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Review

Symptom overreporting and its consequences for treatment

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This review examines the effects of patients overreporting symptoms, which can be identified through validity tests. Such overreporting may reflect concerns about being denied care, difficulty describing experiences, or pursuit of external incentives. Regardless of the reason, it has meaningful clinical implications. Research shows links between overreporting and lower treatment adherence, higher dropout rates, and challenges in building strong therapeutic relationships. When clinicians cannot fully understand the nature or severity of symptoms, misdiagnosis and reduced trust may result. To reduce these risks, it is important to view validity test results as informative and use them to support thoughtful, collaborative conversations with patients and their support networks, ultimately enhancing treatment planning and outcomes.

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When patients describe their symptoms—during intake interviews, treatment sessions, or while completing self-report scales—they are not always accurate. Most clinicians are well acquainted with the phenomenon of patients who, for instance, out of shame, understate their symptoms or fail to fully convey the severity of their complaints, such as depressive symptoms — a phenomenon referred to as underreporting [1]. However, the opposite — overreporting of symptoms, such as attentional and concentration difficulties — also occurs. This is a somewhat counterintuitive phenomenon, given that most individuals naturally do not wish to be perceived as seriously ill [2]. Symptom overreporting is more common in forensic than in clinical settings [3,4]. Nevertheless, even in clinical contexts, it involves a non-trivial minority, with expert estimates typically hovering around 15 % [5*].

A substantial body of research has investigated symptom overreporting, focusing primarily on two questions: first, how can overreporting be reliably identified? Second, what are its causes? The first question is extensively addressed in the literature on validity tests, such as the validity scales of the Minnesota Multiphasic Personality Inventory (MMPI) [6]. Regarding causes, overreporting is frequently conceptualized in terms of feigning or malingering [7]. We prefer "symptom overreporting" or "symptom exaggeration" because these descriptive terms avoid premature interpretative assumptions and acknowledge that multiple factors may contribute to a distorted presentation of symptoms.

This contribution primarily centers on symptom overreporting, though underreporting will also be discussed later. Our focus is not so much on the causes or measurement of these phenomena, but rather on their implications for diagnosis and treatment. We aim to summarize existing knowledge on this issue and offer commentary. Next, we explore potential links between patients' distorted symptom presentations, the therapeutic relationship, and negative treatment experiences. Finally, we consider what clinicians can do when patients engage in distorted symptom expression.

Consequences of overreporting

Research on whether symptom exaggeration affects treatment outcome began with studies on Vietnam veterans with PTSD. Authors relied, for example, on the MMPI validity scales and noted that veterans who exaggerated symptoms had poorer therapeutic outcomes [8,9]. In the context of a university clinic, symptom overreporting was found to be associated with therapy dropout [10] and in a forensic setting it was linked to disruptive behavior [11]. Further case studies suggested that symptom overreporting can lead to unnecessary hospitalizations and prescriptions of potentially dangerous medications [12,13,14*]. These

Current Opinion in Psychology 2025, **65**:102091

This review comes from a themed issue on Adverse Experiences Related to Psychological Interventions (2026)

Edited by Brechje Dandachi-FitzGerald and Harald Merckelbach

For complete overview about the section, refer Adverse Experiences (2026)

Available online 27 June 2025

https://doi.org/10.1016/j.copsyc.2025.102091

"Given the role as Guest Editor, Brechje Dandachi-FitzGerald and Harald Merckelbach had no involvement in the peer review of the article and has no access to information regarding its peer-review. Full responsibility for the editorial process of this article was delegated to Michael J. Zvolensky."

anecdotal findings raised concerns that exaggeration may compromise treatment.

Since the 1990s, more rigorous research has been conducted on symptom overreporting and its implications for treatment. Table 1 summarizes this research, based on a Google Scholar-search of the literature. We restricted our review to studies published in peer-reviewed journals and retrievable via Google Scholar using keywords such as: performance validity test, symptom validity test, treatment effects, treatment adherence, and dropout. Only studies in which symptom overreporting was identified through validity tests, rather than clinical judgment, were included. These validity tests fall into two main categories: Performance Validity Tests (PVTs) and Symptom Validity Tests (SVTs) [15,16].

PVTs—such as the Test of Memory Malingering (TOMM) and the Amsterdam Short-Term Memory Test (ASTM)—may appear cognitively demanding but are, in fact, relatively easy. Neurological patients typically perform well on these tests. An individual who scores significantly below their level is presumed to be exaggerating cognitive impairments. SVTs present respondents with a list of implausible symptoms, and endorsing a substantial number of these symptoms indicates overreporting. Examples include specific scales of the MMPI and the Structured Inventory of Malingered Symptomatology (SIMS).

The studies listed in Table 1 typically rely on one of two approaches. The first is dimensional: the lower research participants score on PVTs and/or the higher they score on SVTs, the more they are presumed to exaggerate their impairments and symptoms. The other, more stringent approach is categorical: research participants are classified as overreporting symptoms if their score go beyond a well-established cutoff on a PVT or SVT. These cutoffs typically prioritize specificity over sensitivity. For many of the PVTs and SVTs listed in Table 1, both sensitivity and specificity exceed 90 %.

The studies summarized in Table 1 employ a variety of PVTs and SVTs. The subgroup of patients who exaggerate cognitive limitations or symptoms—those with deviant scores on PVTs or SVTs—are indicated in the column labeled "*n* (%) Overreporting." The key questions are whether patients who overreport symptoms, either dimensionally or categorically, also report more symptoms on conventional clinical scales during pretreatment assessment, show higher dropout rates, are more frequently absent from sessions ("no shows"), benefit less from treatment, and are more likely to seek help elsewhere after the initial treatment.

The findings in Table 1 converge on the conclusion that patients who engage in overreporting have elevated scores on standard clinical measures, are more likely to miss appointments, and are more inclined to seek subsequent treatment elsewhere. These findings suggest a pattern of treatment difficulties, further supported by increased dropout rates—particularly in studies with larger sample sizes.

Some studies have observed that patients who overreport symptoms benefit less from treatment, whereas other research have failed to find such evidence. However, a critical caveat is warranted: nearly all findings in this domain are based on comparing self-reported symptoms pre- and post-treatment. Among overreporting patients, symptom levels are inflated at baseline, as indicated by significant associations between overreporting and pretreatment self-reported symptoms on routine clinical scales. Consequently, any observed symptom reduction during therapy may be distorted by this inflated starting point—especially considering the higher dropout rates in this group. For this reason, studies concluding that overreporting does not compromise treatment outcomes should be interpreted with caution.

Particularly informative is the study by Van Hout and colleagues [17**], the first of its kind and methodologically the most robust. These researchers asked not only the patients ($N = 84$) but, more importantly, also their partners whether treatment had been effective. Only a small minority (7 %) of partners of overreporting patients reported positive treatment effects, compared to a significantly higher proportion (68 %) among partners of non-overreporting patients.

Underreporting of symptoms

With few exceptions [21*,26*], the studies summarized in Table 1 did not consider symptom underreporting alongside symptom overreporting. This is unfortunate, as underreporting may also interfere with treatment effectiveness. First, research suggests that a tendency to underreport symptoms can hinder the identification and treatment of serious personality psychopathology [28,29]. There is also evidence that underreporting may obscure the diagnosis of important risk factors in psychopathic offenders [30], as well as depressive symptoms [31], including suicidal ideation [32].

Second, in a comprehensive analysis, Weissman and Gorlin [33**] present evidence that unintentional underreporting—often resulting from a lack of insight and also known as self-deceptive enhancement—can impair the ability to benefit from corrective feedback. Their findings are consistent with research showing that underreporting is associated with relapse in patients with substance use disorders [34].

Therapeutic alliance

The research reviewed thus far has primarily examined the relationships between distorted symptom expression, diagnostic accuracy, and treatment outcomes. However,

Table 1

Studies addressing symptom overreporting and treatment parameters.

Study (year)	*N*	Sample	Treatment	PVT/SVT	*n* (%) Overreporting	Association (*r* or *t*) with pre-treatment symptomatology	Dropout ↑	No shows ↑	Treatment effect ↓	Help-seeking post-treatment ↑
Van Hout et al. (2008) [17**]	84	Chronic solvent encephalopathy	CBT	TOMM	20 (24 %)				+	
Moore et al. (2013) [18]	128	Psychotic symptoms	FAST/STEP	EI	29 (23 %)	*r* = .28* (PANSS GP)		+		
Goedendorp et al. (2013) [19]	151	Chronic fatigue	CBT	ASTM	26 (16 %)		+[a]		-	
Horner et al. (2014) [20]	355	Somatic complaints	Medical treatment	TOMM WMT	72 (20 %)					+
Anestis et al. (2014) [21*]	511	Depression and anxiety	Evidence based treatment	Overreporting-scales MMPI-2-RF			+			
Jurick et al. (2020) [22]	100	PTSS & mild TBI	CPT	TOMM	43 (43 %)	*t*s ≥ 2.36* (PCL-S, NSI, BDI-II)	-		±[b]	
Van Minnen et al. (2020) [23]	205	PTSD	EMDR	SIMS	29 (14 %)	*r* = 0.30* (CAPS)			-	
Williams et al. (2020) [24]	61	PTSD	CPT	WMT M-FAST	14 (22 %)	*r*s < 0.42*[c] (CAPS, PCL-M, BDI-II, CD-RISC)	-		±	
Roor et al. (2022) [25]	1081	Chronic fatigue	CBT	ASTM	123 (11 %)	*r*s > 0.084* (CIS fatigue, SF36, SIP, SCL-90)	+	+	-	
Marquardt et al. (2024) [26*]	430	PTSD Depression Substance abuse	Partial psychiatric hospitalization program	Overreporting-scales MMPI-2-RF	110 (26 %)	0.41* < *r*s < 0.75* (RCd)	-	+	-	+
Van Zwam-van der Wijk et al. (2025) [27]	359	SSRD	CBT ACT	TOMM	62 (17 %)	*t*s > 1.92*[d] (PHQ-9, GAD-7, LKV-50)			-	

Notes. CBT = Cognitive Behavior Therapy; TOMM = Test of Memory Malingering; FAST = Functional Adaptation Skills Training; STEP = Skills Training and Empowerment Program; EI = Repeatable Battery for the Assessment of Neuropsychological Status/Effort Index; PANNS GP = Positive and Negative Syndrome Scale-General Psychopathology; ASTM = Amsterdam Short-Term Memory Test; WMT = Word Memory Test; MMPI-2-RF Minnesota Multiphasic Personality Inventory-2-Restructured Form; PTSD = Posttraumatic stress disorder; mild TBI = mild-to-moderate Traumatic Brain Injury; CPT = Cognitive Processing Therapy; PCL-S = PTSD Checklist; NSI = Neurobehavioral Symptom Inventory; BDI-II = Beck Depression Inventory; EMDR = Eye Movement and Desensitization Reprocessing; SIMS= Structured Inventory of Malingered Symptomatology; CAPS = Clinician-Administered PTSD Scale; M-FAST = Miller Forensic Assessment of Symptoms Test; PCL-M = PTSD Checklist-military version; CD-RISC = Connor Davidson Resilience Scale (CD-RISC); CIS fatigue - = Checklist for Individual Strength-fatigue subscale; SF36 physical functioning = Medical outcomes survey Short-Form-36; SIP = Sickness Impact Profile; SCL-90 = Symptom Checklist-90; RCd = Restructured Clinical demoralization scale; SSRD = Somatic Symptom and Related Disorders; ACT = Acceptance and Commitment Therapy; PHQ-9 = Patient Health Questionnaire-9; GAD-7 = Generalized Anxiety Disorder questionnaire; LKV-51 = Physical Symptom Checklist.

[a] Refers to study dropout, not therapy dropout.

[b] Dampening effect observed only for PCL-S, not for NSI or BDI-II.

[c] *F*-values reported for WMT; r_s for M-FAST. Overreporting is generally associated with elevated clinical scores at T1.

[d] $p = .058$ for GAD-7; $p < .01$ for PHQ-9 and LKV-50.

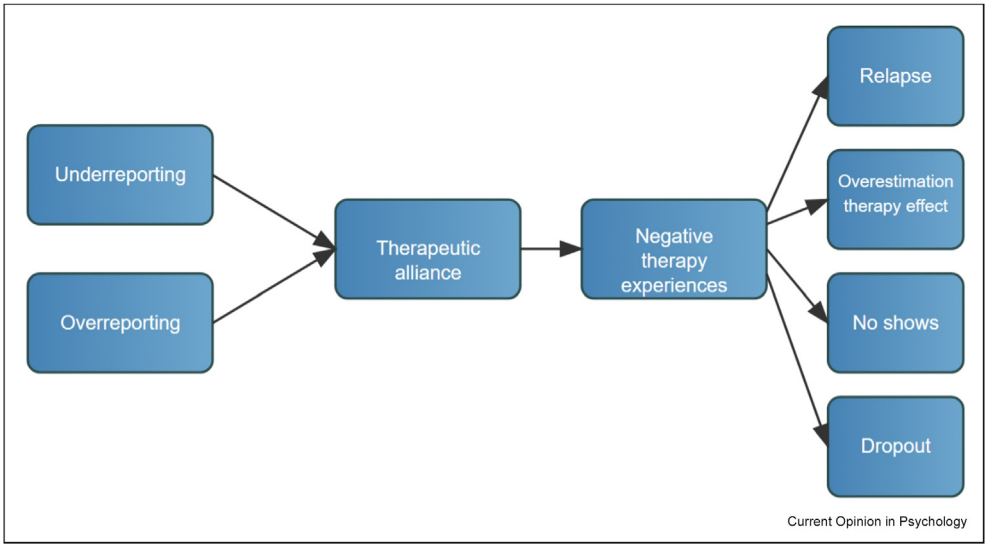
no studies have examined process variables. Yet it is almost inevitable that both underreporting and overreporting of symptoms place strain on the therapeutic alliance — the collaborative relationship between patient and clinician. This alliance is based on three pillars: agreement on treatment goals, agreement on the tasks needed to achieve those goals, and the development of a bond of trust [35]. Distorted symptom presentations complicate the alignment of goals and tasks with the patient's actual needs, thereby placing pressure on the trust that underpins the alliance. Thus, the clinician runs a significant risk of initially misjudging the nature and severity of a patient's difficulties. For example, a patient who underreports symptoms may express a desire to develop greater self-confidence, prompting treatment to be tailored accordingly, while in reality the individual is struggling with obsessive-compulsive disorder, which they are too ashamed to disclose. Conversely, an overreporting patient may emphasize a wide range of PTSD symptoms, only for it to later become clear that their distress primarily stems from anger, sadness, and frustration following a relationship breakup. In such cases, it becomes challenging for the therapist to offer an appropriate form of empathy—yet it is precisely this empathy that constitutes a crucial component of the therapeutic alliance, which in turn is a key predictor of treatment success [36].

A weakened therapeutic alliance often manifests in negative experiences during therapy—a topic that has only recently received the attention it deserves in the research literature. Moritz and colleagues [37] surveyed patients with depression ($N = 135$) who had undergone psychotherapy and found that a substantial proportion believed the applied therapy techniques had been inappropriate (17 %) and/or expressed fear that people they knew might find out they had been in therapy (20 %). Similarly, Verkooyen and co-workers [38] surveyed patients undergoing psychotherapy for primarily anxiety and mood disorders ($N = 80$) about their treatment experiences. Most participants (69 %) reported at least one negative therapy-related experience by mid-treatment, with an average of 2.8 experiences and a maximum of 13. Common issues included feeling emotionally overwhelmed (35 %), experiencing more negative thoughts and memories (26 %), and increased stress or tension (20 %). Concerns involving therapy- and stigma-related factors were also present; 10 % felt ashamed of being in therapy, 9 % did not understand the therapy's aims, and 8 % feared others might find out. Adding another perspective, Muschalla et al. [39*] surveyed 36 therapist–patient pairs at an outpatient behavioral therapy unit and found that both groups identified increasing complexity of mental health problems as the most prevalent unwanted side effect of treatment, with 41 % of patients endorsing this view.

While we do not claim that all negative therapy experiences result from symptom underreporting or overreporting—such experiences are too varied and widespread across patient populations [40] —we suggest that some may reflect a potential link. These include concerns about the accuracy of diagnosis, doubts regarding the suitability of treatment, and fears of stigmatization. What is needed, therefore, is systematic research into how symptom distortion affects the therapeutic alliance, how this disruption contributes to negative therapy experiences, and how it ultimately influences outcomes such as treatment dropout.

Figure 1 provides a tentative overview of these relationships and outlines the key elements that an ideal

Figure 1



Relevant areas for future studies on symptom overreporting and treatment outcome.

study should address. Two critical observations must be made regarding this figure. First, the conceptual representation is preliminary; further empirical research is needed to clarify the precise causal relationships between underreporting, overreporting, the therapeutic alliance, negative therapy experiences, and diminished treatment engagement. Limited research in somatic medicine has already demonstrated that distorted symptom presentation can negatively impact the therapeutic relationship [41].

Second, the figure may incorrectly suggest that underreporting and overreporting are mutually exclusive, which is only partially accurate. The hello–goodbye bias [42] illustrates how these tendencies can alternate: patients may initially overreport symptoms to gain access to treatment but later shift to underreporting in order to signal improvement and create a favorable impression, which would result in an overestimation of the treatment effect [34].

Conclusion: what you see is not what you get

Our review demonstrates that symptom underreporting and overreporting introduce significant distortions in both psychological diagnosis and treatment. Addressing this issue is crucial, as simplistic interpretations often prevail in clinical discourse. For instance, some scholars have characterized overreporting merely as a cry for help—a perspective we have refuted elsewhere [43]. Notably, this interpretation contradicts empirical evidence showing that overreporting consistently predicts poor therapeutic adherence and premature treatment termination—outcomes rarely associated with help-seeking behavior.

The evidence reviewed does not suggest excluding patients who underreport or overreport symptoms from treatment [44]. Rather, it emphasizes the importance of recognizing distorted symptom presentations and adopting a tailored therapeutic approach. First, clinicians should examine psychodiagnostic reports carefully for indicators of under- or overreporting. This requires meticulous attention, as such indicators are frequently overlooked or minimized [45]. Patients often present with elevated scores on MMPI validity scales, yet clinicians proceed to interpret the clinical scales without adequately accounting for this response distortion.

Second, when validity tests indicate under- or overreporting, consulting family members about the patient's symptoms and impairments may be a valuable next step. Quilty and colleagues [29] demonstrated that, under these conditions, informant reports can usefully supplement self-reported psychopathology. Notably, research indicates that extreme underreporting has a range of negative social consequences, including increased loneliness and reduced social support [33**]. Conversely, persistent overreporting can strain family relationships, foster suspicion [46], and contribute to the weakened social networks commonly observed in these patients [47].

Third, identifying under- or overreporting creates an opportunity for meaningful dialogue with patients and their support systems to explore underlying motivations. Contributing factors may include fear of stigma, concerns about treatment access, or difficulty articulating one's complaints; involvement in litigation or criminal proceedings may also play a role. The therapeutic assessment approach offers effective frameworks for constructively discussing these findings with patients [48**,49].

While psychotherapists often invoke the iceberg metaphor [50]—suggesting hidden psychopathology beneath surface presentations—this analogy proves inadequate for symptom under- or overreporting. Unlike visible icebergs, these distortions typically remain undetectable without specialized validity testing, reflecting the principle that "what you see is not what you get." Moreover, whereas icebergs imply imminent danger, directly addressing under- or overreporting may actually strengthen the therapeutic alliance. This approach aligns with the wisdom that while competent physicians treat symptoms, exceptional physicians treat the patient experiencing those symptoms.

Credit author statement

HM: Conceptualization, Writing – Original Draft; Writing- Review and Editing. BDF: Conceptualization, Writing – Review and Editing.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used ChatGPT in order to check spelling and grammar of certain parts. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

Funding

There was no funding for this paper.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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* of special interest
** of outstanding interest

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Further information on references of particular interest

5. * This study describes a survey conducted among neuropsychologists (N = 178), asking how often they encounter symptom overreporting—referred to by the authors as "invalid performance"—in a clinical context. The mean estimated base rate was 15%, though it varied widely across different diagnostic categories. It was estimated to be relatively low in patients referred for dementia evaluations (5%) and relatively high in patients presenting with medically unexplained symptoms (50%).

14. * This paper presents a series of 13 case vignettes, each involving extreme overreporting, primarily of pseudo-neurological symptoms. The authors discuss unnecessary treatments and hospitalizations, associated financial costs, and the risk of iatrogenic harm.

17. ** This methodologically strong study involved the random assignment of patients to treatment or control conditions, multiple evaluations (including a final one three months post-treatment), and the collection of collateral information from partners. Treatment appeared effective in terms of self-reported cognitive improvement, though patients who did not show signs of symptom exaggeration reported greater improvement than those who did (69% vs. 33%). This difference was even more pronounced in the collateral reports, with 68% of partners of patients without indicators of overreporting noting improvement compared to only 7% of partners of patients with such indicators.

21. * This study examined the effects of both overreporting and underreporting on therapy engagement, focusing specifically on the K-r scale of the MMPI-2-RF. Interestingly, elevated K-r scores—indicating a tendency to present oneself as well-adjusted—predicted a lower risk of prematurely ending psychotherapy. The findings highlight the importance of considering both overreporting and underreporting.

26. * This study also included both overreporting and underreporting scales of the MMPI-2-RF. In line with Anestis et al. (21*), the authors found that K-r predicts therapy engagement. Specifically, they found that low K-r scores—reflecting a lack of overly virtuous self-presentation—were associated with poorer therapy outcomes. Together with the Anestis et al. (21*) findings, this suggests that the K-r scale offers valuable insight when studying current and future engagement with mental health care services.

33. ** This is an impressive review that integrates a broad spectrum of evidence—including experimental and clinical studies—and concludes that underreporting, particularly in its extreme form as self-deceptive enhancement, can have maladaptive consequences. Especially relevant to our review is the authors' analysis of experimental literature showing that self-deceptive enhancers struggle to learn from corrective feedback.

39. * A key finding of this study is that discussing negative therapy experiences during treatment does not compromise the therapeutic alliance. On the contrary, the authors found evidence suggesting that such discussions may strengthen the therapeutic relationship. They also recommend using standardized instruments to monitor and address negative treatment experiences.

48. ** In this chapter the authors propose a structured model for delivering feedback to patients who exaggerate impairments or symptoms using illustrative example statements. Their "firm-beneficent" approach emphasizes preserving the therapeutic alliance and focusing on patient well-being, while clearly communicating the invalidity of the assessment. This approach aligns with evidence-based practice as well as professional ethics and values.