

# A survey of New Zealand psychologists' practices with respect to the assessment of performance validity

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Reduced effort or exaggerated symptoms are recognized as a potential confound of neuropsychological assessment. An online survey of 73 registered psychologists in New Zealand was conducted, gaining a snapshot of current practices in the assessment of performance/symptom validity. Most respondents were clinicians working for ACC or privately. Clinical judgement and use of subscales/embedded methods were the most commonly used method of establishing performance validity. The majority of respondents (56.9%) assessed performance validity in < 50% of cases. Decisions on when to test performance validity were based upon client characteristics (e.g., secondary gain, inconsistent history) or context (e.g., ACC, neuropsychological assessment). Reasons for not using tests of performance validity included work with particular populations and contexts where these tests were not seen as appropriate, as well as practical concerns (e.g., costs, time required, lack of training).

Psychological assessment is helpful only if the conclusions it draws are accurate, reliable, and valid. Evidence from various populations (e.g., criminal, compensation seeking, litigant, medical, psychiatric) suggests that reported disabilities or symptom complaints are not always genuine (Ardolf, Denney, & Houston, 2007; Greve, Bianchini, & Ameduni, 2003; McCarter, Walton, Brooks, & Powell, 2009).

Although the prevalence of performance invalidity is reportedly relatively low in clinical samples (i.e., 5-10%), rates of putting forth insufficient effort or symptom exaggeration as high as 40% or more have been reported in litigant samples (Larabee, 2005; Larabee 2007; Mittenberg et al., 2002; Greve et al 2006b); with even higher rates (up to 89%) reported for those in criminal cases of alleged cognitive disorder (Ardolf et al., 2007).

Reduced effort, feigned or exaggerated symptoms are particularly recognized as a potential complication of neuropsychological assessment and are deemed a legitimate focus of specific examination (McCarter, Walton, Brooks, & Powell, 2009; Chafetz & Prentkowski,

2011; Dandachi-Fitzgerald, Ponds, Peters, & Merckelbach, 2001). Indeed, evaluation of performance validity is recognized as an essential component of a proper and defensible neuropsychological assessment (Greve & Bianchini, 2004).

At present there is one published paper on the use of performance validity tests in New Zealand. Webb, Batchelor, Meares, Taylor, and Marsh (2012) used logistic regression to examine the contribution of compensation-seeking, injury-related factors, and psychological, cultural and demographic factors to the prediction of failure on tests of performance validity using an archival sample of 555 traumatic brain injury cases assessed within a single clinical practice over a seven year period. Whilst the findings are of import in identifying a raft of factors that predict failure on performance validity tests, they do not provide information on practices related to performance validity testing within New Zealand as a whole.

What is known about performance validity testing is largely based on data from the United States. Unfortunately litigation is a common occurrence in

the United States, and seeking financial gains through such litigation has repeatedly been shown to predict failure on tests of performance validity (Henry et al., 2011). Thus the data available on performance validity testing are largely produced within a context of frequent litigation, which is a very different context to that of New Zealand. In New Zealand the government funded Accident Compensation Corporation (ACC) provides no-fault personal injury cover for all New Zealand residents and visitors to New Zealand, and litigation for damages is specifically precluded.

In New Zealand, the ACC provides guidelines (2013) for clinicians on the use of psychometric tests. They make a clear statement that tests of performance validity should be used by asking that assessors to "Please consider the validity of symptoms for any assessment where there is a potential benefit to be gained from the client managing their symptom presentation. The assessor needs to provide comment regarding this as part of their assessment." (p.6)

Going beyond those who conduct assessments through ACC, the New Zealand Psychologists Board (March, 2015) developed draft guidelines for the use of psychometric tests in which they provide clear guidelines for the inclusion of tests of performance validity. They precede this with a statement that:

"In any assessment in which there are known advantages or potential advantages to a client presenting him or herself in a particular way, then the psychologist should consider and comment on this issue directly. There may also be unexplained discrepancies between client self-report, various sources of collateral information, observed behaviour and changes

in functionality over time. In these circumstances the psychologist may choose to include tests which are sensitive to detecting the effort applied by the client.“ (NZPS, 2015, p. 10)

This reflects empirical evidence which suggests that detection of performance invalidity requires specific assessment; with the literature repeatedly showing that subjective evaluations and ‘clinical judgment’ are unreliable (Faust, 1995; van Gorp, Humphrey, Kalechstien, Brumm, McMullen, Stoddard, et al., 1999).

In a survey of members of the American Board of Neuropsychology (N = 144), subjective evaluations based on observation, on perceived discrepancies in presentation, or on implausible patterns of test scores were the primary method used for detecting invalid performance (Mittenberg, Patton, Canyock, & Condit, 2002).

In a Canadian study (Slick et al., 2004) 79% of respondents reported “frequently” using tests to assess performance validity though this is likely to be inflated due to sampling bias (i.e., sampled neuropsychologists who had published articles on symptom validity testing).

A survey of members of the British Psychological Society division of Neuropsychology (McCarter et al, 2009) (N=130) indicated that 95% felt performance validity should be commented on, only 59% formally assessed this in legal contexts. .

## Aim

To date, the majority of published information on the practice of testing performance/symptom validity has come from North America and the United Kingdom. In New Zealand, little is known about the degree to which performance validity is examined within clinical practice, despite its inclusion in guidelines produced by the New Zealand Psychologists Board and ACC. The aim of this project was to survey individuals who are registered New Zealand Psychologists to determine the extent to which performance validity tests are used in the New Zealand context, identify the most commonly used methods of testing performance

validity, and determine what beliefs are held by psychologists about the use of these tests.

## Methods

### Participants

Participations were 73 individuals practicing as psychologists within New Zealand. Participation was open to any individual who self-identified as a psychologist, with recruitment being advertised through the two largest psychologists’ organisations in the country, the New Zealand Psychological Society and the New Zealand College of Clinical Psychologists. Participants had been practicing as psychologists for an average of 13.94 years.

### Measures

The survey contained was based upon that used by McCarter et al. (2009) in their survey of psychologists’ practices around effort testing in the United Kingdom. Respondents were asked to provide information about their length of registration and area of practice, and were then asked to indicate how often they assessed performance validity, the frequency with which they used performance validity tests, to indicate which tests/methods they typically used, and if there were particular context in which they used or did not use these tests. They were also asked about reasons they might include or exclude tests of performance validity in their practice.

### Procedures

Information about the project was provided via a written advertisement/ invitation provided in professional society newsletters within New Zealand. This included contact details of the investigators, who could provide further information to participants if they wish to ask questions or clarify the nature of the project. For those interested in participating, this advertisement included a web-link to allow them to connect directly to the on-line survey in Survey Monkey. A written Participant Information Sheet was provided at the start of the survey which indicated that participation was entirely voluntary, and that data collected may be used in

presentations, academic publications, and to make comparisons with other research. The data gathered will be stored for a period of six years after which all electronic files will be deleted. Surveys were identified using an anonymous code number (e.g., 1 through 999), with consent to participate needing to be provided electronically before the survey could be accessed. The survey remained on-line for a total of 4 months, after this, all data were uploaded into an SPSS 2.0 file for analysis.

## Results

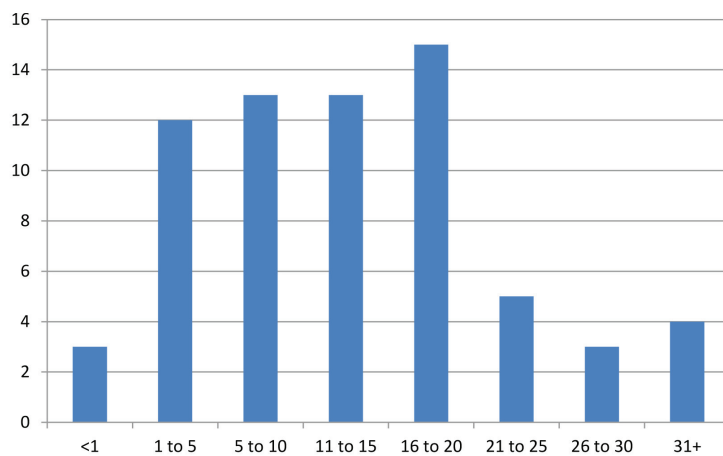
### Describing the Sample

A total of 73 individuals completed the survey. In New Zealand it is possible to be registered as a psychologist without being registered within a particular scope of practice (i.e., generalist registration). It is also possible to be registered within specialist scopes of practice including *Clinical Psychologists, Counselling Psychologist, and Educational Psychologist*. **One can also be registered as an intern psychologist** (individuals who are in a supervised internship setting and who are enrolled in a post graduate diploma or doctoral course of studies), or as a *trainee psychologist* (completed formal academic qualifications that provide the foundation competencies required for safe practice in a supervised setting and who are entering board-approved supervised practice for the purpose of achieving full registration).

Of the 73 individuals who responded, 65 were registered within a particular scope of practice (63 Clinical; 2 Educational). Six individuals indicated they were not registered within a particular scope and were therefore ‘generalists’. The remaining two participants were registered as intern psychologists.

In regards to years of practice, the frequency distribution in years is shown in Figure 1. Of the 68 individuals who responded to this question relatively even numbers of respondents fell within each of the 5-year age bands from 1 to 20 years of practice, producing an average of 13.94 years of practice overall. There were three individuals completing their first year of practice and a dozen who

Figure 1. Histogram showing number of respondents grouped by years of practice.



had completed 21 or more years of practice.

In regards to area of practice, the most commonly endorsed activities within the sample were Clinical treatment in private practice and ACC funded treatment, followed by Clinical assessment in private practice and ACC funded assessments. Though these were the most commonly endorsed activities of the sample, on average the participants only conducted these activities for 16% to 28% of their activities (see table 1).

Table 1. The proportion of time allocated to each activity (minimum%, maximum%, mean and SD) by the 73 respondents.

	Number	Min %	Max %	Mean	SD
<b>Private Practice</b>					
Clinical Assessment	26	2	100	16.37	20.01
Clinical Treatment	29	2	100	28.00	27.07
Neuropsych Assessment	18	1	85	20.58	25.28
Neuropsych Treatment	6	10	30	18.33	6.83
<b>Legal</b>					
Legal (e.g., Family Court)	15	3	90	28.17	24.58
Medico-Legal (not ACC funded)	8	5	26	13.88	6.67
<b>ACC Funded</b>					
Assessment	26	1	65	24.50	17.16
Treatment	28	2	85	26.93	23.31
<b>District Health Board</b>					
Inpatient Mental Health	6	5	100	52.17	40.10
Outpatient Mental Health Adult	12	10	100	63.75	35.62
Outpatient Mental Health Child & Family	6	5	100	56.67	38.94
Older Adult Services	4	5	95	50.00	49.16
Rehabilitation	9	5	80	60.00	25.77
Other	10	5	95	51.00	36.42
<b>Non-Government Organization</b>					
Rehabilitation	4	5	40	15.00	16.83
Clinical	5	5	90	59.00	42.78
Outpatient	0	-	-	-	-
Other	3	20	50	36.67	15.28
<b>Department of Corrections</b>					
Ministry of Education	1		100	100	
<b>Academia</b>					
Student Counselling/Clinic	3	10	100	66.67	49.32
Supervision/Training	3	5	50	25.00	22.91
Consultancy	2	35	50	28.33	25.66
Other Government Agency (eg Police, Child and Family Services)	1	15		15.00	

### Performance Validity testing Practices

When asked about the particular contexts in which performance validity tests were used, some responses were geared towards client characteristics. Specifically, nine clinicians noted issues of secondary gain (e.g., “Only where some form of incentive for the individual is indicated”, “When there is a likelihood of secondary gain to be had for the client in performing poorly”); four noted the presence of unusual or inconsistent symptoms/history (e.g., unusual symptoms, inconsistent history, “When presentation and symptom reports don’t match up”), and two specifically noted suspected symptom exaggeration (e.g., “If I suspect a client may be exaggerating their ....symptoms”).

Other responses were more linked to the type of assessment being

conducted. That is, twelve indicated that performance validity/effort tests were used in the context of ACC or other insurance cases, often specifying that these were not likely to occur in the context of District Health Board (DHB) work (e.g., “when required by ACC”, “ACC reports only”, “More likely in ACC work than DHB”). Seven respondents indicated that they used them routinely/in every case (e.g., “In every case”, “Need to use in all formal assessment contexts”); while nine indicated they used them but only in the context of neuropsychological assessment (e.g., “always for cognitive testing”, “rarely for psychological assessment in context of treatment”); and six referred to assessments specific to intellectual disability, particularly in relation to funding and/or legal issues (e.g., “Cognitive assessments for diagnosing Intellectual disability”, “Clients suspected of having an

intellectual disability and testing is done with the aim of applying for Needs Assessment and Service Coordination (NASC) funding”).

Participants were asked to indicate the tests/methods they used to assess performance validity. Table 2 presents the frequency with which each method was reportedly used. The majority of respondents (75%) indicated that they used multiple methods. As can be seen in Table 2, clinical judgement was the most frequently reported method for assessing performance and symptom validity, followed by reliance on subscales embedded in personality tests, the Test of Memory Malingered (TOMM), embedded measures within neuropsychological tests, the Rey-15 item memory test and the Word Memory Test.

When asked to estimate the proportion of assessments conducted

Table 2. Frequency with which respondents report use of various methods for assessing performance/symptom validity.

Test Name/Type	Number	% of participants
Clinical Judgement	36	47.9
Validity/Exaggeration scales from personality tests (eg., MMPI/MMPI-2, PAI, Millon, etc)	31	39.7
Test of Memory Malingered	29	39.7
Embedded measures (e.g., Recognition versus Free Recall)	28	38.0
Rey-15 Item Memory Test	21	28.8
Word Memory Test	19	26.0
Greens Non Verbal Medical Symptom Validity Test	12	15.1
Advanced Clinical Solutions embedded measures	7	9.7
Dot Counting Test	4	5.5
Coin in the Hand Test	3	4.1
Reliable Digit Span	3	4.1
Structured Inventory of Malingered Symptomatology	2	2.7
Validity Indicator Profile	2	2.7
CVLT-II Forced Choice	2	1.4
Camden Memory Test	1	1.4
Modified Somatic Perceptions Questionnaire	1	1.4
Morel Emotional Numbing Test	1	1.4
Miller Forensic Assessment of <i>Symptoms</i> Test	1	1.4
Finger Tapping Test	1	1.4
Albany Consistency Index	1	1.4
Trauma Symptom Checklist Validity Scales	1	1.4



where performance/symptom validity issues arose, the greatest proportion of respondents (n= 19; 32.8%) indicated 5-20% of the time; whilst 14 individuals (24.1%) reported 20-50% or 1-5% of the time. Only 2 people (3.4%) stated that this was never the case, whilst 4 (6.9%) and 5 (8.6%) reported this occurred in 50-95% of the time and over 95% of the time, respectively.

Twenty-one individuals responded when asked if there are reasons that they use tests of performance/symptom validity. The most common reason reflects that the current context of psychological practice in New Zealand includes an emphasis by both the ACC and the New Zealand Psychologists Board on the need to include tests of performance/symptom validity. Other reasons identified included ensuring the validity of assessments and the interpretations drawn from test data, knowledge of support for performance/symptom validity testing within the literature with linkage of this to inability to rely solely on clinical judgement, and in contexts where use of such tests can assist in provision of better client care. Reasons for using test of effort with representative comments from respondents are presented in Table 3.

When asked to indicate any reasons for not using tests of performance/symptom validity individuals most commonly identified particular populations where they would not use tests of effort. Reasons provided included work with particular populations and contexts where these tests would not seem appropriate, lack of access to tests, the increased time additional tests would take, lack of training or experience in using tests of performance/symptom validity, noting that while tests may identify poor performance/effort they do not identify the reasons for this, fear of over-reliance on test scores, and a dislike of using deception. Table 4 presents those reasons identified by participants for not using these tests, with representative quotes.

### Discussion

The findings presented here reflect a sample which was composed of New Zealand Psychologists, the majority of whom were clinicians either funded through ACC or in private practice.

The most commonly used methods for assessing performance validity in this sample were clinical judgement and use of subscales or methods embedded

within existing tests. The most frequently used tests specific to performance validity noted were the TOMM, the Word memory test and the Rey-15 item test. This latter finding is similar to that of McCarter et al (2009) whose UK sample was most likely to report use of the TOMM (50%), the Rey-15 item test (24%) and the Word Memory Test (24%); which are also similar to those reportedly preferred by American practitioners (Sharland & Gfeller, 2007). The use of measures such as the TOMM and WMT are both well supported by the literature (e.g., Flaro et al., 2007; Suhr, Hammers, Dobbins-Buckland, Zimak, & Hughes, 2008). As noted by McCarter et al. (2009), the continued popularity of the Rey 15 item test is surprising, given the literature reports on its lack of specificity and sensitivity (Strauss, Sherman, & Spreen, 2006). Use of embedded measures such as subscales of the MMPI-2 was more popular in New Zealand than in the UK sample (14%; McCarter et al. 2009), whereas this was similar to that reported in the American sample (Sharland & Gfeller, 2007).

In regards to the use of clinical judgement, unfortunately clinicians' ability to detect performance invalidity is limited (Bianchini et al., 2001). Indeed, clinicians' ability to accurately detect deception or symptom exaggeration by clinical interview alone has consistently been reported to be poor. In two early studies, for example, when children were asked to "fake bad" on neuropsychological testing, 92.8% of the clinical neuropsychologists diagnosed an abnormality and no clinician detected that the children were "faking bad" (Faust, et al., 1988a). In a second study, detection of malingering in a group of adolescents did not surpass chance level, despite clinicians being confident in their case appraisals (Faust et al., 1988b). This led the investigator of both studies to recommend that clinicians not depend on clinical interview and medical examination alone and to not let their own self-confidence guide them (Faust, 1995). Despite replication of the above findings, Mittenberg, Patton, Conyock, and Condit (2002) in a survey of 144 American Board of Clinical Neuropsychology members, reported that objective tests of effort/symptom validity were viewed less favourably than

Table 3. Reasons identified by respondents (n =21) for using test of performance validity.

Reason for Using tests	Representative comments
New Zealand Psychologist Board and ACC requirements	<i>ACC particularly (in my view) over- emphasise the use/importance of symptom validity testing, so it is always included as part of neuropsych testing. There are Psychology Board guidelines on the use of symptom-validity testing, which suggest they should be used more often than not.</i>  <i>It is part of ethical practice.</i>
To ensure validity of assessment and conclusions drawn.	<i>... there can be no valid assessment of any high standard without considering the possibility of invalid reporting/ performing, - especially in settings with secondary gain; because international research (and my experience) confirm again and again that people don't always perform/ report truthfully and hence it's my professional and ethical duty.</i>  <i>Assessments that do not include appropriate use of PVTs/SVTs (symptom validity tests) are incomplete and not consistent with ethical standards of practice. Without them clinicians run the risk of drawing inferences from invalid data and potentially causing harm. Clinical judgement is useful but of only limited use and are not a substitute for SVTs with good specificity and sensitivity.</i>
Support within the literature and contrast to clinical judgement.	<i>I am aware of the research which supports their use, and the fact that as clinicians we are poor at detecting who is not responding in a credible manner.</i>  <i>The literature shows that you should, as do the international guidelines on good practice. To not use good measures would be to actively try to avoid finding attempts at feigning...</i>
Particular circumstances where performance validity tests useful (eg detecting malingering) or identifying "other factors" that might be impact performance	<i>...in some cases to better support the clients report of difficulties where there has been some doubt, or to rule out poor effort as a factor in poor performance.</i>  <i>To clarify misunderstandings or judgements (e.g., clients are "faking") that might exist within the broader treatment team and develop and formulation to explain client behaviour.</i>  <i>When client presentation is somewhat irregular and atypical and client has apparent reasons for exaggeration of symptoms ... Also, cross-cultural issues can lead to symptom minimisation (shame, embarrassment, etc.).</i>

Table 4. Reasons identified by participants for not using tests of performance validity, with representative quotes.

Reason for Not Using tests	Representative comments
Work with populations where these are either not available or not seen to be useful	<i>Children developmentally do not have a concept of manipulating the assessment unless they have been taught by an adult... There are also problems about the validity of using performance/ symptom validity tests on children as they are validated using adult populations.</i>
	<i>Where the person obviously has an intellectual disability and has a good history to show that he or she would meet criteria even if he or she was engaged in reduced effort or symptom exaggeration</i>
	<i>For a client turning up for treatment, say for depression, it would be rather odd to say that I am questioning the validity of what they are telling me...</i>
Work in particular assessment contexts where performance validity tests would not be used	<i>...where someone is getting a np assessment because of a relatively neurological problem, in my experience they are rarely faking bad and are not keen to have dementia, ms or whatever it may be.</i>
	<i>Generally for psychological issues. Generally not outside working for statutory organisations (E.g., ACC) or other professional bodies (e.g., Insurance claims).</i>
	<i>Inappropriate to setting - private practice work, Inappropriate given presenting problem, Inappropriate given patient presenting as "well"</i>
Lack of access to or availability of tests	<i>not required in general, as there is little incentive for (my) clients to fake good or bad, compared to those where there is possible imprisonment or financial pay off depending on assessment outcome</i>
	<i>not useful in most contexts</i>
	<i>I went to a training seminar to look at use of symptom validity scales with self-report by parents of children's symptoms and there was apparently nothing developed like that.</i>
Time it adds to an assessment	<i>Lack of availability of test materials, ESPECIALLY computer scoring packages...</i>
	<i>Unavailable at workplace</i>
	<i>I work in isolation, only psychologist in the service and we have almost no psychometric tests, I'm also new to adult work in the service.</i>
Lack of experience/training in the area	<i>Impact on time required for assessment, especially the WMT and TOMM. Normally time does not allow much in the way of formal, psychometric assessment and I am quite dependent on client report.</i>
	<i>They add time to your assessment and its not clear how sensitive and specific they are in a NZ context</i>
	<i>I have identified this as an important area to look at just have not had the time to really research it well</i>
The tests identify poor performance/effort but not the reasons for this.	<i>I wasn't trained in these originally and they have not been a standard workplace policy in previous organisations I have worked for.</i>
	<i>Not enough training in using these tools, worry about misinterpretation of results by others</i>
	<i>There are many reasons why people perform "poorly" on psychometric tests. These are not captured by the instruments themselves. Tests of symptom validity are essentially instruments designed to invalidate human experience. As a Clinical Psychologist, I have no interest in furthering this cynical pursuit.</i>
Fear of overreliance on test scores	<i>Multiple reasons for failure- not necessarily indicating malingering (i.e. specificity). 'Good' performance not necessarily indicating poor effort (i.e. sensitivity). These tests are generally a poor substitute (in my view) for a good knowledge of the tests (and underlying neurological constructs) in detecting performance that does or does not fit with a neurological profile.</i>
	<i>Too much emphasis is placed on the these test scores alone, rather than analysis of the profile (including embedded measures) clinical interview, observations, other clinical reports etc.</i>
Dislike use of deception	<i>I don't like to employ deception in my work with clients and I have not yet found any way that adequately deals with this for me</i>

use of judgements based on observation, discrepant clinical presentation, or unusual patterns of test scores. Recent studies in the area continue to support assertions that clinical judgments should not be used with any confidence (Samuel, & Mittenberg, 2005; Garb & Garb, 2005; Adetunji, et al. 2006). Indeed, the literature strongly supports recommendations from professional bodies (including the New Zealand

Psychologists' Board) that clinicians should not rely on clinical interviews and judgement alone in the detection of symptom exaggeration (British Psychologists Society, 2009; Bush et al., 2005; New Zealand Psychologists Board, 2013). In the present study, whilst clinical judgement was the most commonly used method, in this context clinicians were able to select more than one method, and it is likely

that in reporting the using some level of clinical judgement in formulating a conclusion, this is likely to have occurred in conjunction with formal testing.

When asked about the proportion of assessments conducted where performance validity issues arose, only two individuals stated that this was never the case, with the majority (56.9%) reporting that this occurred in 5% to 50% of cases. In the literature, estimates of the prevalence of symptom exaggeration vary depending on the referral type, setting and diagnosis. For example, in a review of 11 studies Larrabee (2003) found reported prevalence of symptom exaggeration between 15% and 64%; whilst Chafetz (2008) found prevalence of symptom exaggeration between 46% and 60% in disability claimants; and Ardolf (2007) found probable or definite malingering in 54% of 105 criminal defendants referred for a neuropsychological assessment. In examining prevalence across populations, an American survey of 131 neuropsychologists (Mittenberg, 2002) reported a prevalence of symptom exaggeration of around 30% in personal injury, disability or workers' compensation referrals and 20% in criminal referrals compared to 8% in medical or psychiatric referrals not involved in litigation or compensation.

In this study, practitioners' decisions as to whether to utilize tests of performance validity within a particular assessment were made based upon client characteristics (i.e., issues of secondary gain, unusual or inconsistent symptoms/history, suspected symptom exaggeration) or the context of the assessment (i.e., in the context of ACC or other insurance cases, only in the context of neuropsychological assessment; for legal/funding issues related to intellectual disability). Similarly, when asked reasons for using tests of performance validity most participants in this study reported that this was due to ACC and the New Zealand Psychologists Board identifying this as good practice. Other reasons identified included ensuring the validity of assessments and the interpretations drawn from test data, knowing that the literature supports its use, and in order to improve client care.

When asked to indicate any reasons for not using tests of performance/symptom validity, reasons provided included work with particular populations and contexts where these tests would not seem appropriate. This is similar to reports that in the UK sample (McCarter et al., 2009), it was 'universally accepted' that there is little need for formal testing of symptom validity in clinical cases. In a Canadian study, 79% of clinicians reportedly tested for symptom validity "frequently", though this high rate of test use likely reflects that the sample was obtained from the membership of the National Academy of Neuropsychologists (Slick Tan, Strauss, & Hultsch, 2004); rather than psychologists more generally as is the case here. The present findings are in contrast to the UK sample where 22% of respondents expressed concern about test reliability and likelihood of misclassification of genuine deficits as poor effort or malingering; an issue not raised in the present sample; potentially due to the growing literature available on the valid use of such tests.

Other reasons reported for not using tests of effort reflected more practical barriers, included lack of access to tests, the increased time additional tests would take, lack of training or experience in using tests of effort, noting that while tests may identify performance invalidity they do not identify the reasons for this, fear of over-reliance on test scores, and a dislike of using deception. Lack of time and availability/cost of measures were similarly reported in McCarter et al.'s (2009) UK study. It should be noted that very little additional time and no added cost is incurred when using embedded indicators. It must also be acknowledged that, in cases where performance invalidity is present, failure to include some indicator of validity in an assessment battery may mean a considerable amount of time has been spent on assessment where the findings are not useful. Harman (2002), in reflecting on Green et al.'s (2001) assertion that effort accounts for 50% of variance in neuropsychological assessment findings, stated that "it is difficult to argue that a variable explaining one half of a battery variance is a 'wasteful' preoccupation" (p.709).

The findings do suggest that there

is a need to provide clinicians with more training opportunities in the area, particularly for those who do not work primarily in neuropsychological assessment. The findings also highlighting the fact that there are many causes of performance validity concerns, only one of which is malingering/poor effort. Whilst the literature indicates that the use of clinical judgement should not be the sole basis of judgements in regards to this, neither should test scores be the sole basis of assessment findings. Clinically, there is a need to tease out the contributing factors to identify why a person is underperforming/over-reporting symptoms in order that these can then be targeted in rehabilitation to assist the client with his/her recovery. Indeed, the finding of symptom exaggeration or poor effort in itself should not be seen as a total negation of the possibility of real issues that require clinical intervention.

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