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MALINGERING AND COGNITIVE FUNCTIONING: IMPLICATIONS FOR TASK PERFORMANCE AND ASSESSMENT

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Abstract: This study explores the phenomenon of malingering in disability evaluations, where individuals intentionally exaggerate or fabricate impairments to gain personal benefits. Malingering poses a complex challenge in disability and personal injury claim proceedings, impacting both clinical assessments and public perception. The motivations behind malingering can vary, from seeking compensated time off work to obtaining larger financial awards or prescription pain medications. These actions may include overreporting physical or cognitive symptoms, using unnecessary assistive devices, or deliberately avoiding activities to maintain a facade of disability.

Over the course of extended disability claims, individuals engaged in malingering may exhibit a unique transformation. As they continue to portray a feigned disabled role, they may gradually internalize this identity, altering their beliefs and expectations regarding their actual physical and cognitive capabilities. This shift in self-perception is a fascinating aspect of malingering that has received limited attention in the literature.

This paper delves into the complexities of malingering within the context of disability evaluations, shedding light on the psychological processes and potential long-term effects on individuals involved in such deceptive practices.

Keywords: malingering, disability evaluation, feigned disability, symptom exaggeration, self-perception, psychological processes.

1. Introduction.

Individuals involved in disability evaluations may be motivated to appear more disabled than would be predicted on the basis of objective injury characteristics. Some individuals may intentionally exaggerate or fabricate impairment or disability to gain compensated time from work, to receive a larger financial award, or for access to prescription pain medications; in certain situations, this would be classified as malingering (Bianchini et al., 2005; Slick et al., 1999). Efforts to appear impaired may include walking with the assistance of an unnecessary cane, walking or moving excessively slowly or in an ostensibly pain-guarding manner, overreporting symptoms of physical or cognitive difficulties, and unnecessarily avoiding physical or cognitive activities in order to remain consistent with a disabled status (e.g., Bianchini et al., 2005).

Disability and personal injury claim proceedings can last for years and may involve repeated evaluations of the function(s) for which the disability claim has been made (e.g., physical capacity, cognitive abilities). Pursuing a

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disability claim based on exaggerated or fabricated impairment may require continuing to manifest the symptoms or deficits associated with the claim within multiple clinical visits and formal evaluations, as well as when in public, given that covert video surveillance may be requested by the defense in an effort to document evidence disputing the claimed disability.

It has been suggested that as a consequence of manifesting a feigned disabled "role" over time, some people involved in disability claims may begin to actually perceive themselves as disabled, and alter their beliefs and expectations for their physical or cognitive capabilities (e.g., Jureidini and Taylor, 2002; Merckelbach et al., 2011; Polage, 2004). In this view, a person involved in a disability claim may initially perceive himself or herself accurately as generally intact and non-impaired physically and cognitively, and conscious of his or her intent to exaggerate disability for financial gain.

However, in the course of continuing to manifest impaired behaviors for the purpose of appearing disabled, the individual may begin to experience a shift in self-perception such that he or she begins to view him- or herself as being impaired.Such phenomena could readily be explained by cognitive dissonance, a well-studied concept in social psychology (Festinger, 1957).

Cognitive dissonance refers to the discomfort an individual experiences after behaving in a way that is inconsistent with their internal state; it is assumed that a motivation to alleviate this discomfort can lead the individual to change their attitude, self-perception, or other internal state to be more consistent with their overt behavior.

In a study of non-clinical volunteers, instructions to feign psychopathology on one set of self-report measures was then informed that their exaggeration had been detected, and asked to complete an additional measure. Even though some reported that they had abandoned attempts to feign psychopathology, they produced high scores on a measure of psychopathology than a control group, reflecting persistence of previous feigning consistent with cognitive dissonance (Merkelbach et al., 2015). These results were consistent with earlier studies by this research group that found persistent of elevated psychopathology measure endorsement following initial instructions to feign psychopathology (Merckelbach et al., 2011).

The current study examines whether asking volunteers to feign cognitive impairment on initial tasks would elicit cognitive dissonance, such that they would perceive themselves having reduced cognitive abilities and consequently perform more poorly on later cognitive tasks.

1.1 Cognitive Dissonance

Cognitive dissonance (Festinger, 1957) has been called "one of the most enduring and successful theories in the history of social psychology" (Cooper, 2019, p. 1). Though someone not familiar with the decades of literature following Festinger's seminal work in 1957 may consider that statement hyperbolic, even a superficial perusal of the social psychology literature suggests such a statement is nothing but valid. Festinger's original theory assumed individuals are aware of their internal moods, motivations, states, etc. As such, being induced (or choosing) to engage in behavior inconsistent with those internal states would create a state of discomfort Festinger labeled "cognitive dissonance." Additionally, he assumed that individuals would be motivated to alleviate this discomfort by changing attitudes to be more consistent with the behavior or one could change the behavior. Given that the behavior has already been exhibited, it is often assumed that the individual would be less likely to "take the behavior back" than to change attitudes.

Cooper (2019) proposes a "roadway to dissonance." This is intended to analyze the processes that lead from the cognitions to the unpleasant arousal associated with dissonance and then to further understand how engaging in change (be it perceptual, behavioral or attitudinal) regulates that arousal.

A classic example is a 1991 study by Aronson, Fried and Stone. This work introduces the "hypocrisy induction paradigm" as a method for inducing cognitive dissonance and for altering health related behavior. Participants were made either highly mindful (describe recent situations in which you failed to use a condom) or low mindful

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(participants were simply asked to prepare to speak about pro-condom usage) of hypocritical behavior. Half of the participants in each group were then asked to prepare a speech to be shown to high school students advocating condom usage and the speech was videotaped. The other half of the participants in each group were asked to prepare the speech but it was not delivered or taped. Results show that those made highly mindful of their hypocritical behavior who delivered a taped speech later rated themselves as more likely to use condoms in the future than other participants. Three months later, this trend still existed. The authors suggest that making people aware of hypocritical behavior induces behavioral change only when that is followed by public behavior contrary to that hypocritical behavior.

Dissonance work has been applied to other health-related behaviors, such as eating disorders. Chithambo and Huey (2017) used a dissonance paradigm – in which individuals with high levels of body dissatisfaction were made to argue against the media propagated "thin-ideal body type". These researchers found that this led to greater reductions in body dissatisfaction, thin-ideal internalization, and depression than the no intervention group.In a creative use of the "hypocrisy" paradigm described above, Takaku (2006) discovered that making driver's aware of their own hypocrisy in terms of driving behavior quickly reduced road rage. But there are "limits" to how generalizable the "hypocrisy induction" paradigm is for inducing cognitive dissonance. Fointiat, Somat and Grosbras, (2011)found that hypocrisy induction only induced dissonance when commitment (like advocating for a position one supports) and mindfulness (being made aware of one's hypocrisy) are both present. The authors also show that the mode of presentation matters in that hypocrisy induction is an effective method of inducing dissonance reduction but only when the dissonant feeling cannot be misattributed to something external (e.g., outside noise or some other potential cause of discomfort). Even suggesting that one's behavior has been incoherent (perhaps another aspect of mindfulness) can induce dissonance.

Using a "choice-induced preference change" paradigm, Hagège, Chammat, Tandetnik and Naccache, (2018) showed a relationship between dissonance and episodic memory, such thatmemory of previous choices was an important determinant as to whether or not dissonance would be induced following counter-attitudinal choices. These researchers studied how previous choices might influence our values and preferences. This was seen as important because most research addresses the role that values and preferences play on future choices. Results showed that memory for previous choices has a strong impact on choice-induced preference change – a low level induction of cognitive dissonance method.

As further evidence of the enduring relevancy of the dissonance paradigm, more recent work has looked at dissonance and social media usage (e.g., Jeong, Zo, Lee, &Ceran, 2019), dissonance and older adults (e.g., Cooper and Feldman, 2019), prejudice (e.g., Vasquez, Oswald,& Hammer, 2019), and emotional regulation (e.g., Cancino-Montecinos, Björklund,& Lindholm, 2018). In an innovative look at dissonance and social media, Vasquez, Oswald and Hammer (2019) used a moral **dissonance** reduction framework to study self-justification of prejudice. The assumption is that people use moral justifications to maintain a positive self-concept in the face of their own dishonest behavior – a kind of self-justification of prejudice. In other words, someone acting hateful or using racist language might alleviate any dissonance that such behavior might otherwise cause if they wish to perceive themselves as non-racist or non-hateful, be implementing moral justifications – consider the "bad" or "worse" behavior of others first as a method for feeling better about one's own behavior. These researchers also showed that people will "misremember" their initial self-reports to avoid damage to self-concepts.

Cancino-Montecinos, Björklund and Lindholm (2018) predicted that negative emotions would be inversely related to attitude change (and positive emotions would be positively related to attitude change) in an induced hypocrisy paradigm. Those asked to write a counter-attitudinal essay under the perception of high choice did not all experience negative emotions as a result ofthat counter-attitudinal behavior. Those who experienced negative emotions were, surprisingly, found to experience less attitude change than those who experienced positive

emotions. This suggests that some individuals experience the essay writing as a positive experience – perhaps learning some things about the other view is perceived as positive – and the attitude change that results may be more real than a result of an attempt to alleviate dissonance. The authors point out the importance of asking participants about their feelings associated with the counterattitudinal behavior rather than their general emotional state. Additionally, this work suggests the need for a more complex understanding of the dissonance process in which cognitive appraisals vacillate until the individual finds a "stable (and coherent) understanding of the situation" (Cancino-Montecinos, Björklund,& Lindholm, 2018, p. 11).

1.2. Cognitive Dissonance in Disability Claims

The current study examined the potential role of cognitive dissonance in persistent disability manifestation in the context of disability litigation. A minority of individuals pursuing disability awards will exaggerate or feign impairment that may be physical, cognitive, or emotional in nature (Bianchini et al., 2005), and it has been observed clinically that some such individuals appear to continue to manifest apparent disability for longer durations than expected, particularly objective medical findings indicate no basis for the continued symptoms complaints and disability behaviors. Patients involved in disability proceedings may anticipate being observed in their daily life activities by private investigators hired to seek evidence that ostensible disabilities have been feigned (e.g., by video recording a patient playing basketball normally when the patient has reported being unable to walk normally due to severe leg pain). As such, patients who knowingly feign a disability may feel compelled to demonstrate their claimed disability consistently throughout their daily life in order to avoid detection of a compelling inconsistency that could jeopardize their disability claim.

Continuing to behave in a disabled way on a daily basis, despite not being disabled, involves an inconsistency between the person's overt behavior and their internal state (i.e., their appraisal that they have normal abilities and are not disabled). This inconsistency has the potential to elicit cognitive dissonance and the processes associated with it, including changing one's self-perceptions about physical or cognitive capabilities. If so, we would predict that an individual who feigned impairment for a period of time would begin to experience cognitive dissonance as a result of the inconsistencies between his or her overt behaviors and self-perceived abilities, if no sufficient explanation were available to account for this inconsistent behavior.

In the current study, we attempted to elicit cognitive dissonance by asking some participants to initially feign impairment on cognitive tasks, but without providing any substantial incentive for doing so.

We hypothesized that performing in an impaired manner on an initial set of cognitive tasks would produce a modest degree of cognitive dissonance, resulting in the participants adjusting downward their selfperceived cognitive abilities as a way of reducing the dissonance. We predicted that this would be detectable via performing worse than a control group on a second set of cognitive tasks in which they were instructed to perform normally.

2. Method

2.1. Participants:

Undergraduates enrolled in psychology courses at a large university in the Southwestern United States were recruited via an online research participation scheduling program, and participated for partial fulfillment of course requirements, with an initial sample size of n = 93.

2.2. Conditions.

Participants were randomly assigned either to a Control condition or a Simulator condition.

Control: (n = 42) participants completed both sets of cognitive tasks under instructions to do their best, with no manipulation (i.e., under standard instructions).

Simulator: (n = 51) participants were asked to attempt to feign cognitive deficits during the first set of tasks. After completing the first set of tasks, they were then instructed to discontinue feigning of cognitive deficits, and to complete the second set of cognitive tasks normally (i.e., to do their best on the second set of tasks).

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2.3. Measures.

WAIS-IV Working Memory Tasks: The WAIS-IV Arithmetic subtest involves the examiner orally presenting a series of word problems of increasing difficulty for the examinee to solve mentally (i.e., without paper and pencil) within set time limits. The WAIS-IV Digit Span subtest involves the examiner reading aloud a series of digits of increasing length, and the examinee repeating the digits as presented (Digits Forward), in reverse order (Digits Backward) or in ascending order (Digits Sequencing). Arithmetic and Digit Span are conceptualized as engaging primarily working memory.

WAIS-IV Processing Speed Tasks: Both Coding and Symbol Search have 2-minute time limits. For Coding, examinees are to fill in blank spaces below rows of numbers with the appropriate symbol that corresponds to each number by referring to a key that matches numbers and symbols. For Symbol Search, examinees scan a row of 5 symbols to identify whether one of them matches one of two target symbols presented to the left of the row. For both Coding and Symbol Search, the score is a function of the number of items correctly completed within the 2minute time limit. These tasks are conceptualized as evaluating primarily speed of information processing.

Order of Task Administration: Two sets of task groupings were created. Each set consisted of one WAIS-IV Processing Speed task (either Coding or Symbol Search), one WAIS-IV Working Memory task (either Digit Span or Arithmetic), and one performance validity scale (either TOMM or Dot Counting Test).

Self-report ratings. Those in the Simulator condition were asked, following completion of the Time 1 tasks, to indicate whether they had followed instructions to simulate cognitive impairment, and to what degree they had done so.

Procedures. Participants were randomly assigned, by drawing a slip of paper from a container, to either the Control or Simulator condition. For both conditions, the order of administration was counterbalanced so that approximately half of the participants completed Digit Span, Symbol Search and TOMM at Time 1, after which they completed Arithmetic, Coding, and Dot Counting at Time 2. The other half of participants completed tasks in the opposite order. Those in the Simulator condition were asked to read Simulator instructions, provided below, which were then reviewed by the research assistant to ensure comprehension. Simulator Instructions:

Imagine that you have been in an accident and suffered a mild head injury. Initially you felt dazed, but now you have completely recovered and are not experiencing problems from the concussion. Nevertheless, you have filed a lawsuit and you stand to gain a very large settlement if you are disabled. You are claiming that the head injury has affected your memory, concentration, and your ability to process information quickly. You are claiming that you cannot do college level schoolwork and your future employment opportunities are limited. Imagine that you are now being tested to evaluate your claims. Your task is to perform on these tests as if your memory and concentration are impaired because of the head injury, even though you are completely recovered.

However, you must fake your cognitive impairments in a way that is believable because if you are caught, your lawsuit will be thrown out of court and you will get nothing.

All tasks were administered by undergraduate or graduate research assistants who had been trained to standard administration through demonstration and observed practice by an experienced graduate student. For the simulated disability condition only, participants were reminded by the RA before beginning each subtest, “Remember, you are faking a cognitive impairment”, after which they were asked to respond Yes or No as to whether they remembered to simulate impairment.

After the first set of tasks were completed, those in the Control were informed they would again be completing a number of tasks, and again asked to do their best. Those in the Simulator group were informed that the disability role-playing portion was over, and that for the remainder of testing, they should give their best effort on tasks.

Exclusion Criteria. A manipulation check was conducted to ensure that participants instructed to simulate disability both performed in a manner consistent with disability exaggeration and indicated affirmatively that they

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had attempted to appear impaired. For the simulated disability condition (Time 1 for those assigned to the Simulator condition) a TOMM performance below 45 or a Dot Counting Test above 14 satisfied the condition of adherence to instructions. Eleven simulators were excluded for failing to demonstrate simulated disability on Time 1 testing by performing better than these cutoff values. The remaining 39 simulators were included in analyses (mean age = 19.28, sd = 1.6; years of education = 13.6, sd = 0.96).

To ensure that participants in the control condition provided adequate effort, TOMM scores above 44 and Dot Counting Test scores below 15 were required for inclusion in analyses. Seven control participants failed one or both of these validity measures, indicating inadequate effort, and were leaving 36 participants in the control condition for analyses (mean age = 19.1, sd = 1.5; years of education = 13.01, sd = 1.0).

3. Results

WAIS-IV subtest scores raw scores were converted to scaled scores using the WAIS-IV manual. Digit Span and Arithmetic both contribute to the WAIS-IV Working Memory Index (WMI) score, while Coding and Symbol Search both contribute to the WAIS-IV Processing Speed Index (PSI) score. With counterbalancing, the WMI subtest at Time 1 was Digit Span for approximately half of the participants, and Arithmetic for the others. Similarly, approximately half completed Coding at Time 1 and half Symbol Search as the PSI subtest. For each participant, the opposite WM and PS subtest was administered at Time 2. Raw scores for each subtest were converted to scaled scores to allow for comparison by a common metric.

We hypothesized that Time 1 instructions to simulate disability would produce modest changes in selfperceived performance ability such that performance on Time 2 tasks would be poorer than without prior disability simulation instructions. Before examining Time 2 performance, we first examined Time 1 performance to confirm that instructions to simulate disability were effective. Table 1 presents ANOVA results for Time 1 PSI and WMI performance by condition, indicating a large effect of instructions to simulate.

Table 1. Descriptive Statistics and ANOVA Results for Time 1 WMI and PSI subtest scaled scores by Condition.

	Control (n = 36)		Simulator (n = 39)		F (1, 73)	p
Subtest	M	Sd	M	Sd		
WMI	9.28	2.8	4.03	3.07	61.58	<.000
PSI	10.61	2.92	4.87	3.44	60.17	< .000

To evaluate whether simulating disability at Time 1 would result in sufficient cognitive dissonance effects to produce persistent performance deficits on subsequent performance, we examined Time 2 performance.Table 2 presents ANOVA results and descriptive statistics for Time 2 scaled scores for the PSI subtest and the WMI subtests.

Table 2. Descriptive Statistics and ANOVA Results for Time 2 WMI and PSI subtest scaled scores by Condition.

F (1, 73) p

Control (n = 36) Simulator (n = 39)

No significant difference was observed for either the WM or PS subtest between the control and simulator conditions at Time 2. Those in the Simulator condition performed approximately equivalent to those in the Control

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condition despite having previously performed significantly lower than the Control group during Time 1 when asked to simulate impairment. These results do not support predictions that instructions to simulate disability would cause persistence of the reduced performance as a result of eliciting cognitive dissonance.

4. Discussion

Subtest	M	Sd	M	Sd		
WMI	9.42	2.81	8.92	2.03	.77	.38
PSI	10.08	2.51	10.44	3.92	.21	.65

It was hypothesized that participants instructed to simulate disability on cognitive measures at one point would observe their poor performance in the absence of a compelling basis for performance in such a manner, and would thus experience cognitive dissonance regarding the discrepancy between their poor performance and their beliefs about their performance. This cognitive dissonance was predicted to result in attributing poor performance at Time 1 to additional factors beyond instructions (e.g., fatigue, cognitive difficulties) that would then be expected to result in Time 2 performance, as the attribution for their poorer performance at Time 1 would persist to the Time 2 tasks. However, the results of the current experiment do not support this hypothesis. Despite demonstrating performance that would be considered very impaired at Time 1, the simulator group performed as well as the control group at Time 2. As such, no cognitive dissonance phenomenon was observed under the current experimental paradigm.

Limitations of the current study include a relatively small sample size. In addition, the use of undergraduate volunteers may not generalize fully to patients claiming disability, for whom cognitive dissonance has been hypothesized to influence the self-perception that they are more disabled than objective findings would predict.

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