990b), the eight pathogenic items addressed underlying psychopathology, deterioration in clinical status, and progression of symptoms from feigned to genuine. The 16 criminological items were drawn from the DSM-III-R indices (American Psychiatric Association, 1987) and core traits of psychopathy as exemplified by the Psychopathy Checklist—Screening Version (PCL-SV; Hare, Cox, & Hart, 1989).[1] The eight adaptational items stressed from the malingerer's perspective the adversarial nature of the evaluation, the weighing of alternatives, and choice of feigning as a method of achieving an important objective (see Rogers, 1990a). Attributes on the list were completely randomized. The attributes were independently categorized into the three models by the second author (KWS) with 100% agreement with the classification proposed by Rogers.

Subject recruitment and data collection were organized by one investigator (A.M.G.) who was blind to the a priori categorizations. Subjects were recruited from postdoctoral workshops in forensic psychology, presented by the American Academy of Forensic Psychologists, at different sites across the United States (Chicago, Denver, Philadelphia, San Diego, and Seattle). These postdoctoral workshops covered a wide range of psycholegal issues[2] and were conducted by 18 forensic experts.

Subjects were recruited at registration time for the post doctoral workshops. Subjects were asked to rate each attribute on a 7-point scale from "1, unimportant to malingering," to "7, very important to malingering." In addition, they completed a brief background survey that included their professional background and experience. Subjects were also asked to estimate what percentage of those whom they had evaluated in forensic and nonforensic settings were malingering. Experienced clinicians, who had evaluated at least 10 malingerers, also responded to additional questions with respect to coexisting mental disorders and treatability in malingering cases. As a token of appreciation, subjects were given a discount coupon for test materials from Psychological Assessment Resources.

RESULTS

The sample consisted of 320 respondents who were predominantly male (72.2%) and almost exclusively white (95.0%). Professionally, the great majority (95.6%) were psychologists, with an average of 13.62 years of postdoctoral experience. Most experts were very seasoned at both forensic (M = 312.25; Mdn =

[1] As noted by Rogers et al. (1993), the first factor of the PCL-SV is associated with deception and manipulation of others. Because of its potential relevance to the criminological perspective, we chose to expand the attributes for this model to 16.

[2] Topics included addiction/intoxication, child custody, child sexual abuse, competency to stand trial, criminal responsibility, diplomate preparation, forensic assessment, forensic ethics, forensic neuropsychology, juvenile offenders, malingering, malpractice, repressed memories, sex offenders, and violence prediction.

100) and non-forensic (M = 746.91; Mdn = 400) evaluations. Interestingly, they reported that 15.7% of forensic and 7.4% of nonforensic evaluatees were classified as malingerers. As predicted, these experts had considerable experience with malingerers in their forensic practices (M = 49.02).

Testing the Models

The first step was to perform a principal components analysis (PCA) rotated to a varimax solution in order to explore the structure of the malingering attributes and its match with the explanatory models espoused by Rogers (1990b). Inspection of eigenvalues and scree plot suggested either a three- or four-factor solution. Employing the over- and underfactoring procedures of Pedhazur (1982), we found that a four-factor solution yielded a weak final factor while the five-factor solution subdivided two of the three factors that emerged in the three-factor solution but did not augment our interpretation of the factor structure. We chose a three-factor solution since it yielded clearly identifiable dimensions with only one overlapping variable.

Three distinct factors emerged from the prototypical attributes of malingering that accounted for 41.2% of the variance (see Table 1). The first factor, *criminological* (19.7% of the variance), consists of 14 attributes with substantial loadings (>.50). Of the 16 attributes originally identified as components of the criminological model, all but two loaded on the first factor. The second factor, *pathogenic* (12.4% of the variance), is composed of eight attributes, all of which are derived from the pathogenic model. The third factor, *adaptational* (9.1% of the variance), is comprised of seven attributes, five of which originated in the adaptational model.

Most of the malingering attributes (27 or 84.4%) loaded highly on the predicted explanatory model without cross-loadings. Four attributes had insufficiently high loadings to be included in the factor structure. The attribute, "Occurs with individuals involved in medicolegal evaluations," loaded on the adaptational rather than on the predicted criminological factor. The remaining attribute, "rational decision based on expected rewards," had significant overlap; it loaded negatively on the pathogenic factor (−.50) and positively (.52) on adaptational factor. For subsequent analyses, we employed the three dimensions derived from the factor analysis and dropped from further consideration the four attributes with insufficiently high loadings.

Prototypical Ratings

We summarize in Table 2 the prototypical ratings which are organized by the three dimensions/models. Perhaps the most salient feature of Table 2 is the generally low (<3.00) prototypical ratings assigned to most pathogenic attributes. In contrast, some attributes from both the criminological and adaptational dimensions are rated as at least moderately important (≥4.00). For criminological attributes, those that stress lack of accountability (irresponsible, lack of guilt, and hardship to others), superficiality, and adult criminal behavior were rated as mod-

Table 1. Principal Components Analysis with Varimax Rotation of Malingering Attributes

Criteria	Factor structure		
	1	2	3
Cold, callous, and indifferent to the concerns of others	.75	.05	.04
Enjoy deceiving and manipulating others	.69	−.03	.09
Evidence of misconduct in individuals with APD	.69	−.02	.09
Generally superficial and shallow in their relationships	.69	.10	−.11
Another form of deception in chronic liars	.67	−.05	.14
Exhibit antisocial behavior during adolescence	.67	.04	.13
Do not accept responsibility for the problems they cause others	.66	.14	.08
Exhibit antisocial behavior as adults	.65	−.09	.24
Frequently cause hardship to others	.61	.22	−.08
Have poor impulse control	.60	.28	−.05
Lack guilt for feigning their psychological problems	.59	.03	.00
Have an inflated view of their own abilities	.57	.10	.02
Commonly found in uncooperative individuals	.53	−.08	.14
Lack realistic long-term goals	.52	.31	−.12
While appearing intentional, they are compelled to feign by unconscious forces	.12	.71	−.02
Feign symptoms as an avoidance of painful psychopathology	.07	.71	−.02
Because of an underlying disorder, feigned symptoms become real symptoms	.10	.65	−.05
Early/prodromal phase of severe mental disorder	.03	.58	−.10
Gain control of an impending psychosis by consciously producing symptoms	.06	.57	−.05
Conscious attempt to control psychopathology	.21	.54	.08
Produce feigned symptoms to ward off an overwhelming emotional crisis	−.16	.54	.20
Rational decision based on expected rewards	.16	−.50	.52
Attempt to cope with very difficult circumstances	−.15	.35	.66
Weigh their alternatives before deciding to feign	.13	−.29	.62
Take into account both their current circumstances and their likelihood of success	.12	−.19	.61
Try to make the best of a bad situation	−.14	.08	.60
Faced with an unsympathetic system and must try to meet their own needs in their own way	−.12	.37	.55
Occurs with individual involved in medicolegal evaluations	.25	−.07	.54
Eigenvalues	6.66	3.83	2.73
Percentages of variance	19.7	12.4	9.1

Note: High loadings (≥.50) are underlined. Only malingering attributes with high loadings are included.

erately important. For adaptational attributes, all attributes but one were rated as at least moderately important.

We also examined differences among the models in their overall prototypicality. An ANOVA revealed an overall significant difference between the models,

Table 2. Attributes of Malingerers: Prototypical Ratings for Each Explanatory Model

Model	Attribute	*M*	*SD*
C	Cold, callous, and indifferent to the concerns of others	3.07	1.51
C	Enjoy deceiving and manipulating others	3.92	1.63
C	Evidence of misconduct in individuals with APD	3.95	1.73
C	Generally superficial and shallow in their relationships	4.08	1.64
C	Another form of deception in chronic liars	3.97	1.64
C	Exhibit antisocial behavior during adolescence	3.50	1.45
C	Do not accept responsibility for the problems they cause others	5.11	1.52
C	Exhibit antisocial behavior as adults	4.16	1.68
C	Frequently cause hardship to others	4.38	1.73
C	Have poor impulse control	3.28	1.66
C	Lack guilt for feigning their psychological problems	4.50	1.56
C	Have an inflated view of their own abilities	3.95	1.61
C	Commonly found in uncooperative individuals	3.69	1.63
C	Lack realistic long-term goals	3.67	1.84
P	While appearing intentional, they are compelled to feign by unconscious forces	2.59	1.46
P	Feign symptoms as an avoidance of painful psychopathology	2.76	1.55
P	Because of an underlying disorder, feigned symptoms become real symptoms	2.51	1.45
P	Early/prodromal phase of severe mental disorder	1.76	1.06
P	Gain control of an impending psychosis by consciously producing symptoms	2.01	1.22
P	Conscious attempt to control psychopathology	2.58	1.50
P	Produce feigned symptoms to ward off an overwhelming emotional crisis	3.21	1.75
A/P	Rational decision based on expected rewards	4.96	1.70
A	Attempt to cope with very difficult circumstances	4.88	1.65
A	Weigh their alternatives before deciding to feign	4.11	1.53
A	Take into account both their current circumstances and their likelihood of success	4.44	1.70
A	Try to make the best of a bad situation	4.36	1.94
A	Faced with an unsympathetic system and must try to meet their own needs in their own way	3.97	1.76
A	Occurs with individual involved in medicolegal evaluations	5.72	1.55

$F(2,24) = 28.34$, $p < .0001$, with the adaptational model higher in prototypicality than both the criminological and pathogenic models and the criminological model higher than the pathogenic (Scheffé tests of multiple comparisons, $p < .05$).

Supplementary Analysis of Conceptual Differences

We computed for each forensic expert their *M* ratings for malingering attributes associated with each model and assigned them to the explanatory model for which they had the highest rating. Very few subjects ($n = 11$) were assigned in this fashion to the pathogenic model. Thus, analyzing differences among all three groups would have been unwieldy. Therefore, we assigned subjects according to their high prototypicality rating to either the criminological ($n = 112$) or the adaptational ($n = 200$) model; eight subjects had identical means and were ex-

cluded from further analyses. Then we further subdivided the subjects based on whether their average pathogenic rating was above or below the median for the pathogenic model. Thus, we could make comparisons between those subjects operating under more of a criminological model versus those who favor an adaptational model. Simultaneously, differences in the extent to which their ratings reflect a pathogenic model could be explored.

Two (criminological/adaptational) by two (high/low pathogenic) AVOVAs revealed one significant finding and one nearly significant trend from a total of eight analyses. First, a significant interaction, $F(1,210) = 3.94$, $p < .05$, was observed between the independent variables when the dependent variable was the "percentage of malingerers with a major mental illness." Simple main effects analysis showed that the interaction was accounted for almost entirely by a difference between high and low pathogenic ratings within the criminological model. There was a marked tendency for experts from the criminological model with higher rather than low pathogenic ratings to see a greater proportion of malingerers as having a major mental illness (28.2% versus 14.1%). This difference did not exist within the adaptational group (high = 19.1%; low = 19.9%). Secondly, experts from the criminological group showed a nonsignificant trend for viewing a higher percentage of malingerers as having an antisocial personality disorder than experts from the adaptational group, $F(1,210) = 3.11$, $p < .08$.

Several questions posed in the introduction yielded mixed results. No differences were found in the prevalence of malingering in either forensic or nonforensic evaluations when compared across models. However, forensic experts that favored the adaptational model perceived malingerers as more treatable than those with a criminological perspective, $F(1,180) = 3.99$, $p < .05$, regardless of their position on the pathogenic model.

DISCUSSION

Comparison of Models

This initial study suggests that the Rogers (1990a, 1990b) explanatory models may have merit in categorizing and understanding the complex motivations to malinger. Principal components analysis of the experts' prototypical ratings offer, subject to replication, provisional support for the criminological, pathogenic, and adaptational models. High loadings (>.50) were found for most of the malingering attributes with virtually no cross-loadings.[3]

An important finding was that the criminological model, while holding sway in DSM-III and DSM-III-R (American Psychiatric Association, 1980, 1987), was viewed as significantly less prototypical than the adaptational model. The difference in *M* values was relatively modest (3.95 for criminological and 4.63 for adaptational). Overall, experts rated most attributes included within the adapta-

[3] Even the solitary exception, "rational decision based on expected rewards," makes conceptual sense, because its negative loading on the pathogenic factor suggests an underlying irrationality.

tional model as at least moderately important to our understanding of malingering. Both the lack of empirical support for the criminological model (see Rogers, 1990a) and comparatively lower ratings of prototypicality suggest a fundamental rethinking of the DSM-II-R approach to malingering.

An unexpected finding was that involvement in medicolegal evaluations was subsumed under the adaptational model. Forensic evaluations clearly have an adversarial context, which is one likely explanation for this unanticipated finding. With malingering occurring in nearly one of every five cases, forensic experts may well be influenced by the nature of their work and appreciate that the goals of defendants may be at variance with their own.

The pathogenic model is historically important to the explanations of malingering (Jung, 1903/1957; Menninger, 1935; Eissler, 1986). At present, however, it is the least compelling model with low prototypicality ratings ($M = 2.80$). In addition, only 11 or 3.4% of the forensic experts appeared to favor the pathogenic model.

Supplementary analyses suggest that conceptual differences may influence the diagnosis of coexisting disorders. Psychologists with a high-pathogenic criminological perspective are more likely to diagnose psychotic and mood disorders in malingerers than those with a low-pathogenic perspective. One possible explanation is that low-pathogenic experts operate from an "either/or" perspective (i.e., either malingering or mentally ill but not both) and do not continue to evaluate patients for possible bona fide disorders once feigning has been established. An alternative is that high-pathogenic experts are biased in their assessments and find what they expect to find (i.e., underlying disorders).

Experts from a criminological perspective were understandably less likely to view malingerers as motivated for treatment. From their perspective, the emphasis on the antisocial background of malingerers would likely be considered a negative treatment indicator (see Rogers, Bagby, & Dickens, 1992, Chap. 1). While preliminary in nature, these findings regarding treatment and coexisting disorders strongly suggest that the explanatory model favored by forensic experts may influence diagnosis and treatment recommendations.

Limitations of the Study

As the original study investigating explanatory models of malingering, several cautions must be kept in mind. First and foremost, Rogers' (1990a ,1990b) conceptualized of malingering in terms of pathogenic, criminological, and adaptational models is only one of many that could be entertained. Although no alternatives have been put forth, more compelling models may be articulated in the future. Secondly, although the attributes associated with each model were compiled by a psychologist highly conversant with the three models, these attributes are intended to be representative and not exhaustive. For example, further research may find that other pathogenic attributes have high prototypicality. Third, the supplementary analysis is exploratory in nature and does not control for familywise error rates. Although the results are consistent with the theoretical underpinnings of the study, it is possible that these findings are spurious and represent Type I error.

We have made an assumption in this study that itself deserves investigation. We have assumed that forensic experts tend to adopt a single perspective or explanatory model when assessing potential malingerers. Alternatively, experts may alter their attributions based upon the context (e.g., criminal versus civil cases) or salient attributes of the consultation (e.g., prior psychiatric hospitalizations).

The replication and extension of this research is essential. The stability of the prototypical ratings and the resulting factor structure deserve replication with other forensic and nonforensic experts. Moreover, we would be very interested in testing clinical samples, which include feigners, with these attributes associated with explanatory models of malingering. Finally, we would like to extend these three models (and perhaps others) to other forms of dissimulation such as the minimization/denial of psychopathology (e.g., Rogers & Dickey, 1991).

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