Psychological Evaluations after Motor Vehicle Accidents

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A Practitioner's Guide

By

J. Thomas Dalby, A. Michael Maclean
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PREFACE

The quest for individuals to travel rapidly has developed widely in the past 200 years. Beginning with two and four wheeled carts pulled by horse or oxen replaced with steam engines and then electric vehicles in the late 19th century, the transition of private vehicles to ones powered by internal combustion engines occurred around the turn of the 20th century. The term horsepower defined by James Watt initially for steam engines is a vestige of this evolution. Soon after the introduction of gas-powered engines, the cost of such motorized private vehicles lowered to allow many more citizens to purchase cars and trucks. Fuel was cheap and top speeds of such vehicles increased every year. Of course, crashes of these vehicles occurred with regular frequency with deaths and serious injuries following. The first record of an MVA related death was of Mary Ward (a remarkably gifted woman) who fell from an early steam powered car and was run over by the vehicle. This was in Ireland and dated August 31, 1869. Humans were never biologically designed to move through space with high velocity and when forcefully stopped without restrain they often suffered grievous injury. These injuries included psychological conditions such as railway spine – a precursor to PTSD – introduced as a concept in 1867.

With the high toll of injuries and deaths in car crashes over the decades, physicians urged the use of restraint or protection devices in the 1930's (seat belts were in mandatory use in sports car competitions by 1954). Seat belts began to be introduced as an option for buyers by automobile manufacturers and then as a standard but were often not worn or even cut out by car purchasers despite evidence of their efficiency in preventing death and serious injury. By 1970 some jurisdictions began to introduce mandatory use of seat belts in the U.S. and other countries, but this was not fully accepted by all states in the U.S. until 1995. The use of airbags as an adjunct safety feature began in the late 1980s. Today, additional safety devices and driver assist features in vehicles continue to reduce death and serious physical injury despite the increase in number of vehicles on the road.

All these advances have not, however, eliminated the psychological impact of being in a motor vehicle accident or from physical injuries sustained in such. Approximately 1% of the population in western countries are injured in an MVA every year. This is unlikely to change however we power our

vehicles. A recent meta-analysis of research showed a high proportion of individuals who sustain a physical injury in a MVA have related psychological dysfunction and this distress is frequently maintained for years after the MVA (Craig et al, 2016).

This book is designed to systematically review the steps involved in preparing psychological assessments of individuals who have been in an MVA for the purposes of gauging the disorders that may relate to the event. The evaluations we outline are intended to assist lawyers, insurers and other interested parties determine fair compensation for the injuries as well as ways to rehabilitate those afflicted. The suggestions and evaluation approaches offered are empirically supported and reflect the authors' experiences in conducting thousands of these assessments.

We hope that the ideas presented in this volume will move the systematic evaluations of psychological injuries from motor vehicle accidents forward in an objective and balanced fashion.

Reference

Craig, A., Tran, Y., Guest, R., Gopinath, B., Jagnoor, J., Bryant, A.C., Tate, R., Kenardy, J., Middleton, J.W., & Cameron, J. (2016). Psychological impact of injuries sustained in motor vehicle crashes: systematic review and meta-analysis. *BMJ Open*, 6, e011993.doi:10.1136/bmjopen-2016-011993.

CHAPTER ONE

INTRODUCTION

Forensic psychology was recognized as a specialty area of practice by the American Psychological Association (APA) in 2001. This formal recognition included acknowledgement of the specialized methods of inquiry that have been developed by forensic psychologists, the specialized issues that are addressed by forensic psychologists and the population of patients served by forensic psychologists. More succinctly, the pertinent APA webpage (https://www.apa.org/ed/graduate/specialize) defines forensic psychology as "…a specialty in professional psychology characterized by activities primarily intended to provide professional psychological expertise within the judicial and legal systems."

This simple definition is accompanied by statements indicating the forensic practice is informed by both legal theory and clinical psychology. The specific target population for forensic services is identified as legally involved individuals. Legally involved, in this context, is broadly defined to include all branches of the legal system and quasi-judicial settings (e.g., insurance claims). The clients of forensic services are identified as attorneys, insurers, employers, and the courts. The area of practice for forensic psychology is noted to include the entire spectrum of mental disorders and reference is made to the specialized techniques and instruments that have been developed by forensic psychologists. Nesca (2022) has argued that this information identifies clinical forensic psychology as a highly specialized sub-discipline of clinical psychology whose primary purpose is to assist legal decision makers.

From this perspective, forensic psychologists work in service of the legal system's need for specialized knowledge of potential relevance to litigation involved individuals. Although both the needs of the legal system and the knowledge base of forensic psychology are broad, forensic services provided to the courts are chiefly (though not exclusively) focused on mental health and neurocognitive functioning. This is particularly the case

in civil litigation settings, where the focus is on potentially actionable injury.

Unfortunately, the APA has not been entirely consistent when defining forensic psychology. Consider, for example, that the APA specialty guidelines for forensics psychologists define forensic psychology as any work, performed by any psychologist, in legal or quasi-legal settings:

> "… forensic psychology refers to professional practice by any psychologist working within any subdiscipline of psychology (e.g., clinical, developmental, social, cognitive) when applying the scientific, technical, or specialized knowledge of psychology to the law to assist in addressing legal, contractual, and administrative matters. Application of the Guidelines does not depend on the practitioner's typical areas of practice or expertise, but rather, on the service provided in the case at hand." (APA 2013; p.7)

Notice that by defining forensic psychology purely based on context, this definition has the effect of stripping the sub-discipline of its uniqueness. From this perspective, any psychologist can, at least temporarily, be a forensic psychologist. The result is a bizarre situation where a formally recognized area of specialty practice exists without resting on a specialized body of knowledge. All that is required for a service to be defined as forensic — and a service provider to be defined as a forensic psychologist — is a legal context.

Debate regarding how to define forensic psychology extends beyond the APA into the communities of academic and professional psychology. The debate centers on whether to define forensic psychology broadly, in the manner just described, or narrowly as a specific area of clinical practice. As practitioners, we are naturally inclined to favor the latter. This personal bias notwithstanding, we find broad definitions of forensic psychology vague and divorced from reality.

Under a broad definition, for example, a social psychologist who provides testimony about group dynamics temporarily becomes a forensic psychologist because of testifying in court (Nesca, 2022). Conferring specialist status on this individual would run counter to conventional definitions of specialized professional services and would, in our opinion, reflect negatively on professional psychology. This scenario is also divorced from reality in that we cannot imagine a carefully reasoned judicial opinion that would accept a social psychologist, without prior experience in a forensic arena, as a forensic specialist.

It has also been argued (e.g., Bartol & Bartol, 2019) that broad definitions of forensic psychology are preferred because they allow the sub-discipline to be more inclusive. For reasons that are never entirely explained, a wide umbrella definition that, for instance, includes correctional and police psychologists, is offered as somehow preferable. We disagree and, in response, argue that exclusiveness is a hallmark of legitimate specialization and should be seen as a strength rather than a weakness. Without clear boundaries, particularly around knowledge and methods, the idea of specialized services loses its meaning entirely and efforts to develop an unambiguous definition of forensic psychology become an exercise in futility. For these reasons, we prefer a narrow definition which identifies forensic psychology as a distinct area of clinical practice that rests on a specialized body of knowledge and makes use of specialized methods.

The ongoing debate and APA inconsistencies notwithstanding, narrow definitions of forensic psychology are consistent with the reality of specialized training programs that are available for forensic psychologists and the enormous specialized empirical literature that informs these training programs. The point being made here is that a group of professionals exist who have been trained to address concerns which may arise in legal matters. Regrettably, the existence of these specialists seems lost on civil lawyers who often request specialized forensic services from general practitioners who are unfamiliar with the methods and knowledge base of forensic psychology. This situation creates some disconnect, and at times friction, between the goals of general clinical practice and the needs of the legal system (Grisso, 1986; Melton et al., 2018).

Even more regrettably, it is our experience that most lawyers are ignorant of inter-disciplinary differences in professional psychology so that psychologists are viewed as essentially interchangeable regardless of their training. Thus, for instance, it is not uncommon to see a school psychologist prepare a personal injury evaluation in a tort case. Yet school psychologists do not typically receive a great deal of training in the broad assessment of mental disorders, leaving them at a disadvantage in cases that are necessarily focused on the possibility that an individual's mental health may have been damaged by a potentially actionable event.

Put bluntly, asking a school psychologist to perform such an assessment is akin to asking a pediatrician to assess a senior citizen: some pertinent foundational knowledge is present, but the choice of doctor ultimately impresses as misguided. In professional psychology, only clinical psychologists, as general practitioners in mental health, and forensic

psychologists, as specialists in the application of clinical knowledge to legal issues, possess the required depth and breadth of training to thoroughly assess mental health issues.

Distinguishing Clinical Forensic Psychology from Related disciplines

The preceding section made the case for a narrow definition of forensic psychology. To flesh out this position more fully, it is helpful to compare forensic psychology to related specialties. In civil injury cases, forensic psychology notwithstanding, the disciplines that most commonly provide assessment services are clinical psychology, psychiatry, and forensic psychiatry. Two points of clarification are required before proceeding. First, for the purpose of this discussion, we can collapse general psychiatry and forensic psychiatry into a single medical sub-specialty, which we will refer to simply as "psychiatry." This is possible because forensic psychiatry remains a nascent specialty that depends on a relatively limited research base and has yet to develop a set of distinguishing methods. As currently practiced, the differences between forensic psychiatry and general psychiatry are usually limited to the context of the assessment. Second, the distinguishing features of forensic psychology described in the next section should be seen as also applying to the closely related specialty area of forensic neuropsychology.

Forensic Psychology and Clinical Psychology

The differences between forensic and general clinical practice have received considerable scholarly attention (e.g., Greenberg & Shuman, 1977; Heilbrun, 2001; Melton et al., 2018). Although lists of varying lengths have been offered, in our view forensic and clinical psychology differ primarily with respect to 1) purpose, 2) scope, 3) relationship and dynamics, 4) voluntariness and 5) threats to validity. More specifically:

1. Purpose

General clinical services are intended to relieve personal suffering and enhance quality of life. The focus is entirely on the individual presenting for assessment and treatment. In purely clinical settings, the needs of broader society are secondary and typically triggered only when duty to warn concerns arise.

In contrast, the primary purpose of forensic services is to assist legal decision makers who ultimately represent society at large. Forensic activities, therefore, are conducted in service of society's need for order and justice. Although individual patient needs cannot be ignored, forensic psychology's focus on the needs of the legal system results in an assessment process that is usually more investigative and less supportive than a general clinical assessment.

This comment should not be seen as suggesting that forensic activities are callously indifferent to individual needs. On the contrary, depending on context and clinician traits, forensic services can be — and we would argue, should be — kind and gentle. The only point being made here is that forensic services are ultimately intended to assist a legal process by providing impartial, empirically anchored information that specifically addresses a concern of the court. Invariably this focus will alter the assessment process, and it is common for the results of forensic assessments to diverge from the patient's self-interests.

2. Scope

The scope of a forensic assessment is always determined by the legal considerations which prompted the referral. This necessarily results in a relatively narrow assessment focus. Personal injury assessments, for example, are ultimately concerned with the interrelated questions of a) has a genuine injury occurred, b) what caused the injury and c) what is the prognosis for recovery? Although other considerations may arise during the assessment, they will always be secondary to legal concerns regarding injury, causation, and prognosis.

The scope of a purely clinical assessment, on the other hand, tends to depend almost entirely on clinical judgment (Nesca, 2022). Depending on the nature of the case, and clinician preferences, these assessments can be relatively wide ranging or narrowly focused. Clinical assessments also include an improvisational component as clinicians adjust the interview to account for newly acquired information. The scope of inquiry will also be heavily influenced by the clinician's theoretical orientation so that the same patient, voicing the same concerns, can experience a significantly different assessment process depending on whether the interviewer harbors, for instance, psychodynamic or cognitive behavioral preferences. Although the freedom to adjust the scope of an inquiry is beneficial in a clinical setting, where the focus is entirely on individual needs, in a forensic setting, where needs are determined by a social system, this freedom can compromise the

nature and quality of the assessment results by allowing clinicians to choose the scope and focus of their inquiries.

3. Relationship and Dynamics

Good clinical work depends very heavily on establishing rapport with the patient. A person who feels undervalued or somehow disrespected is unlikely to divulge the intimate information that is required to truly understand individual suffering. Rapport in a clinical setting depends heavily on the psychologist being seen as a compassionate caregiver.

A good forensic assessment, on the other hand, is dispassionate and investigative. This does not mean that the forensic evaluator is cold, rejecting, or disrespectful. Rapport is also important in a forensic setting. The rapport, however, is based on respect and an explicit understanding that the work is being performed in service of the legal system rather than the individual patient. Although the patient should be made to feel respected and valued, a properly conducted forensic assessment will not promote the impression of a collaborative effort to further the patient's goals. Forensic evaluators who lead patients to believe that assessments are conducted in their best interest are either unethical or incompetent. It bears repeating, forensic assessments are always performed in service of the courts. This necessarily alters the dynamics of the patient-doctor relationship away from a collaborative effort to help the patient to an investigative effort intended to uncover legally relevant information.

4. Voluntariness

Clinical psychologists are usually consulted by patients seeking help for mental health problems. Even when these patients are referred by other professionals (e.g., personal physicians), the referral is driven by the desire to remove or, at least better control, distressing symptoms. Because the seeking of professional services is driven by their personal needs, these patients tend to be typically cooperative and compliant. In short, patients seeking the help of a clinical psychologist tend to be intrinsically motivated to cooperate.

Appointments with forensic psychologists, on the other hand, tend to be motivated by external factors. Most often, forensic evaluees are assessed on the request of a third-party such as a lawyer. Although some evaluees will respond favorably to third-party suggestions for assessment, some will be annoyed by external pressure or a seemingly endless stream of appointments. In the extreme, some evaluees may feel coerced by a process

that is clearly driven by considerations other than their personal well-being. In personal injury cases, this can occur when the opposing lawyer requests an assessment, leaving the patient feeling controlled by an adversary.

Therefore, forensic evaluees tend to be less motivated for assessment than patients presenting for general clinical services. This creates a set of unique challenges for the establishment of rapport in forensic assessments.

5. Threats to Validity

Self-report is an important, in many cases the primary, source of information in clinical assessment. Although it has become clear that patients are not always completely forthcoming (Rogers, 2018), self-report nonetheless remains the bedrock of general clinical practice.

In contrast, and without intending disrespect to individuals whom we evaluate, forensic assessment is rooted in a skepticism that requires one to either seek corroborating evidence or to identify information as purely self-report. Although the degree of skepticism that underpins forensic work will vary across cases, the idea that self-report information lacks sufficient reliability for decision-making purposes is fundamental to forensic practice. The assumption that self-report information, on its own, is suspect reflects an acknowledgement that the evaluee has a vested interest in the outcome of a forensic assessment and that this interest creates a powerful incentive to distort information in a self-serving manner.

This acknowledgement necessarily leads to procedures which incorporate multiple validity checks. In personal injury evaluations, for example, it is routine practice to include response bias measures and purpose-built effort tests for neuropsychological testing. The latter are often scattered throughout the test battery to sample effort at various points of the testing session and, ideally, have different formats so that, for example, some will rely on forced choice recognition memory procedures while others rely on visual scanning or counting procedures. The issue of validity testing will be discussed in greater detail later. For now, it is important to understand that the skepticism that is inherent to the forensic approach has an immediate impact on the assessment process.

Forensic Psychology and Psychiatry

Clinical psychology, and its specialized sub-discipline clinical forensic psychology, overlap considerably with psychiatry in that both disciplines

are concerned with the assessment, diagnosis, and treatment of the entire range of mental disorders. To be sure, these disciplines are rooted in different philosophical and epistemological models (Kingsbury, 1987), and interacting with the psychiatrist is usually quite a different experience than interacting with a psychologist. Nonetheless, in practice, the two disciplines cover nearly identical ground, with two exceptions:

1. Psychometric Testing

Although other healthcare disciplines have become alert to the need for objective testing procedures, the idea that mental faculties are amenable to objective measurement (testing) originates with psychology and remains the single most distinguishing feature of psychological practice.

Psychologists who practice today have access to an impressive array of tests to empirically anchor and enhance the validity of their clinical opinions. These testing procedures are simply unavailable to psychiatrists, who remain strongly dependent on the clinical interview for assessment purposes. The advantage these testing procedures provide to psychologists in an assessment situation cannot be overstated. It is common, for example, in our jurisdiction for a court to reject an interview-only psychiatric assessment with a specific request for a psychological assessment. More directly, the availability of specialized, reliable testing procedures provides psychology with an advantage in assessment settings. This is especially true in the high stakes setting of a forensic assessment.

2. Prescription Privileges

As physicians, psychiatrist enjoy prescription privileges. This provides psychiatry a significant advantage in the treatment of severe mental illnesses. This advantage is, however, largely irrelevant to forensic assessments which do not usually involve the provision of treatment.

A Brief Overview of the Forensic Assessment Process

Basic Framework

It is widely accepted that a properly conducted forensic assessment requires independent checks on the validity of the available information and that conclusions should be based, as much as possible, on objective information (Heilbrun, 2001; Melton et al., 2018). These requirements for objectivity and independent validity checks converge and find their clearest expression

in the multitrait-multimethod matrix that is currently the dominant paradigm for conducting forensic assessments. From this perspective, relevant issues are assessed from multiple perspectives and with multiple methods. The question of whether a patient is capable of adequate impulse control, for example, can be assessed by reviewing records, speaking to collateral contacts, and securing objective testing. Although test results would carry the greatest weight in this example (providing an appropriate, objectively validated test was employed), all available information would be considered before concluding, for example, that a patient suffers from impulse control deficits. By current standards then, forensic assessments require, whenever possible, direct examination of the patient, review of documents from official sources (e.g., health care records), assessment of response style, and objective testing. It is not acceptable to generate forensic opinions based solely on an examination of a patient (i.e., based entirely on self-reported information). Similarly, it is not acceptable, in a forensic setting, to employ procedures that lack scientific integrity. These practice standards were developed to control the bias that frequently mars unbridled clinical opinions. The need to control professional bias stems directly from an appreciation that legal decisions carry potentially life-altering impact for an individual.

The Assessment Process

At minimum, a forensic assessment will include three stages: 1) preparation, 2) data collection and 3) data interpretation. In most, but not all, cases a fourth stage — written communication — will be included. On occasion, a referral source will not want a written report. This can occur for a variety of reasons, most of which pertain to legal strategy which lies outside the purview of forensic psychology. It is important to remember that the referral source has the right to request verbal feedback only. The decision to write a formal report is not one that lies with the psychologist. Occasionally in civil matters, and frequently in criminal court matters, the fifth stage of expert testimony is added to this process. Expert testimony is a complex process we will address later. Accordingly, we will restrict our comments here to stages one through four of the assessment processes.

Preparation

The primary focus of this initial stage is to secure a clear assessment question (or questions) from the referring agent. Although, in our experience, civil lawyers tend to err on the side of providing an

unnecessarily long list of specific questions, it is customary to receive a referral for a "psychological assessment" or a “psycho-legal assessment". Given the scope of inquiry that is possible in a psychological assessment, these referral instructions are essentially meaningless. Often the result is a poorly organized, wide-ranging assessment that seeks to address all possible issues without satisfactorily addressing any specific one. Particularly in a legal context, a referral question establishes the scope and focus of inquiry. A clear referral question is, therefore, essential to ensure the needs of the referral agent are properly addressed.

The referral question elicited at this stage of the assessment serves two additional purposes. First, it allows the evaluator to determine whether the assessment lies within their legitimate range of expertise. Logically, it is necessary to understand what precisely is being requested before a decision can be made about whether the required service can be provided.

Second, a clear referral question is necessary to properly identify the database requirements for an assessment. Personal injury evaluations have different database requirements than, for example, a simple diagnostic assessment. The former will require a more extensive database of information that will, ideally, include information regarding pre-accident functioning, accident details, post-accident functioning and post-accident treatment and return to work efforts. Unless the focus of legal attention is quite narrow, it is usually impossible to conduct a psychological injury assessment without a sufficiently detailed database of information.

Data Collection

The process of collecting information in a forensic assessment is guided primarily by two principles, both of which flow directly from the multitrait-multimethod matrix described earlier: 1) data collection must rely on procedures that are reliable and valid and 2) professional opinions must be based on multiple sources of information. The first point is self-explanatory and familiar to anyone who has assessed a patient. Symptom checklists, for example, can be especially useful and we routinely make use of checklists for screening purposes. These checklists are not, however, formal tests and they cannot provide the primary foundation for diagnostic opinions as they are vulnerable to both intentional and unintentional response bias. Symptom checklists, in short, are insufficiently reliable and should not be the sole foundation for diagnostic opinions.

The second principle of data collection reminds forensic evaluators that rather than being based on a single source of information — self-report, for example — professional opinions must seek to incorporate information from multiple sources. Thus, for instance, a final opinion regarding mental disorder should incorporate clinical observations, test results and pertinent third-party information. Concluding that an evaluee has a mental disorder based entirely on the results of a simple symptom checklist would not be considered best practices and would undermine the value of the assessor's clinical opinion.

The expectation that professional opinions be based on multiple sources of information promotes the sort of hypothesis testing that is viewed as fundamental to the forensic process (Heilbrun, 2001). In this context, hypothesis testing requires that all foreseeable possibilities be considered before reaching a final opinion. For example, the conclusion that an evaluee did not suffer a brain injury based on unremarkable test results collected years after the accident would fail to consider the possibility that recovery from injury has occurred. Reasoning of this sort would betray ignorance of both research identifying recovery as the statistically most likely outcome of a minor brain injury and the limited value of test results for answering questions with a retrospective focus.

Data Interpretation

Three inter-related considerations guide the process of data interpretation in forensic assessments: 1) parsimony, 2) idiographic analysis and 3) the need to explicitly account for response bias. The latter will be discussed in relative detail later in this chapter. The question of ideographic focus also requires more attention than is possible in this chapter. This issue will be more fully explored in a subsequent chapter, under the heading of the "G2i problem."

The scientific principle of parsimony finds direct application in forensic assessment settings as a guiding principle which directs evaluators to seek the simplest possible explanation that accounts for the most possible data (Nesca, 2009). Thus, for instance, a single diagnosis that accounts for all symptoms is preferable to multiple diagnoses allowing for occasions when multiple diagnoses are required. From this perspective, diagnosing Major Depressive Disorder with anxious distress is preferable to articulating three types of anxiety disorder in addition to depression. The principle of parsimony would direct a single diagnosis in this case. The importance of

parsimony cannot be overstated as simple reports are easier to understand and more likely to be received favorably by lay consumer groups.

Written Communication

Put bluntly, forensic reports need to be as brief as possible and written in simple language – they are required to be "consumer friendly." Lengthy reports that unnecessarily repeat information available to the courts or, worse, include volumes of irrelevant information are unlikely to be well received and may be subject to complaints about violation of privacy. One of us (MN) recently reviewed a personal injury report that exceeded 120 pages in length. There is simply no excuse for a report of this length and personal experience, gleaned from decades of work with the legal system, suggests there is little to no possibility that this report will be well received or ever read in its entirety. We have received direct feedback from many judges holding this view.

Deciding what to include in a forensic report is a relatively simple matter: Include only the information that is required to answer the referral question clearly and logically (Nesca, 2022). All other information is often irrelevant and should not be included both as a matter of respect for personal privacy and to avoid annoying readers with unnecessary information. Melton et al. (2018) refer to this process as "data reduction". The process of data reduction simply requires that an assessor sort through the information that is collected to identify that which is immediately relevant to the referral question. The ultimate goal is to produce a document that is sufficiently detailed to be understandable and logical, while simultaneously protecting the evaluee's right to privacy.

Forensic Interviewing

Despite impressive advancements in testing technology, the clinical interview remains a central component of the forensic assessment process. The absence of a thorough interview will result in a relatively superficial assessment that fails to capture the nuanced personal information that is most helpful to the legal system.

Forensic interview formats fall into one of three categories: 1) unstructured, 2) semi-structured and 3) fully structured. As a rule, increasing the structure of an interview will narrow its focus. Fully structured interviews provide the interviewer with scripted questions which are intended to both elicit a

specific type of information and to prevent improvisational questioning. Structured interviews tend to produce high inter-rater reliability but are too narrow to be relied on exclusively.

Unstructured interviews occupy the opposite end of the continuum. These interviews provide almost no guidance to the interviewer. Unstructured interview formats depend heavily on clinical intuition and are often improvisational in nature. Although highly flexible, unstructured interviews tend to have relatively low inter-rater reliability and are quite vulnerable to biases.

Semi-structured interviews fall in the center of this continuum and are, in our view, the preferred format for forensic interviewing. Semi-structured interviews provide a general framework which helps ensure that all pertinent areas are properly canvassed while allowing some room for improvisational questioning as unexpected information arises. Ideally, a semi-structured interview can be prepared after pertinent documents are reviewed and tailored to address case-specific issues.

We have previously argued that forensic assessments are an example of applied case study research designs and that the common scientific concerns of reliability and validity apply to the forensic interview (Nesca & Dalby, 2013). The reliability and validity of a forensic interview are chiefly affected by two sources of variance: criterion variance and information variance. A third, poorly understood variable which can affect the reliability of an interview is attenuation.

Criterion Variance

Criterion variance is specifically concerned with the process of deciding when a specific set of requirements (criteria) have been satisfied. The most common example is a diagnostic decision. The decision to formally render a diagnosis requires consideration of a set of criteria that, in a sense, operationally define a particular mental disorder. In North America, the DSM provides these criteria, and the clinician exercises professional judgement about whether a specific patient warrants a formal DSM diagnosis.

Although this is a relatively straightforward process, a problem arises when clinicians infer the presence of a condition without fully reviewing pertinent criteria. It is commonplace, for example, to encounter cases where the patient has received a diagnosis of PTSD without full review of pertinent

DSM criteria. Typically, the diagnosis in these cases is simply inferred when emotional distress follows exposure to a potentially traumatic event. Criterion variance occurs in these cases because diagnostic criteria for an operationally defined disorder have been altered by incomplete review of pertinent diagnostic criteria or by simply substituting clinical observations for DSM signs and symptoms.

A related problem occurs when test results are substituted for nuanced clinical inquiry. This is regrettably common, particularly among psychologists who do not place much value on clinical interviewing. In these cases, test results indicating trauma symptoms are accepted as evidence of a DSM disorder. Yet, test results are not listed in the DSM diagnostic criteria for PTSD. Substituting psychometric test results for DSM signs and symptoms has the effect of altering diagnostic criteria in a manner that undermines inter-rater reliability.

Information Variance

Information variance is concerned with how clinical data are collected and ultimately analyzed. As it relates to interviewing, the concept of information variance pertains to what is asked, how it is asked, and how the results are combined to produce a professional opinion (Nesca, 2022). Unstructured interviewing provides no guidance regarding these questions and, as a result, exposes the process to considerable danger of information variance. At the other end of the continuum, structured interviews ensure that all pertinent information is gathered, in a specific way, and then combined according to predetermined rules to arrive at a professional opinion.

Attenuation

The phenomenon of attenuation is not widely recognized outside of criminal court forensic assessment settings. Very briefly, attenuation refers to the common finding that evaluees will produce increasingly impoverished narratives over the course of multiple interviews with different interviewers (Ziskin, 1995). Attenuation can be misinterpreted as evidence of defensiveness or response bias (Nesca & Dalby, 2013). Nuanced clinical inquiry, preferably from a prepared semi-structured interview, is required to counter the effects of attenuation.

Assessing Response Validity

As we noted earlier, forensic assessments occur in high-stakes settings which can lead to biased responding by the evaluee. The potential for biased responding — i.e., less than completely forthright answers and less than full effort during performance testing – is a threat to validity that must be explicitly addressed during any assessment that is intended to inform a legal process. In personal injury evaluations, for example, causal analysis must include consideration of the possibility that no injury has occurred or that the injury is being amplified for personal gain. Full consideration of these possibilities necessarily leads to the inclusion of response bias measures. Absent formal assessment of response bias, causal analysis in personal injury evaluations can never be complete and opinions regarding treatment and prognosis are necessarily suspect.

Sources of Response Bias

Although several types of response biases can be identified for research purposes (Rogers, 2018), in practice settings the simple dichotomous distinction of random and systematic bias is generally sufficient. The former tends to be the result of carelessness, confusion, inadequate reading skills or simply poor evaluee engagement. Other than perhaps conveying indifference to the examiner, random response bias is not linked to any specific outcome.

Systematic response bias can be either negative or positive. This type of response bias is invariably linked to a corresponding outcome, such that negative response bias will manifest as symptom exaggeration and positive response bias will lead to claims of unrealistic virtuousness and/or symptom under-reporting. In either case, the effect is to create an unrealistic impression. It is important to note, however, that neither negative nor positive response bias necessarily require conscious intent. Positive response bias may occur, for instance, because of lack of insight into negative personality traits. In other words, some evaluees simply see themselves as more virtuous than they are. Negative response bias also commonly co-occurs with internalizing mental disorders, particularly depression, which leave patients feeling more compromised than is objectively warranted. Under these circumstances, the response bias is an unintentional consequence of compromised mental health rather than an intentional strategy.

Drawing on the influential work of Richard Rogers (e.g., Rogers, 1984; 2018; Rogers, Ornduff, & Sewell, 1993; Rogers, Sewell, & Gillard, 2010), systematic response bias can be decanted in the following response styles:

- Negative Response Bias
- Malingering

Malingering is an older term chiefly associated with the psychiatric literature and briefly noted in the DSM-5-TR (one half page of text – p. 835 - in a 1050-page tome). Use of this term (which is not a mental disorder) in a formal assessment setting requires evidence that a patient has *intentionally* fabricated or amplified symptoms of mental disorder. In a forensic setting, the term malingering should rarely be used, if at all, as intention is usually impossible to prove absent powers of omniscience. We recognize that there are other points of view on this issue and have seen some psychologists doggedly pursue this description of an evaluee – with the clear expectation that most plaintiff's in a civil action will engage in this behavior.

Feigning

Like malingering, feigning also involves exaggerated or fabricated symptoms of mental disorder. The distinguishing feature between the two is based on motivation: malingering is intentional, feigning makes no assumption about motive. In most, probably all, forensic settings the term feigning is preferred to the older, less defensible term of malingering.

Sub-optimal effort

The term sub-optimal effort can be used to describe patients who do not fully apply themselves during performance testing. Again, no legitimate assumption about motivation can be made as unintentional variables (e.g., anxiety, fatigue) can lead to under-performance on cognitive testing.

The net effect of this response bias is to distort test findings in the direction of exaggerated impairment. Sub-optimal effort is specifically concerned with patient effort during neurocognitive testing intended to assess the limits of cognitive functions and should not be applied to the results of mental health testing. In other words, although all forms of negative response bias ultimately create an artificially inflated portrait of impairment, malingering and feigning are specifically concerned with mental disorder while sub-

optimal effort is specifically concerned with under-performance during cognitive testing.

- Positive Response Bias
- Social Desirability

The response style of social desirability includes efforts — deliberate or otherwise — to deny common human faults and/or to make claims of unusual virtuosity. Recall, for example, that lack of personal insight can lead to denial of common faults. Certain forms of mental disorder, most notably narcissistic personality disorder, can also generate unrealistically virtuous psychological profiles.

Defensiveness

A defensive response style is present when symptoms of mental disorder are denied or under reported. Again, this response style need not be deliberate. Defensiveness is usually irrelevant in personal injury evaluations as patients involved in tort actions are not usually motivated to conceal their injuries.

Hybrid Responding

Hybrid responding blends elements of both positive and negative response styles, with the most common outcome being the profile of a very virtuous person experiencing severe symptoms of psychological distress. As noted by Rogers (2018), a hybrid response bias in forensic evaluations can help advance an injury claim by promoting the impression of a virtuous patient who has suffered considerable loss.

Although all forms of response bias can influence personal injury evaluations, symptom exaggeration biases are of greatest concern given the presence of incentives to exaggerate illness and injury. For this reason, the next section will focus exclusively on detection strategies for negative response bias.

Detection Strategies

Response bias detection strategies generally fall into two categories (Rogers, 2018b): unlikely presentations and amplified presentations. Unlikely presentation strategies focus on symptoms, or symptom combinations, that

are either rarely reported by genuine patients or highly improbable (Rogers, 2018b). Rare symptoms are usually defined statistically as those that have been empirically found to occur in less than 5% of genuine patients. A sufficiently high number of rare symptoms or rare symptom combinations will trigger concerns about negative response bias.

Not uncommonly, the criteria for "rare" is relaxed so that the focus is expanded to "quasi-rare" symptoms (Rogers, 2018b). This has the effect of capturing symptoms that rarely occur in the general population but occur with some regularity in genuine patient populations (Rogers et al., 2003). Quasi-rare symptom strategies are regularly used in omnibus personality inventories. The MMPI F and Fb scales, for example, rely on quasi-rare symptom detection strategies. The main problem with quasi-rare symptom detection scales is that they capture genuine symptoms of mental illness and are, therefore, vulnerable to high false positive rates in clinical settings.

The strategy of seeking to identify improbable symptom combinations is both quite popular and quite effective. This detection strategy often features prominently in purpose-built validity instruments. At the level of individual symptoms, this detection strategy relies on questions about outlandish symptoms that are extremely unlikely to ever be experienced. Hearing the voice of a dead relative only after consuming dairy products and immediately entering an elevator is an example of a symptom that is unlikely to be genuine. Although quite effective, improbable symptom strategies can be difficult to use as many of the questions are, frankly, embarrassing to ask. Nonetheless, this is an empirically validated and widely used detection strategy.

Amplified presentation detection strategies tend to focus primarily on indiscriminate symptom endorsement and symptoms severity. The former is concerned with the sheer number of symptoms endorsed. Genuine patients tend to report symptoms reflecting their individual experiences, with the result that individual patients suffering the same illness will often produce similar but distinct symptom profiles. Indiscriminate endorsement of symptoms, on the other hand, is quite rare and will generally manifest as a tendency to endorse most or all available symptoms.

Similarly, genuine patients experience symptoms of varying intensities, so that some symptoms are experienced as more intense than others. Conversely, less than completely forthright patients tend to report symptoms as extremely severe. When combined with indiscriminate

endorsement tendencies, the symptom portraits of biased patients will often include blanket endorsement of exceptionally grave symptoms.

Classification Accuracy Statistics and the Myth of Laser Accuracy

The ability of a test to detect a condition of interest (COI) can be evaluated at the group or individual level. Group level statistics speak to a test's ability to identify the COI among a specific population of people. At the level of the individual, classification accuracy statistics provide probabilities regarding the likelihood that a positive test score indicates the presence of the COI for an individual patient.

The primary group level classification statistics are:

- Sensitivity: the proportion of COI+ patients (i.e., patients with the COI) that are correctly classified
- Specificity: the proportion of COI- patients (i.e., patients without the COI) that are correctly classified

Although group level classification accuracy statistics are commonly referenced in test manuals, and by clinicians defending their choice of instruments, they have limited utility in clinical settings which are invariably focused on individuals (Strauss, Sherman, & Spreen, 2006). At the risk of stating the obvious, classification accuracy statistics which speak directly to the probability that the patient being assessed is COI+ are generally more useful to clinicians.

The primary classification accuracy statistics at the level of the individual patient are:

- Positive Predictive Power (PPP): the probability that an individual with a positive test result has the COI.
- Negative Predictive Power (NPP): the probability that an individual with a negative test result does not have the COI.

Unfortunately, all classification accuracy statistics are vulnerable to considerable estimation error (Strauss, Sherman, & Spreen, 2006). This is especially true around a cut-off score, where combined measurement and classification error can produce overall error rates which exceed 50% (Rogers et al., 2012). Rogers (2018b) makes a compelling argument that the

use of precise cutoffs is based on "… the laser accuracy myth of cut scores" (p. 22) which dupes clinicians into believing that patients whose test scores differ by as little as a single point are significantly different.

Rogers advocates for the use of "well-defined cutoff scores" as a strategy for countering the problem of high false positive rates that characterize precise cut scores. Well defined cutoff scores simply require that an error band of one standard deviation be applied to existing cut scores and that any score falling within that one standard deviation be labelled as indeterminate. This procedure has the effect of excluding any test scores that fall in a range associated with a high risk of classification error.

Evaluating Response Bias

Boone (2013) identifies several important considerations for the testing of response bias. These include:

- Patient characteristics must always be considered.
- These characteristics include the presence of potential confounding co-morbid conditions such as acute mental illness. Static cognitive impairment such as intellectual disability and dementing conditions must also be considered when selecting a test battery, including validity measures.
- Test classification accuracy statistics must be considered when selecting a test instrument.
- Although Boone emphasizes the importance of sensitivity and specificity, we follow others who give greater weight to PPP and NPP (e.g., Bender & Frederick, 2018; Strauss, Sherman, & Spreen, 2006).
- Response bias must be sampled at various points during a testing session.
- This consideration simply acknowledges that effort can vary over time and that information from testing conducted at the beginning of the testing session does not necessarily inform opinions regarding patient effort at the end of a lengthy testing session.
- Validity tests should not be highly correlated and should sample diverse cognitive processes
- Simply including validity tests based on a recognition memory paradigm, for example, will not necessarily provide much information about patient effort during testing of attentional