The effects of peripheral message cues on clinicians’ judgments about clients’ psychological status

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This research examined the influence of peripheral message cues on clinicians’ judgment about the psychological status of clients. The elaboration likelihood model (ELM) of social persuasion suggests that peripheral message cues are likely to exert a greater influence on clinicians’ judgments when a client’s presentation meets some, but not all, diagnostic criteria for a disorder (i.e., when the presentation is ambiguous). Within this theoretical framework, we examined the effects of a peripheral message cue (level of irrelevant detail in the client’s presentation) and presentation ambiguity on clinicians’ judgments of need for treatment, illness severity, and distress. Consistent with predictions based on the ELM, for both obsessive-compulsive disorder and post-traumatic stress disorder presentations, high levels of irrelevant detail exerted a greater influence on clinicians’ judgments of clients’ need for treatment when presentation ambiguity was high than when it was low.

There has been extensive research on the validity of clinical judgment (e.g., Garb, 1998; Meehl, 1954; Sarbin, Taft, & Bailey, 1960), with a number of studies demonstrating clinician bias. Evidence of biases affecting diagnoses is provided by both experimental and naturalistic studies (Hansen & Reckie, 1990; Robertson & Fitzgerald, 1990; Sutton & Kessler, 1986; Wrobel, 1993), including studies of how clinicians obtain information from clients and their memory of case-related information (Friedlander & Stockman, 1983; Haverkamp, 1993; Strohmer, Shivy, & Chiodo, 1990). In sum, evidence of various biases (e.g., age, gender, and gender role biases) have been demonstrated in clinicians during diagnosis, personality, and psychopathology assessment, while making treatment decisions, and during information gathering and recall of clinical information. Such biases may reflect the influence of heuristic processing by the clinician. Rather than always analysing the client’s presentation analytically and systemically, the clinician’s processing may be guided by cognitive short-cuts or simple decision rules (i.e., heuristics) that shape the inferences they draw about the client’s psychological status and appropriate intervention strategies.

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The notion that decision makers in real-life contexts may not always process the available data analytically and systematically is not new. For example, Klein (2008) demonstrated in naturalistic decision-making contexts that some combination of intuitive (or heuristic) processing and analytic processing is likely. Ægisdóttir et al. (2006) distinguished between the efficacy of diagnostic judgments based on intuition versus (more systematic) statistical judgment, with some research suggesting that clinical expertise may underpin comprehensive and systematic case formulation (Eells, Lombart, Kendjelic, Turner, & Lucas, 2005). Kim and Ahn (2002) demonstrated that clinicians’ diagnoses were guided by symptoms that were causally central in their theory of a disorder and that their memories for causally central symptoms were biased. They noted how such theory-based clinical reasoning may shape the directions of clinicians’ ongoing interactions with clients and promote fallacious clinical judgments when the theories are invalid. While such research clearly points to the potential influence of both systematic and more intuitive processing on clinical judgments, it has not been characterized by a systematic consideration of those conditions under which clinician biases in decision making are likely to be activated. Here, within the framework of the elaboration likelihood model (ELM) of social persuasion, we examine how the level of peripheral (i.e., irrelevant) detail contained in clients’ presentations interacts with presentation ambiguity to influence clinical judgments.

The ELM (Petty & Briñol, 2008; Petty & Cacioppo, 1981, 1986) is a well-established model of social persuasion that has previously been applied to the study of cognitive change in clients (see McNeil & Stoltenberg, 1989). The ELM distinguishes between message information that is (a) central or relevant to the message topic (e.g., factual content, argument quality) and (b) peripheral or irrelevant to the message topic (e.g., voice pitch, irrelevant detail). Central route processing is analytical or systematic in nature, whereas peripheral route processing uses heuristics or what are sometimes called cognitive short-cuts or rules-of-thumb. The model stipulates that, when central route processing becomes more difficult, or the motivation to do so reduces, peripheral route processing becomes more influential. Central route processing becomes more difficult for a variety of reasons. For example, detecting the central factors contained in a detailed and complex message may be a more difficult task than detecting those in straightforward and simple message. Or, central and peripheral factors may be difficult to differentiate, making the processing of central factors more difficult than for a message in which central and peripheral factors are easily discriminated. Similar distinctions have been delineated by other researchers interested in human judgment and decision making. For example, Chaiken, Eagly, and colleagues distinguished between systematic and heuristic processing (e.g., Chaiken, Liberman, & Eagly, 1989; Eagly & Chaiken, 1993). Kahneman (2003) distinguished between System 1 (intuitive) and System 2 (deliberate) cognitive processing.

Applying the ELM to the present context, central (peripheral) message factors include any information that is relevant (not relevant) to the evaluation of the client’s psychiatric status, intervention planning, and case management. Although it might be argued that all information provided by a client is central, major psychiatric taxonomies exist that provide clinicians with a sound basis for differentiating between central and peripheral information. For example, the American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders (2000, DSM-IV) delineates the information that is central to the assessment of psychiatric status. The ELM suggests that, as peripheral processing is more likely when the ability to engage in central processing is low, the degree to which clinicians are influenced by peripheral factors should vary
depending on the difficulty of determining psychiatric status. Clinicians may at times have difficulty processing the relevant information from a client’s presentation as (1) clients’ presentations of symptoms can be ambiguous rather than specific; (2) the co-morbidity of different disorders is common; (3) diagnostic categories sometimes involve considerable overlap; and (4) clients’ presentations involve abstract constructs such as thoughts and feelings. Moreover, some clients are undoubtedly more difficult to assess than others. For example, the evaluation and diagnosis of a client who presents an unambiguous constellation of symptoms, all of which converge on a particular disorder, is likely an easier task than that of a client who presents a more ambiguous array of symptoms that are conflicting or fall short of meeting minimum diagnostic criteria for a particular diagnosis.

In sum, the ELM provides a basis for specific predictions about clinician behaviour and, more specifically, the likelihood of clinician bias or error. The model suggests that a clinician’s evaluation of a client may be influenced by irrelevant or peripheral message factors when there is a high level of difficulty associated with the key clinical judgments. The present study tested these predictions by presenting clinicians with a number of mock clinical scenarios, each of which provided an analogue of a clinical interview and contained manipulations of peripheral message detail crossed with manipulations of presentation ambiguity.

Note that we have chosen here to focus on judgments about the client’s status in relation to DSM criteria. We are not suggesting here that such judgments represent the only, or even the key, aspects of clinicians’ judgments and case conceptualizations. Rather, we have chosen this focus because these judgments provide a relatively constrained framework within which to examine mechanisms underpinning bias in clinicians’ judgments. It might be expected, however, that judgmental heuristics and biases will play an even greater role when clinicians grapple with the inherently more complex judgments and decision making associated with case conceptualization and the planning and monitoring of intervention strategies (cf. Bieling & Kuyken, 2003; Kuyken, Fothergill, Musa, & Chadwick, 2005).

The persuasive influence of message detail has been documented in various social persuasion contexts, spanning mock jurors’ processing of eyewitness testimony, responses to health messages and fear appeals, evaluations of parenting suitability, and responses to radio editorials. Unfortunately, while the detail manipulations have involved peripheral details, it is not always clear that all details manipulated were irrelevant to an evaluation of the message quality. Nevertheless, the likelihood that a message recipient will accept the overall thrust of the message seems to be higher when the message contains a high, rather than a low, degree of peripheral detail. For example, Bell and Loftus (1988, 1989) found that mock jurors judged testimony from either the defence or the plaintiff as more credible if it contained a high rather than low degree of peripheral description details. Moreover, high levels of peripheral detail in either the defence or plaintiff testimony were associated with corresponding reductions and increases, respectively, in mock jurors’ assessments of the likelihood of guilt. Reyes, Thompson, and Bower (1980) reported similar effects of irrelevant detail on judgments about a defendant’s guilt. Similar types of effects have been reported in studies of people’s responsiveness to messages about social issues (Shedler & Manis, 1986; Sherer & Rogers, 1984). Taken together, these patterns suggest that the presence of a high level of peripheral detail, or vividness, is likely to increase the likelihood that the message recipient will accept the basic thrust of the message. Thus, in the clinical context, if the client’s general presentation in counselling suggests the possibility of some psychological problem, the presence of a high (rather
than low) degree of peripheral and, indeed, irrelevant, detail may increase the likelihood that the clinician will accept the basic message, and make it difficult to discriminate contrary arguments within the presentation.

In the present study, we presented clinicians with four mock clinical scenarios, each of which provided an analogue of a clinical interview, and asked them to make judgments about clients' need for treatment, illness severity, and distress levels. We used multiple scenarios to demonstrate that any effects detected were robust across situations. The interview scenarios comprised audio (only) recordings to eliminate the impact of message source attributes such as physical attractiveness and non-verbal behaviours. Mock client presentation scenarios were based around DSM-IV (American Psychiatric Association, 2000) diagnostic criteria for obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD). DSM-IV diagnostic categories provide established structures around which to create presentations and should be familiar to practising clinicians. Within these scenarios were embedded manipulations of peripheral message detail crossed with manipulations of presentation ambiguity.

DSM-IV criteria define what information or detail is relevant to making a diagnosis and what is irrelevant or peripheral, thus permitting the inclusion of a high or low degree of peripheral detail to test the ELM's predictions. High task ambiguity presentations portrayed clients who met only some of the criteria required for a diagnosis of the disorder. For example, a PTSD scenario may include a client who clearly met the criterion regarding the nature of the event experienced/witnessed and the nature of their response to the event (DSM-IV criterion A). The individual may also have exhibited a variety of cognitive or behavioural symptoms meeting the criteria for (a) re-experiencing the event (DSM-IV criterion B) and (b) hyperarousal (DSM-IV criterion D). However, they may not have met the criteria regarding avoidance (DSM-IV criterion C) or the duration of the disturbance (DSM-IV criterion E). Thus, this client could not be (accurately) diagnosed with PTSD, despite demonstrating a number of the key symptoms of the disorder. As another example, an OCD scenario may involve a client who presents with clear obsessive and/or compulsive behaviours (DSM-IV criterion A), but does not recognize that these behaviours are excessive or unreasonable (DSM-IV criterion B). Again, this client would not meet the diagnostic criteria for OCD despite clearly displaying some symptoms of OCD.

To the extent that conformity with diagnostic criteria in some way shapes clinicians' judgments of clients' psychological status, scores on measures of need for treatment, illness severity, and level of distress should be, on average, higher when presentation (or diagnostic) ambiguity is low rather than high. Clearly, a client need not meet all criteria for a particular disorder in order to be judged as needing treatment, being ill, or experiencing distress. For example, a failure to meet all criteria for OCD does not mean that treatment for anxiety may not be judged to be desirable, or that the client is not experiencing distress. However, a lack of ambiguity about the client meeting all criteria for a disorder should (on average) virtually guarantee high scores on these measures, whereas the presence of diagnostic ambiguity makes these assessments of psychological status more difficult, and should moderate the associated scores.

Moreover, to the extent that peripheral presentation detail serves as a cue which enhances the persuasiveness of the client's message with respect to the desirability of clinical intervention and treatment, or the presence of a significant illness, its impact is likely to be most pronounced when presentation or diagnostic ambiguity is high rather than low. Thus, compared to low detail messages, we hypothesized that high detail presentations should increase the persuasiveness of the client's message and inflate
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need for treatment and illness severity scores, but only when ambiguity is high (i.e., the need for treatment and illness severity judgments are difficult).

However, we did not predict this interaction for the measure of client distress. One consequence of the comorbidity of symptoms and behavioural reactions (across disorders) is likely to be considerable variation in perceived client distress, independent of any particular disorder at which the client’s presentation might be hinting. In other words, we did not expect clinicians’ judgments of client distress to be contingent on clients unambiguously meeting the criteria for a specific diagnostic classification. Thus, we considered these judgments were less likely to be moderated by presentation ambiguity than need for treatment and illness severity judgments. Additionally, making a decision regarding need for treatment or illness severity requires the application of clinical knowledge in the identification of features known to indicate illness, or the knowledge of what kinds of variation in those indicators relate to a need for treatment. In contrast, judgments around distress simply require the observation of an emotional state, with central cues supporting such judgments readily available for the clinician.

Method

Participants

A number of recruitment strategies were used to secure clinician participants. Advertisements were distributed at a locally hosted national cognitive-behaviour therapy conference as part of an information pack conference attendees received, placed in various profession publications such as the monthly newsletter for each of the branches of the Australian Psychological Society’s (APS) Clinical College, and posted on the APS college websites. The psychology department of every Australian University was contacted via e-mail requesting that an e-mail advertisement be distributed to all clinical faculty, and a general chain e-mail was distributed that called for participants and requested that clinicians forward the e-mail on to any other clinicians they knew.

Eighty-two clinicians responded over a period of 5 months, with 62 returning completed questionnaires. The time taken for clinicians to return the questionnaire ranged from 2 weeks to 4 months and the entire data collection phase lasted approximately 8 months. Participants were 62 registered and postgraduate clinical psychologists (10 male and 52 female) who participated in return for a small bookstore voucher. No significant differences were found between data from postgraduate and registered psychologists so data were pooled. Ages for males and females ranged from 24 to 61 years ($M = 31.84, SD = 10.62$) and 21–58 years ($M = 30.08, SD = 9.31$), respectively.

Design

A 4 (scenario type: OCD-germs, OCD-counting, PTSD-MVA, PTSD-assault) × 2 (presentation detail: high, low) × 2 (presentation ambiguity: high, low) incomplete, within-subjects design was used. Scenario type was the incomplete within subjects-factor in that each participant was presented with each of the four possible scenarios only once (as opposed to the 16 possible presentations of a fully factorial design).

Four sets of four conditions were created from the 16 possible conditions, with the constraint that each set contained two high and two low detail conditions and two high and two low ambiguity conditions. Participants were then assigned to one of
these four sets using a sequential block without replacement technique (e.g., participant 1 was assigned to set one, participant 2 was assigned to set two). Order of scenario presentation within each of the sets was counterbalanced across participants within each set. Presentation detail and presentation ambiguity were complete within-subjects variables. Thus, each participant was presented with each of the four scenarios, with these four scenarios providing all possible combinations of the presentation detail, and presentation ambiguity factors.

**Materials**

Each of the four scenarios was presented via an audio record of a client interacting with a clinician, describing symptoms typical of OCD or PTSD. The OCD and PTSD scenarios depicted two different themes: OCD based around the theme of contamination by germs (OCD-germs) or obsessive counting (OCD-counting), and PTSD based around the theme of an assault (PTSD-assault) or a motor vehicle accident (PTSD-MVA). The script for each disorder was developed from the DSM-IV diagnostic criteria for the disorder being portrayed. In each the clinician asked a series of questions that, if answered positively (i.e., the client was positive for the symptom being assessed), resulted in the client meeting diagnostic criteria for the disorder they were portraying. The actors playing the different client roles were instructed to maintain consistent emphasis, expression, and intonation throughout and across each of the individual statements recorded.

As an illustration, the text for the OCD-germs scenario, depicting both the detail and the presentation ambiguity manipulations, appears in Appendix. It comprises nine clinician questions and client responses, with the interview lasting for about 12 min. A practice scenario portrayed a client answering questions regarding a range of psychiatric symptoms. For example, the clinician would ask, ‘How has your memory been recently?’ to which the client would respond ‘Actually I’ve noticed that I’ve been forgetting a lot of things lately’. The client confirmed the presence of some of the symptoms being queried and denied the presence of others, so that the client did not meet criteria for diagnosis of any DSM-IV defined disorder.

Transcripts were created using a three-stage process. The original transcripts were independently reviewed by a faculty member who specializes in abnormal psychology. They were assessed for adherence to each of the DSM-IV criteria for the disorder being portrayed and the presence of central or peripheral information. A specific focus of this review was to check that any information that was intended to be peripheral was in fact peripheral and not diagnostically relevant. When all scripts passed the initial stage of review they were then examined by a second independent reviewer who received exactly the same instructions as the first reviewer. Any material that did not meet the required criteria was corrected by the original author. The revised materials were then reviewed again, using the same guidelines as described above, by both reviewers.

The scenarios were digitally recorded with each question from the clinician and each answer from the client recorded separately and later combined using digital editing software to create a flowing conversation. To minimize the effect on participants’ judgments of variations in the clinician’s questions across scenarios, the same actor portrayed the clinician in each scenario and, wherever possible, identical audio recordings of questions were used across scenarios. For example, each scenario began with the question ‘You’ve come in today because you’ve apparently been experiencing a few
problems lately. Would you like to tell me about what’s been happening?’ Each scenario, therefore, began with the exact same recording of that question (using digital editing software).

**Procedure**
Participants received (by mail) a questionnaire and an accompanying CD containing the five mock clinical scenarios (one practice scenario). Participants were asked to listen to the scenarios and answer questions relating to the mock clients portrayed in the scenarios.

**Presentation detail manipulation**
The detail manipulation was designed to distinguish high versus low detail client presentation (see Appendix). The additional detail included in the high detail presentations was peripheral to the symptom being described so as not to add any information that should alter judgments about the presence, severity, or frequency of that symptom. The client using a low level of detail answered all questions succinctly while the client using a high level of detail answered questions in the same way but included additional information. The detail manipulation check asked clinicians to rate how detailed the client’s presentation was ($1 = not at all detailed; 10 = very detailed$).

**Presentation ambiguity manipulation**
The presentation ambiguity manipulation was designed to distinguish clients for whom it was relatively easy versus difficult to judge whether the client met diagnostic criteria (see Appendix). The low presentation ambiguity clients presented an unambiguous constellation of symptoms that satisfied the criteria required for a formal diagnosis of the disorder they were portraying (American Psychiatric Association, 2000). High presentation ambiguity presentations portrayed clients who met only the key criteria (typically only 1-2) required for a diagnosis of the disorder they were portraying. The manipulation check required a rating of the degree to which the client’s presentation led to an unambiguous or clear-cut diagnosis ($1 = ambiguous; 10 = unambiguous$). This scale was reverse coded.

**Dependent measures**
The three outcome measures used 10-point scales to assess clinicians’ overall judgments of the mock clients’ psychological condition, tapping their perceptions of the clients’ need for treatment ($1 = no need; 10 = a definite need$), illness severity ($1 = mild; 10 = severe$), and level of distress ($1 = not at all distressed; 10 = very distressed$). The outcome measures and manipulation checks were interleaved with five dummy questions used to mask the variables that were the focus of the experiment.

Demographic information obtained from participants included the number of years of psychological training they had received, years as a registered clinician, and self-assessed familiarity/expertise with DSM-IV criteria. Inclusion of any of the descriptor variables as covariates did not affect the outcomes of any subsequent analyses.
Results

An alpha level of .05 was used and effect sizes were measured using Cohen’s $f$, with the cut-off values for small, medium, and large effects being .10, .25, and .40, respectively.

Manipulation checks

Presentation detail and presentation ambiguity were assessed as moderate to high for all scenarios under all conditions. Although perceived presentation detail varied significantly across scenarios, $F(3, 232) = 10.01, p < .001, f = 0.36$ (ranging from $M = 6.69, SD = 1.93$ to $M = 7.49, SD = 1.79$), a 2 (presentation detail) × 2 (presentation ambiguity) × 4 (scenario type) within-subjects analysis of variance (ANOVA) on participants’ perceptions of presentation detail showed that high detail presentations ($M = 7.59, SD = 1.83$) were perceived as more detailed than low detail presentations ($M = 6.15, SD = 1.79$), $F(1, 232) = 47.73, p < .001, f = 0.45$. The presentation ambiguity manipulation exerted a significant effect on perceived detail, $F(1, 232) = 8.67, p < .01, f = 0.19$, with high ambiguity scenarios perceived as less detailed than low presentation ambiguity scenarios ($M = 6.57, SD = 2.06$ vs. $M = 7.17, SD = 1.79$). Controlling for presentation ambiguity did not undermine the effect of the detail manipulation. Although perceived presentation ambiguity also varied across scenarios, $F(3, 232) = 3.34, p < .05, f = 0.21$ (ranging from $M = 6.48, SD = 2.05$ to $M = 7.56, SD = 1.95$), high ambiguity presentations ($M = 7.60, SD = 2.24$) were uniformly perceived as more ambiguous than low ambiguity ($M = 6.43, SD = 1.61$) presentations, $F(1, 232) = 22.69, p < .001, f = 0.31$.

Psychological status outcome measures

Across all scenarios and conditions, clinicians judged the clients to be characterized by moderate to high levels of need for treatment, moderate levels of distress or higher, and moderate or higher illness severity. Separate 2 (presentation detail) × 2 (presentation ambiguity) × 4 (scenario type) between-subjects ANOVAs were conducted on each of these dependent measures. There were variations in the patterns across scenarios, with significant main effects for scenario detected on all three measures, and two-way interactions between scenario type and both presentation detail and presentation ambiguity detected for the need for treatment and illness severity measures. However, significant three-way interactions were not detected. In sum, the main effects of presentation detail and the presentation detail × presentation ambiguity interactions reported below applied across the different sets of stimulus materials.

Need for treatment

The main effect of presentation detail was not significant, $F(1,228) = 3.57^3, p = .06, f = 0.13$ (see Table 1). As predicted, the significant main effect of presentation ambiguity, $F(1,228) = 21.09, p < .001, f = 0.30$, indicated that clients who provided low ambiguity

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1 Scenario presentation order did not significantly affect any of the manipulation checks or the psychiatric outcome measures and was excluded from reported analyses.

2 The incomplete nature of the design required that data be analysed using a between-subjects ANOVA. However, when none of the between-subjects ANOVAs revealed a significant three-way interaction, we collapsed data across the incomplete variable (scenario type) and ran 2 (presentation detail) × 2 (presentation ambiguity) repeated measures ANOVAs for each dependent variable. These more conservative analyses produced identical patterns of results.

3 Degrees of freedom vary due to the exclusion of respondents who provided a response that was outside the range of possible values.
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Table 1. Means (and standard deviations) of clinicians’ judgments of need for treatment, illness severity, and level of distress for presentation detail and presentation ambiguity conditions

<table>
<thead>
<tr>
<th>Presentation detail</th>
<th>High</th>
<th>Low</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need for treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>7.38 (1.98)</td>
<td>7.84 (1.62)</td>
<td>7.61 (1.82)</td>
</tr>
<tr>
<td>Low</td>
<td>6.47 (2.04)</td>
<td>7.94 (1.24)</td>
<td>7.20 (1.83)</td>
</tr>
<tr>
<td>Overall</td>
<td>6.91 (2.06)</td>
<td>7.89 (1.44)</td>
<td>7.40 (1.83)</td>
</tr>
<tr>
<td>Illness severity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>6.57 (1.97)</td>
<td>7.40 (1.80)</td>
<td>6.98 (1.92)</td>
</tr>
<tr>
<td>Low</td>
<td>5.63 (1.86)</td>
<td>7.15 (1.37)</td>
<td>6.39 (1.80)</td>
</tr>
<tr>
<td>Overall</td>
<td>6.10 (1.96)</td>
<td>7.27 (1.59)</td>
<td>6.68 (1.88)</td>
</tr>
<tr>
<td>Level of distress</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>5.77 (2.11)</td>
<td>7.17 (1.92)</td>
<td>6.47 (2.13)</td>
</tr>
<tr>
<td>Low</td>
<td>6.18 (1.65)</td>
<td>7.06 (1.47)</td>
<td>6.62 (1.62)</td>
</tr>
<tr>
<td>Overall</td>
<td>5.98 (1.90)</td>
<td>7.11 (1.70)</td>
<td>6.54 (1.89)</td>
</tr>
</tbody>
</table>

presentations were judged to have a higher need for treatment than those providing a high ambiguity presentation. Moreover, as predicted by the ELM, the presentation detail × presentation ambiguity interaction was significant, $F(1,228) = 5.06, p < .05, f = 0.15$, with high detail presentations resulting in increased need for treatment scores (relative to the low detail condition) when presentation ambiguity was high but not when it was low.

**Illness severity**

The ANOVA on illness severity detected a significant main effect for presentation detail, $F(1,229) = 8.69, p < .01, f = 0.19^4$, with higher detail associated with higher severity scores (see Table 1). The presentation ambiguity main effect was again significant, $F(1,229) = 32.85, p < .001, f = 0.38$, with low ambiguity presentations leading to higher severity scores than high ambiguity presentations. However, the predicted presentation detail × presentation ambiguity interaction was not significant, $F(1,229) = 2.58, ns, f = 0.11$, although the pattern of results was in the predicted direction and similar to that found for need for treatment.

**Client distress**

As is clearly indicated in Table 1, there was no effect of presentation detail on perceived level of client distress, $F(1,228) < 1, ns, f = 0.03$; nor was the presentation detail × presentation ambiguity interaction significant, $F(1,228) = 1.38, ns, f = 0.08$. A significant presentation ambiguity effect was again found, $F(1,228) = 27.53, p < .001, f = 0.35$, with high ambiguity presentations producing lower distress judgments than low ambiguity presentations.

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*As the presentation ambiguity manipulation also exerted a significant effect on perceived detail, perceived ambiguity was also included in the ANOVA as a covariate but the pattern of results was unchanged.*
Discussion

Within the social persuasion framework of the ELM, we examined whether peripheral detail contained in clients’ presentations during simulated clinician–client interviews influenced clinicians’ judgments about the psychological status of clients. Consistent with the ELM, while the influence (i.e., main effect) of peripheral detail on clinicians’ judgments about need for treatment and illness severity was generally small, its influence increased when presentation ambiguity was high. When the information presented by the client clearly fulfilled DSM-IV classification criteria (i.e., ambiguity was low), the influence of peripheral detail on judgments of need for treatment was notably lower than when it was difficult to establish a definitive diagnosis (i.e., ambiguity was high) because the presented information was ambiguous with respect to those criteria. A similar, though not statistically significant pattern, was suggested for judgments of illness severity. Interestingly, the nature of the interaction effect parallels findings in legal research which showed that peripheral witness characteristics (e.g., ethnicity, attractiveness, group identity) were more likely to shape mock jurors’ judgments when the evidence was ambiguous rather than decisive (e.g., Baumeister & Darley, 1982; Bodenhausen & Lichtenstein, 1987; Brewer & Hupfeld, 2004).

This pattern of effects is consistent with previous research showing more detailed messages to be more persuasive in a variety of contexts. As the amount of peripheral or irrelevant detail was not central to the judgments of psychological well-being requested of the clinicians, it seems likely that, when conditions encouraged heuristic processing, clinicians used detail as a cue for inferring message accuracy. If a more detailed message was considered more likely to be accurate, then clinicians may have assessed those clients perceived as likely to be accurate in their descriptions of their condition to be more compelling candidates for treatment. Beliefs around the relationship between message detail and message accuracy may indeed be warranted in some contexts, and perhaps clinicians simply generalize this rule to the clinical context. Future research could test whether the persuasive influence of presentation detail on clinical judgment is mediated by beliefs relating to message accuracy.

The findings of this research have a number of implications for future research into clinician error. First, they suggest that the ELM may be a useful integrative framework for theoretically motivated investigations of biasing influences on clinicians’ judgments. There may well be a range of peripheral messages that bias clinicians’ judgments, but their influence may only be detected given the appropriate contextual variables. The ELM provides a framework for predicting – and testing – exactly when these biases are likely to operate. Identifying sources of error in clinical judgment should provide a valuable basis for improving clinician training. Likewise, other theoretical frameworks for probing the influence of heuristic processing and any resultant biases on clinical decision making – as outlined, for example, by Eagly and Chaiken (1993) or Kahneman (2003) – are likely to be useful for advancing understanding in this area. Moreover, as we noted earlier, diagnosis and assessment is but one aspect of a clinician’s role, and perhaps one of the less complex aspects. Judgmental heuristics may well play an even larger role in the often complex decision making associated with the broader aspects of case formulation and management.

Several methodological caveats deserve mention. First, securing clinician participants was a very lengthy process which involved advertisements in various professional publications, at professional seminars, and through e-mail circulation using informal networks. An obvious limitation with this approach is that it does not guarantee a
random sample. Interestingly, it is possible that this inherent sampling bias ensured a more stringent test of our hypotheses. It seems likely that clinicians who registered interest were motivated to engage with the research. The ELM argues that one of the determinants of peripheral (rather than central) route processing is low motivation and it may be that our volunteer participants were less likely than others to succumb to the influence of peripheral message factors. Indeed, Spengler and Strohmer (1994) showed that clinicians who were characterized by a more complex cognitive processing style were less likely to succumb to biases in clinical judgment.

Second, although the use of audio recordings, as opposed to live or videotaped interviews, offered advantages in terms of controlling potentially confounding visual cues, it does limit the ecological validity of the research. Clinicians typically are able to see their clients and perhaps the availability of visual cues would have altered the effects observed here. For example, perhaps clinicians were more susceptible to the influence of peripheral message cues because they did not have access to visual cues. Alternatively, perhaps the availability of visual cues would make the client’s presentation more ambiguous and increase the persuasive influence of the peripheral cues examined here.

It is also important to note that the findings reported here – at least with respect to message detail – may not extend to all clinician–client interactions. For example, our pilot work found that peripheral detail was not persuasive in a hypomania scenario. While the level of speech detail is not a diagnostic feature of mood disorders in DSM-IV, both pressured speech (where an individual appears driven to talk continually) and poverty of speech content are anecdotally associated with mood disorders and, hence, neither the presence of high nor low detail may provide a basis for clinician judgments. Likewise, different patterns might be found when using presentations (e.g., interpersonal conflict, relationship, or family issues) that are not based around DSM-IV defined disorders. Investigations of such conditions guided by the ELM would, of course, have to find other ways of effecting the presentation ambiguity manipulation. This might involve varying the presence of contradictions contained within a client’s presentation or making the client more difficult to understand using language manipulations.

In sum, this study provided further evidence that clinicians’ judgments may be vulnerable to influence from peripheral message factors. More important, it demonstrated that the ELM of social persuasion provides one useful conceptual framework for understanding decision making by clinicians. Further investigation of clinicians’ judgments and decision making within this theoretical framework has the potential to enhance our understanding of sources of error and obstacles to clinician validity.

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**References**


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Appendix

Transcript for OCD-counting scenario

Note. The presentation detail manipulation is contained in Italics. Words in this font are present in the high detail conditions and absent from the low detail conditions. Separate transcripts are provided for high and low presentation ambiguity conditions.

High ambiguity condition

Clinician: Can you tell me about what has brought you here today?

Client: I can’t stop thinking about germs. I think about getting contaminated by germs at home while I’m doing things around the house, at work while I’m doing paper work or in meetings talking to people, in the car when I’m driving even if there’s really heavy traffic, in the shower, in bed when I’m trying to sleep or even when I first wake up, or on the phone no matter who I’m talking to, pretty much every day.

Clinician: So you’re concerned about how much the thought of contamination by germs is worrying you?

Client: Well, I’m not just worried about it, I’ve become obsessed by it. I know that people are conscious about contamination because some germs can kill you, it’s a reality, but when it’s on my mind it’s so important, it worries me sick. They’re so dangerous, so hazardous to your health. I can be thinking about shopping, work, food, friends, whatever . . . my brain just switches them on and I can’t stop worrying about them. The other day I was getting my hair cut at that new trendy barber’s down on Johnson St. that has the ten-foot barber’s pole out the front and I couldn’t stop thinking about it throughout the whole haircut. The barber was trying to have a conversation with me but I kept getting distracted by these thoughts and I had to constantly ask him to repeat himself. In the end I think he got annoyed with me and be stopped trying to talk to me.

Clinician: Do you think you’re at particular risk of contamination?

Client: I don’t know, I guess I could be. I make sure that I’m as hygienic as possible, my house is exceptionally clean to the point that my friends all joke about the fact that you could eat off the floor, my office is so clean that any promotional photos are taken there and I’m very careful when I prepare food . . . but they’re just so dangerous and it’s so easy to get infected.

Clinician: What do you do when you have these thoughts?

Client: I usually just try to ignore them, or I try to block them out & think about something else, like yesterday I tried to think about a movie I saw last month with my friend Marcus. We went and saw Road To Perdition, you know that Tom Hanks movie about gangsters - at one of those Gold Class Cinemas that have massive couches that lean right back and bar service while you’re watching the movie . . . sometimes it works and sometimes it doesn’t.

Clinician: What do you do when ignoring them or blocking them out doesn’t work?

Client: What do I do? Not much, what can I do? All I do is get upset. I get really angry. Once I ended up throwing a coffee mug through my kitchen window because I was so frustrated and irritated. It cost me a small fortune to have it repaired because it was on
the weekend and I had to get a glazier to come out. I had no idea windows were so expensive.

Clinician: Do you ever feel a strong urge to wash your hands or clean up?

Client: No more than usual. I mean, as I said before I am a very clean person but having these thoughts doesn’t make me want to wash or clean any more than normal. I’ve seen people on TV who have to keep cleaning and washing, kind of like rituals. I think I saw a story once on A Current Affair about a woman who washed her hands so much that her skin was getting burnt away by all the soap. I’m not like that though.

Clinician: How much time do you think you spend worrying about germs on an average day?

Client: Well, I’d say on average up to an hour a day. One time I was supposed to go to a friend’s house for a big BBQ for one of our friends that had just returned from being in England for 3 years, but it took me so long to clean everything that I was running really late. I bated making up an excuse for being late.

Clinician: Does it interfere with other things you might do day-to-day?

Client: No not really. I work at the stamping plant out on Westmead Highway managing payroll for production line workers. Sometimes I have trouble concentrating and I leaving my station for a short break. The break room is a few minutes walk away, up three floors and down the other end of the building so I’m gone for 5 to ten minutes. My boss notices but hasn’t said anything.

Clinician: Ok before we go any further do you by chance have any medical conditions at the moment, or have you been taking any substances like medications or recreational drugs?

Client: Ah, yeah. I take some tablets for chronic back pain and some for something to do with my blood. I’m not sure what they’re called though. I tend to get hay fever & a runny nose, you know get allergies pretty easily as well. I take that Sudafed stuff as a decongestant, do you know that people make amphetamines out of that stuff; I saw it on the news! Either that or Codral Day and Night so that I’m not lying awake half the night from the side effects.

Low ambiguity condition

Clinician: Can you tell me about what has brought you here today?

Client: I can’t stop thinking about germs. I think about getting contaminated by germs at home while I’m doing things around the house, at work while I’m doing paper work or in meetings talking to people, in the car when I’m driving even if there’s really heavy traffic, in the shower, in bed when I’m trying to sleep or even when I first wake up, or on the phone no matter who I’m talking to, pretty much every day.

Clinician: So you’re concerned about how much the thought of contamination by germs is worrying you?

Client: Well, I’m not just worried about it, I’ve become obsessed by it. I know that people are conscious about contamination because some germs can kill you, it’s a reality, but when it’s on my mind it’s so important, it worries me sick. They’re so dangerous, so hazardous to your health. I can be thinking about shopping, work, food, friends, whatever . . . my brain just switches them on and I can’t stop worrying about them. The other day I was getting my hair cut at that new trendy barber’s down on Johnson St. that has the ten-foot barber’s
pole out the front and I couldn’t stop thinking about it throughout the whole haircut. The barber was trying to have a conversation with me but I kept getting distracted by these thoughts and I had to constantly ask him to repeat himself. In the end I think he got annoyed with me and be stopped trying to talk to me.

Clinician: Do you think you’re at particular risk of contamination?

Client: No, I know I’m not at any greater risk than anybody else. I make sure that I’m as hygienic as possible, my house is exceptionally clean to the point that my friends all joke about the fact that you could eat off the floor, my office is so clean that any promotional photos are taken in there and I’m very careful when I prepare food . . . but they’re just so dangerous and it’s so easy to get infected. I know these thoughts are silly but I just can’t help it.

Clinician: What do you do when you have these thoughts?

Client: I usually just try to ignore them, or I try to block them out & think about something else, like yesterday I tried to think about a movie I saw last month with my friend Marcus. We went and saw Road To Perdition, you know that Tom Hanks movie about gangsters – at one of those Gold Class Cinemas that have massive couches that lean right back and bar service while you’re watching the movie . . . but it never works & in the end I have to do things to make them stop.

Clinician: What do you do to try and make them stop?

Client: Well, I do the same thing each time. I wash my hands with a really strong hospital grade Detol solution that unfortunately smells really funny. I clean things like the kitchen bench, shower & sink with some really expensive Ajax powder I buy in bulk from a cleaning products wholesaler. That stuff is so strong that if you don’t wear gloves you get chemical burns all over your hands. I vacuum the carpet with a commercial vacuum, one of those Kirby vacuums that those door-to-door salesmen sell. I swear those things do everything except walk the dog. I scrub the floor . . . you know . . . clean things. I do it over and over and over again.

Clinician: What happens once you’ve washed your hands or cleaned up?

Client: Well, the thoughts go away and I stop worrying. Sometimes it doesn’t last that long though. I might only get out to the car in the garage, which is right down at the bottom of our property to go somewhere, and I’ve got to go and walk all the way back up to the house and into the bathroom to wash my hands again. I start worrying again in a few minutes.

Clinician: How much time do you think you spend worrying about germs and washing and cleaning each day?

Client: Well, I’d say on average a couple of hours a day. One time I was supposed to go to a friend’s house for a big BBQ for one of our friends that had just returned from being in England for 3 years, but it took me so long to clean everything that I was running really late. I bated making up an excuse for being late.

Clinician: Does it interfere with other things you might do day-to-day?

Client: Yeah it gets me into trouble at work. I work at the stamping plant out on Westmead Highway managing payroll for production line workers. Sometimes I have to keep leaving my station to go and wash my hands. The bathroom’s a few minutes walk away, up three floors and down the other end of the building so I’m gone for 5 to ten minutes. My boss notices and yells at me, he’s really intimidating.
Clinician: Ok before we go any further do you by chance have any medical conditions at the moment, or have you been taking any substances like medications or recreational drugs?

Client: Nah, I don’t have any medical conditions. I tend to get hay fever & a runny nose, you know get allergies pretty easily. *I take that Sudafed stuff as a decongestant, do you know that people make amphetamines out of that stuff; I saw it on the news! Either that or Codral Day and Night so that I’m not lying awake half the night from the side effects.*