Encouraging and clarifying ‘don’t know’ responses enhances interview quality

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Abstract

Investigative interviewers seek to obtain complete and accurate accounts of events from witnesses. Two studies examined the influence of instructions about the use of “don’t know” (DK) responses and of clarifying the meanings of DK responses on the quality of responding to questioning. Participants watched a video, and after a delay (Study 1, 30 min.; Study 2, 1 week) were randomized to a DK encouraged, DK discouraged, or control group. They then responded to answerable and unanswerable questions after which they clarified the meanings of DK responses. Across studies, individuals encouraged to use DK responses answered fewer questions and made fewer errors at initial questioning. Discouraged and control participants showed similar performance, suggesting that interviewees assume that DK responses are not desired unless otherwise instructed. Clarifying the meanings of DK responses revealed that a majority of DK responses were correct statements about the presence or non-presence of information in the video. The encouraged group showed greater gains in output following clarification while maintaining lower errors. Encouragement and clarification of DK responses were each associated with higher diagnosticity that substantive answers were in fact correct responses to answerable questions. Encouraging DK responses and clarifying the meaning of DK responses leads to more accurate reports in response to questioning. Encouraging DK responses reduces the tendency to over-report which can reduce the quality of responding. DK responses frequently convey different meanings which, if clarified, can lead to useful information about the occurrence or non-occurrence of information.

Keywords: interview, memory, don’t know, questioning
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Imagine you have just witnessed a crime. As the investigating officer commences an interview, she tells you that she needs you to answer all questions, regardless of your certainty. When the officer begins, it becomes clear to you that you do not have an answer for every question. Should you tell her that you do not know, or should you give your best guess? When you hesitate, the officer encourages you to respond.

This vignette illustrates one form of pressure that witnesses may experience during questioning. Investigators often discourage interviewees from using “don’t know” (DK) responses (Dent & Stephenson, 1979; Schreiber, Bellah, Martinez, McLaurin, & Strok, 2006; Schreiber-Compo, Gregory, & Fisher, 2012; Warnick & Sanders, 1980). DK responses are sometimes explicitly prohibited and sometimes implicitly deterred, for example, by repeating questions (Krähenbühl, Blades, & Westcott, 2010; LaRooy & Lamb, 2011; Register & Kihlstrom, 1988). Conversely, when DK responses are permitted interviewers may assume that there is no information to obtain. However, DK responses sometimes convey useful information.

The current research considers how attention to DK responses affects the amount and quality of information gathered via questioning. Two studies examined how instructions that encourage or discourage the use of DK responses influence the amount and quality of the information obtained, and how such instructions relate to the meanings of DK responses. In the following sections the potential influences of encouraging versus discouraging DK responses and the issue of heterogeneity in the meanings of DK responses are examined.

Should Interviewers Permit DK Responses?

One option for handling DK responses is to not to allow them at all. This is what Koriat and Goldsmith (1996) termed forced response: respondents answer all questions, even if they
must guess. They demonstrated that when individuals must respond to all question, output (the number of questions attempted) is artificially maximized while accuracy is undermined. Similarly, forced confabulation (requiring responses to questions with no answer) undermines the accuracy of reports (Chrobak & Zaragoza, 2008).

We note that in some circumstances forcing responses may be desirable. This is often the case in educational testing (Mondak & Davies, 2001), where the goal is to determine what has been learned about a known body of knowledge. When the goal is to assess the total contents of memory, requiring answers to all questions is effective when the exact information is known and error rates are estimable. Such conditions are rarely met in the interviewing domain. Hence, in the witness context, as forced responding increases, the degree to which any single response can be assumed to be correct decreases. As a result, witnesses must be given the latitude to choose to answer or not answer questions. People often do this is by making DK responses (Scoboria, Mazzoni, Kirsch, & Milling, 2002; Waterman, Blades, & Spencer, 2004).

**Conditions Under Which DK Responses Occur**

Koriat and Goldsmith (1996) termed the option to choose to answer questions *free report*. Under free report, people can choose to answer questions about which they are confident, and choose to not answer ones about which they are not. This freedom to choose typically improves response accuracy, while reducing output. Exactly how witnesses are told that DK responses are allowed does matter. Brief instructions permitting DK responses can result in improved accuracy and/or resistance to misinformation (e.g. Gudjonsson & Hilton, 1989; Nesbitt & Markham, 1999; Saywitz & Moan-Hardie, 1994). Reminding interviewees that the interviewer was not present, asking open-ended questions, and preceding questioning with elaborative free recall increases the use of DK responses (Mulder & Vrij, 1996; Waterman & Blades, 2011). Repeating questions,
pressuring for responses, and misleading questioning reduce the use of DK responses in favor of confabulation and guessing (Ackil & Zaragoza, 1995; Bruck, Ceci & Hembrooke, 2002; Memon & Vartoukian, 1996; Poole & Lindsay, 2001; Register & Kihlstrom, 1988).

Encouraging DK responses is not without potential risks. Assuming effective memory regulation, free response typically results in decreased quantity, which means that some correct information likely remains unreported. More problematic, excessive encouragement may promote a DK response set. For example, Moston (1987) found that children told that they could say DK did use the response more but with no benefit to accuracy, suggesting that they adopted a response of pleasing the interviewer by saying DK. This problem is well known in the survey literature, where respondents use the DK option to avoid engaging in the effort needed to formulate thoughtful responses (termed satisficing; see Krosnick, 1991). Some survey methodologists argue that DK options should not be used due to interpretive challenges (e.g., Mondak & Davis, 2001). However, the options available to survey designers and interviewers differ: surveys must rely on design features to encourage the desired response set. Interviewers can directly seek to understand how DK responses are being used and what they mean.

The scenario at the start illustrates a case in which DK responses are discouraged but not forbidden. To our knowledge, no study has examined eyewitness performance under such a condition. Yet the literature shows that interviewers often intentionally or unintentionally pressure interviewees to respond even if they do not outright require answers. To date, research has emphasized permitting DK responses with contrasts made to non-instructed groups. Discouraging DK responses but without forcing responses deserves study. Attending to instructions about DK responses addresses an important aspect of the interview context.

**Understanding the Meaning of Don’t Know Responses**
DK responses have been conceptualized in different ways in the literature. For example, Poole and White (1991) suggest that DK responses are a way for interviewees to resist speculation. Roebers and Fernandez (2002) proposed that DK responses are correct when questions have no answer (see also, Waterman, Blades, & Spencer, 2004). Koriat and Goldsmith (1996) argue that DK responses represent the choice to opt out from responding when confidence in a candidate response is insufficient to exceed a response criterion. While these meanings are not mutually exclusive, DK responses clearly can mean different things at different times.

Scoboria, Mazzoni, and Kirsch (2008) found that the meanings of DK responses vary within an interview. They queried DK responses made to answerable and unanswerable questions about a videotaped event. They identified three DK response types: (1) the information was not present in the video (hereafter not present); (2) the information was present but the details requested were not recalled (hereafter present not remembered); and (3), no answer could be provided (hereafter true DK). Hence some DK responses reflected opting out, while other responses were statements of knowledge about the event. Recoding these as correct or erroneous resulted in altered accuracy and output rates. These findings led the authors to propose that understanding DK responses requires knowledge of both the objective nature of the information queried (as initially available or unavailable) and the subjective intent of the respondent.

The implications for understanding what people know about an event are not trivial. Allowing DK responses and then clarifying their meaning may discourage witnesses from speculating about questions that cannot be answered. This may also aid in obtaining relevant information about the occurrence of information, even when higher grain details are not available. This may also help to prevent problems associated with asking questions that cannot be answered (Beuscher & Roebers, 2005; Pezdek, Lam, & Sperry, 2009; Zaragoza, Payment,
Ackil, Drivdahl, & Beck, 2001). This is because for unanswerable questions, any substantive response other than ‘not present’ is an error. Witnesses likely find it easier to say DK than to directly resist the interviewer by stating that the question cannot be answered.

The fact that DK responses convey different meanings suggests that interviewers sometimes misunderstand responses. To the extent that ‘not present’ DK responses are correct, useful information about what was not witnessed might be obtained. Additionally, ‘present not remembered’ statements may convey useful information, even though a response cannot be provided at a sufficiently high grain to answer the exact question (see Goldsmith, Koriat, & Weinberger-Eliezer, 2002, for more on grain size). More research on the types of DK responses is needed to understand the role of DK responses in responding.

A number of theoretical views are relevant to understanding the rates and meanings of DK responses. The strategic regulation model (Koriat & Goldsmith, 1996) proposes that responding involves monitoring whether the quality of the best candidate response retrieved from memory exceeds a reporting criterion. Within this framework, DK responses that mean ‘present not remembered’ can be understood as coarse grain responses indicating the presence of information. This model only discusses decision-making processes for questions that are perceived as having answers, and hence the place for unanswerable questions and ‘not present’ responses is not apparent. Discrimination between questions that can and cannot be answered, and decision-making about answering questions, rejecting questions, or choosing to say DK are more complex than articulated by this model. Perfect and Weber (2012) make a related argument in an examination of the strategic regulation model in the context of eyewitness lineups. This scenario is also complex, in that respondents must choose to select a response or reject making a report, when sometimes the target is present and sometimes not present. Using decision for
target-present and target-absent lineups (which have some parallels to answerable vs. unanswerable questions), they found that while confidence in best candidate answers did predicts eyewitness decisions to a degree, residual variance in their models indicates that other factors are needed to explain free report eyewitness accuracy. This led them to suggest that memory performance for compound recognition decisions involve more underlying processes than the simple response criterion approach proposed in the strategic regulation model.

Other researchers discuss memory for information that has never been learned, and the processes that are invoked when a question is asked but no answer comes to mind. This is termed ‘memory for non-occurrence’ (Strack & Bless, 1994). For example, Kolers and Palef (1976) demonstrated that there are distinct forms of ‘knowing not’ as reflected by relatively quick rejections of items that cannot be known (information about which no information is available) and slower rejections of items that are known to be unknown (when a person is told that a piece of information is not known). Glucksberg and McCloskey (1981) further found that DK responses to questions about unknown information were made more rapidly than to questions about information that was known to be unknown (see also, Klin, Guzman, & Levine, 1997). This shows that some unanswerable questions are rejected rapidly and likely without any search of memory. In other cases, DK responses arise via the slower route of a memory search that fails to identify a response. Strack and Bless (1994) proposed that when information is not located in memory, inferential processes are used to evaluate the diagnosticity of the lack of memory. The outcome determines whether the memory search is continued or whether the question is rejected as unanswerable (see also, Mazzoni & Kirsch, 2001; Singer & Tiede, 2008).

Another view emphasizes social influences on responding. Smith and Clark (1993) proposed that responding is guided by two social communicative goals: exchange of information
and self-presentation. Responding is affected by beliefs about how responses will be viewed by the interviewer. They argue that people use a model that ideal respondents provide the requested information, with reasonable confidence, within a reasonable amount of time. Failure to fulfill these goals risks the respondent being viewed as uncooperative, ignorant, and/or as engaging in delay. Their data suggests that people use DK responses and other behaviors (e.g., intonation, hedging) to manage self-presentation when answering questions. Ackerman and Goldsmith (2008) reach a related conclusion through work that extends the strategic regulation model to include a ‘minimum informativeness’ criterion. This criterion is defined as the self-assessed level of detail viewed as adequate to fulfill minimal communicative norms. They found that people sometimes sacrifice accuracy or say DK rather than make uninformative responses. These various findings show that decisions about responding are partly influenced by social beliefs.

The Present Studies

This research examines the influence of encouraging vs. discouraging DK responses, and the clarification of meanings of DK responses on responding. We expected that encouraging DK responses would lead to more DK responses (lower output), which should be associated with higher response quality (more correct and/or fewer errors) only if encouragement does not promote the indiscriminate use of DK statements. An interesting question is how DK responses would be used by a non-instructed control group. If DK instructions affect the response criterion, then the controls may fall between the encouraged and discouraged groups. If controls assume that responses are expected, then the discouraged and control groups may respond similarly.

As to the meanings of DK responses, we expected clarification to reveal a majority of DK responses to be statements about the presence or non-presence of information. If metacognitive regulation is effective, then most of these should be correct (i.e., ‘not present’ for unanswerable,
‘present not remembered’ for answerable questions), and confidence should be higher for correct clarified statements. We also expected to find more ‘present not remembered’ responses to answerable questions in the encouraged group, reflecting greater use of coarse grain statements.

The possibility of distinct pathways for rejecting unanswerable questions also led us to wonder whether instructions about DK responses would impact initial spontaneous rejections and/or delayed ‘not present’ statements. In particular, earlier rejections may be less susceptible by social manipulation than DK responses that are later clarified to be rejections.

**Study 1 Method**

**Participants**

The participants were 78 undergraduate students (79.5% female, ages 18-50, $M = 23.4$, $SD = 7.36$), who received course credit.

**Materials**

**Video stimulus.** A video segment depicting a non-violent burglary and police chase, which has been used in prior studies (Zaragoza & Mitchell, 1996; Scoboria et al., 2008).

**Questions.** The question set included 27 questions, 10 answerable and 10 unanswerable. Answerable questions could be answered based on information from the video. Unanswerable questions asked about plausible information not present in the video. The questions were piloted and only those that showed good response characteristics (neither too difficult nor too easy on average) were retained. The other questions were two easy questions (to check engagement), and five questions about the characters’ feelings that occurred at the end of the list and were not analyzed. Confidence was assessed using a 7-point scale (Not confident to Extremely confident).

**Response coding.** Responses to answerable questions were coded as correct, DK, and error; responses to unanswerable questions were coded as correct rejections, DK, or error, as in
prior work (Scoboria et al., 2002, 2008) using a coding manual. Accuracy was calculated as the proportion of correct responses to total questions answered, and output as the proportion of responses made to questions asked. DK rates and output are complements; both are reported in order to discuss the types of DK responses and the proportion of questions attempted.

The clarified DK responses were used to calculate a set of recoded variables. For unanswerable questions ‘not present’ responses were recoded as correct, and ‘present not remembered’ responses as errors. This was done because ‘not present’ is the only correct response that can be made to unanswerable questions. For answerable questions, ‘not present’ responses were recoded as errors, and ‘present not remembered’ responses were recoded as correct. This was done because such statements these are unambiguous errors for unanswerable questions, and because such statements are correct coarse grain statements about the presence of the information when made to answerable questions. This led to a set of adjusted DK, error, correct, accuracy, and output rates for each type of question.

**Procedure**

Participants were told they would watch a video and later answer questions about it; this is analogous to the situation in which a person witnesses an event about which they expect they might be interviewed later (e.g., a crime that they are aware of as it occurs). After viewing the video, participants provided a free recall for 5-min (for rehearsal), completed a 20-min distractor (solving logic problems), and completed a second 5-min. free recall. Participants were randomized to groups. One group was encouraged to use DK as a response option, a second group was discouraged from using DK unless absolutely necessary, and the third group received no instructions (see Appendix B for the exact instructions).

All participants were asked the questions in a fixed order. The interviewer recorded
responses verbatim and recorded confidence for each substantive (non-DK) response. After the questions were asked, the interviewer queried all initial DK responses. Participants were asked to explain what they meant by each DK response, and received four options: really did not know; information was not in the video (not present); information was present but they could not recall the information (present not remembered); or another reason (none were provided). The interviewer took a confidence rating all substantive clarified responses.

**Study 1 Results**

All analyses are one-way between-group ANOVAs with three groups (encouraged, discouraged, control) unless specified. Item distributions and assumptions were examined, and ANOVA was verified to be appropriate analytically (see Table 1 for responses by group).

**Initial Effects of Encouraging and Discouraging Don’t Know Instructions**

The first prediction was that encouraging DK responses would result in fewer questions being answered. Main effects emerged for the use of DK responses for answerable, $F(2,75) = 9.15, p < .001, \omega^2 = .17$, and unanswerable questions; $F(2,75) = 4.10, p = .020, \omega^2 = .07$. Post-hoc contrasts showed that those in the encouraged condition made more DK responses than those in the other conditions for answerable (Cohen’s $d = 0.97$) and unanswerable questions ($d = 0.73$). There were no statistical differences between the discouraged and control conditions. As was expected, analysis of output rates paralleled the pattern of results for DK responses, with lower output associated with the encourage condition.

The next six analyses examined accuracy, correct responses, and errors, for each question type separately. Errors differed by group: answerable, $F(2,75) = 7.35, p < .001, \omega^2 = .14$, unanswerable, $F(2,75) = 3.96, p = .023, \omega^2 = .07$. Post-hoc tests showed that encouraged participants made fewer errors than the other groups for answerable ($d = 0.90$) and unanswerable
(d = 0.70) questions. The discouraged and control groups did not differ on errors. There were no differences between the groups in accuracy: answerable, $F(2,75) = 1.32, p = .272, \omega^2 = .01$, unanswerable, $F(2,75) = 1.31, p = .274, \omega^2 = .01$; nor correct responses: answerable, $F(2,75) = 0.69, p = .504, \omega^2 = .00$, unanswerable, $F(2,75) = 0.17, p = .844, \omega^2 = .00$.

**Clarification and Recoding of Don’t Know Responses**

To remind, participants clarified the meanings of initial DK responses, which were recoded as correct or erroneous depending on the objective nature of the question. A majority of DK responses (70%) were clarified, and the encouraged group clarified the most responses. After recoding, the groups no longer differed in total output: answerable, $F(1,75) = 1.01, p = .370, \omega^2 = .00$; unanswerable, $F(1,75) = 1.42, p = .248, \omega^2 = .01$. A main effect of group for errors to answerable questions, $F(2,75) = 3.73, p = .029, \omega^2 = .07$, was because encouraged respondents continued to make fewer errors, $t(76) = 2.51, p = .014, d = 0.61$. The effect for unanswerable errors was non-significant, $F(2,75) = 1.71, p = .188, \omega^2 = .00$. The groups did not differ in accuracy or correct responses. Per within subjects ANOVAs (initial vs. clarified responses), accuracy rates increased for answerable, $F(1,75) = 6.43, p = .013, d = 0.18$, and unanswerable questions, $F(1,75) = 18.30, p < .001, d = 0.21$.

Turning to the types of DK responses (Table 3), encouraged participants made more ‘present not remembered’ responses to answerable questions than the other groups, $F(2,69) = 5.09, p = .009, d = 0.77$. When initial DK responses were controlled (via ANCOVA) this difference disappeared, indicating that this finding was partly due to the encouraged group having more opportunities to change responses. The fact that encouragement led primarily to appropriate responses rather than a mixture of appropriate and inappropriate responses suggests that clarification occurred strategically. Analysis of confidence ratings confirmed this
interpretation: the encouraged group made significantly higher confidence ratings for ‘present not remembered’ responses made to answerable questions than the other groups, $t (49) = 3.73, p < .001, d = 1.07$, and also when compared to their own ‘not in video’ statements, $t (33) = 2.65, p = .012, d = 0.95$. The groups did not differ in rates for the other types of DK responses to answerable questions, or in their rates of clarification for unanswerable questions.

**Diagnosticity of Responses**

An interesting question is to what extent these procedures promote meaningful gains in response quality. One way of assessing this is to evaluate the diagnosticity of responses. This addresses the question: when a substantive answer is provided, how diagnostic is it that the response is a correct answer made to an answerable question? Diagnosticity was calculated as: 

\[
\text{Diagnosticity} = \frac{\text{answerable.correct}/\text{answerable.output}}{\text{unanswerable.error}/\text{unanswerable.output}}
\]

( answerable hit rate over the unanswerable false alarm rate; Wells & Lindsay, 1980; Weber & Perfect, 2011) for initial and clarified responses, which was log transformed (Agresti, 2002). We found main effects of group, $F (2,75) = 3.31, p = .042, \omega^2 = .06$, and clarification, $F (2,75) = 36.67, p < .001, \eta^2 = .02$. Diagnosticity was higher following clarification ($d = 0.36$) and when DK responding was encouraged ($d = 0.73$, compared to the other groups). Ideally the diagnosticity of statements of non-occurrence would also be calculated. This was not possible because the number of ‘not present’ statements to answerable questions were insufficient.

**Study 1 Discussion**

This study shows that instructions about DK responses impact responding. Those encouraged to say DK reduced their output to avoid errors to answerable questions, and the fact that correct responses did not also decrease indicates that a DK response set was not promoted. The discouraged and control groups showed similar responses, indicating that controls assumed
responses were desired. A majority of DK responses were clarified as correct statements about the presence or non-presence of information. After clarification, the initial group differences in output disappeared and the encouraged group continued to show greater avoidance of errors.

The delay between the video and questioning was a brief 30 min. It is theoretically and practically interesting to study longer delays. Delay should produce forgetting and therefore greater uncertainty at questioning. This may lead to increased DK rates, and encouraging DK responses may lead to their more indiscriminate use. However, avoiding responses is not the only option available when adjusting for the passage of time. People also alter the grain size of their responses to be less specific but still correct (Evans & Fisher, 2011). Hence, there may be more coarse grain ‘present not remembered’ statements following delay. From an applied perspective, longer delays are more likely in naturalistic settings, so establishing the effects of instructions and clarification following longer delays enhances the applied value of the research.

Study 2 Method

Participants and Procedure

We recruited a new group of 76 undergraduates (74% female, ages 18-38, \(M = 21.9, SD = 5.22\)), who received course credit. The design was identical to Study 1, except the delay between the video and questioning was seven days. Because both instructional group and delay were not randomized across the studies, no statistical comparison was undertaken; the patterns of results are contrasted in the general discussion (see Table 2 for responses by group).

Study 2 Results

Initial Effects of Encouraging and Discouraging Don’t Know Instructions

For initial DK responses, the main effects of group were statistically significant for answerable, \(F (2,73) = 13.09, p < .001, \omega^2 = .24\), and unanswerable questions; \(F (2,73) = 16.35, p\)
ENCOURAGING AND CLARIFYING DON’T KNOW RESPONSES

< .001, ω^2 = .29. Post-hoc contrasts for answerable questions showed that the encouraged group made more DK responses than controls, t(49) = 2.07, p = .044, d = 0.58, and controls made more DK responses than the discouraged group, t(49) = 3.12, p = .003, d = 0.88. For unanswerable questions, the encouraged group made more DK responses than the other groups, t(74) = 5.21, p < .001, d = 1.27, which did not differ. In parallel, output was the lowest in the encouraged group.

The next analyses examined accuracy, correct responses and errors. Main effects for errors emerged for answerable, F (2,73) = 14.00, p < .001, ω^2 = .25, and unanswerable questions, F (2,73) = 9.10, p < .001, ω^2 = .17. Post-hoc tests for answerable errors showed that the encouraged group made fewer errors than controls, t (48) = 5.08, p < .001, d = 1.13, and controls made fewer errors than the discouraged group, t (49) = 2.20, p = .032, d=0.98. For unanswerable questions, the encouraged group made fewer errors than the other groups, t (74) = 4.01, p < .001, d = 0.98, which did not differ. Group differences for accuracy emerged for answerable questions, F (2,72) = 5.98, p = .004, ω^2 = .11; the encouraged group showed higher accuracy than the other groups, which did not differ. The groups did not differ in accuracy for unanswerable questions, F (2,72) = .473, p = .625, ω^2 = .00. The groups did not differ in correct responding.

Clarification and Recoding of Don’t Know Responses

Of initial DK responses, 72% were clarified to mean ‘not present’ or ‘present not remembered’. After recoding, overall output for answerable questions did not differ by group, F (1,73) = 2.56, p = .085, ω^2 = .04. An effect of instruction on overall output for unanswerable questions, F (1,73) = 3.63, p = .031, ω^2 = .06, was due to the fact that the encouraged group continued to show lower output than discouraged participants. Clarifying responses eliminated the initial difference in overall output for answerable questions and reduced the difference for unanswerable questions. Per within subjects ANOVAs (initial vs. clarified responses), accuracy
rates increased for answerable, $F(1,74) = 12.83, p = .001, d = 0.43$, and unanswerable questions, $F(1,74) = 22.14, p < .001, d = 0.56$.

As to response quality, main effects of group emerged for errors and accuracy. For both question types, the encouraged group made fewer errors and demonstrated higher accuracy compared to the other groups, which did not differ; answerable errors, $F(1,73) = 12.64, p < .001, \omega^2 = .23$; answerable accuracy, $F(1,73) = 11.63, p < .001, \omega^2 = .22$; unanswerable errors, $F(1,73) = 4.91, p = .010, \omega^2 = .09$; unanswerable accuracy, $F(1,73) = 3.71, p = .029, \omega^2 = .17$. A main effect for correct responses to answerable questions also emerged, $F(1,73) = .07, p = .006$; the encouraged group made more correct responses than the other groups. No effects for correct rejections to unanswerable questions were found, $F(1,73) = 1.52, p = .225, \omega^2 = .01$.

Turning to the clarified DK responses (bottom of Table 3), of individuals who made at least one response of each type, encouraged participants made more ‘present not remembered’ responses to answerable questions, $F(2,60) = 3.70, p = .031, \omega^2 = .07$, and more ‘not present’ responses to unanswerable questions, $F(2,51) = 5.02, p = .010, \omega^2 = .10$. Similar to Study 1, when initial DK responses were controlled, these differences disappeared. Confidence ratings did not help to elucidate these findings. The groups did not differ in average confidence for unanswerable ‘not present’ statements. For answerable ‘present not remembered’ and ‘not present’ statements, main effects of group, $F(2,58) = 4.16, p = .021, \omega^2 = .09$, $F(2,36) = 4.20, p = .023, \omega^2 = .14$, were due to the control group making higher ratings than the other groups.

**Diagnosticity**

The diagnosticity index (bottom of Figure 1) revealed statistically significant main effects of group, $F(2,73) = 4.75, p = .012, \omega^2 = .09$, and clarification, $F(2,73) = 30.87, p < .001, \eta^2 = .04$. The interaction did not approach significance. Encouraging DK responses ($d = 1.03$) and
clarifying DK responses ($d = 0.38$) each increased the likelihood responses were in fact correct.

**Study 2 Discussion**

Following a week-long delay between the video and questioning, the main findings were similar to those of Study 1. Somewhat different from Study 1, the encouraged group continued to make more DK responses to unanswerable questions after clarification, but the size of the difference decreased. This may be due to the very low post-clarification DK rate in the discouraged group in Study 2. Another difference was that the control and discouraged groups showed similar performance for answerable questions in Study 1 but not Study 2. In Study 2, the controls fell between the other groups on DK responses and errors to answerable questions at initial questioning. This suggests that discouraging responses suppresses output for answerable questions beyond general interview expectations as delay increases. The finding that the DK instructions impacted answerable and unanswerable questions differently as delay increased indicates that memory for non-occurrence is affected differently by the passage of time than memory for occurring information, further indicating that distinct processes are involved in each.

**General Discussion**

This research examined the influence of encouraging or discouraging the use of DK responses on the amount and quality of information obtained via questioning. These studies highlight the importance of attending to explicit instructions and implicit assumptions about the use and meanings of DK responses during interviews.

These studies show that encouraging the use of DK responses results in the avoidance of questions that would otherwise be answered incorrectly. One possible mechanism is that encouragement alters expectations about the type of responses that are acceptable. The results suggest that errors that would have been made to answerable questions were instead withheld
ENCOURAGING AND CLARIFYING DON’T KNOW RESPONSES…

during initial questioning and then later communicated as ‘present not remembered’. Without encouragement, participants felt greater obligation to attempt questions, regardless of whether there was no information available or if they could not recall the specific details requested by the question. The findings suggest that when encouragement of DK responses is followed by clarification, no loss in output results, with the added benefit of the avoidance of errors. The diagnosticity statistics reinforced this point: both encouragement and clarification led to higher diagnosticity, with the highest numerical diagnosticity resulting when both were employed.

These studies further illustrate the importance of attending to the meanings of DK responses. Clarified DK responses tended to correspond correctly with the type of question asked and with high confidence, particularly when encouraged. This shows that simple instructions permitting DK responses do not go as far as is possible to facilitate effective responding. In particular, simple instructions do not fully access underlying knowledge about what was and was not witnessed. Encouraging and clarifying DK responses enhances the utility of the information gathered because interviewers can be more confident that responses provided are correct.

The small number of “true DK” responses indicate instances in which individuals could not confidently provide any information. This finding may be due to an inability to decide if lack of memory indicates the information was not available, or it may reflect that multiple candidate answers were identified without sufficient information to discriminate amongst them.¹

When no instructions were provided about DK responding, participants tended to respond in a manner similar to those who were discouraged from making DK responses. This is consistent with the argument that people possess an implicit belief that informative responses are desired (Smith & Clark, 1993). This was not due to a lack of awareness that questions could be rejected. Participants rejected questions during initial questioning, and at similar rates across the
groups. This suggests that people assume that responses are expected above some acceptable rejection rate, after which they provide responses rather than appear uninformative.

These findings indicate that initial spontaneous rejections are less susceptible to social influence than are DK responses. It may be that initial rejections are analogous to other fast rejections of non-occurring information discussed in the literature (Glucksberg & McCloskey, 1981), which appear to be based on relatively automatic cognitive processes. Such quick rejections of cues tend to produce a strong sense of non-occurrence and hence should be less influenced by instructions about the permissibility of DK statements. Participants may view such early ‘not present’ statements as declarative factual statements rather than as DK responses. While further research is needed to evaluate these assertions, these findings provide evidence that the initial and clarified rejections were based in different processes.

Following the delay in Study 2, controls did exercise the DK option more than those who were discouraged, but only for answerable questions. This is likely due to belief that memory declined across the delay. Perhaps if the delay were longer, the control group would become more similar to the encouraged group. Unanswerable questions did not show this pattern; in both studies, only encouraged individuals showed more DK responses and fewer errors for unanswerable questions. This shows that the criterion shift argument proposed in the strategic regulation model explains responding to answerable questions better than responding to unanswerable questions. This also suggests that forgetting occurs at different rates for present and non-present information. This is interesting because the rejection of plausible non-occurring information presumably requires what was present to be represented in memory.

It might be argued that encouraging DK responses creates a problem at initial immediate questioning: output is lower, errors are avoided, but accuracy remains statistically unchanged.
Accuracy is a complex variable which is determined by output and correct/error rates, and hence, is arrived at differently by different routes. Hence, statistically significant changes to errors can occur without significant changes in accuracy. Accuracy was numerically higher for the encouraged group in Study 1, and a positive effect of encouragement was found on accuracy in Study 2. The consistent finding was that encouraging DK responses led to avoidance of errors.

In light of these findings, interviewers are advised to encourage the thoughtful use of DK responses. This conveys to interviewees that they are responsible for controlling their own output, which is important, because interviewers rarely know which of the questions they ask are answerable. A number of best practice interviewing models do recommend explicitly permitting DK responses (e.g. Achieving Best Evidence, 2011). These studies indicate that encouraging and clarifying the meanings of DK responses conveys further benefits. Interviewees are more able to express what questions cannot be answered, and provide knowledge of occurrence. This circumvents some of the social pressures inherent to interviews, and is consistent with the transfer of control of interviews to witnesses, as articulated in some best practice models.

To date, clarifying DK responses has been studied at the end of the questioning process. Any effort to move the communication about the meanings of DK responses should attend to the possibility that instructions prior to or during questioning may disrupt idiosyncratic memory regulation processes. Introducing the meanings of DK responses before questioning may promote a DK response set by bring excessive attention to DK responses. In general, interviewing procedures should communicate that questions need not be answered and that it is appropriate to answer questions at a lower grain than which they are asked.

The recoding of DK responses is based on several assumptions. The approach assumes that ‘not present’ responses can occur at any point and that it is the only correct response that can
be made to an unanswerable question. The recoding of ‘present not remembered’ statements is based on the assumption that these are substantive answers that convey correct or erroneous information about what was witnessed. While this is clearly the case for unanswerable questions, it might be argued that combining initial responses with clarified ‘present not remembered’ statements results in a mixture of higher grain responses and lower grain statements about occurrence. This issue may be important when the research focus is on the exact processes that underlie responding. When the focus is on the quality of information as provided to an interviewer, combining responses is justified. These results show the information gained by an interviewer by attending to the meanings of DK responses. Researchers interested in these issues may wish to keep in mind that the post-clarification accuracy scores are somewhat different than those described in prior research, due to the inclusion of high grain statements about occurrence.

The findings illustrate the importance of the social psychological context within which information emerges. Here, participants were interviewed by researchers. The pressure to respond is likely greater in interviews conducted by authoritative investigators. These results indicate a pathway for reducing social pressure, by providing instructions about DK responses that serve to alter beliefs about ideal responding. These results apply most directly to instances in which people report on events that they attended to when witnessing. Future research might examine responding following incidental exposure to events. The degree to which this approach is useful also depends on the degree to which interviewers are willing to sacrifice initial quantity for slightly lower grain information but greater confidence that responses are correct.
References


ENCOURAGING AND CLARIFYING DON’T KNOW RESPONSES

Psychology, 25, 501-508. doi: 10.1002/acp.1722


Scoboria, A., Mazzoni, G., & Kirsch, I. (2008). “Don’t know” responding to answerable and


Wells, G. L., & Lindsay, R. C. (1980). On estimating the diagnosticity of eyewitness


Footnote

1 We thank Tim Perfect for suggesting this possibility.
Table 1

*Study 1, Initial and Post-clarification Correct, DK, Error and Accuracy rates.*

<table>
<thead>
<tr>
<th>Instructions</th>
<th>Question type</th>
<th>Encouraged</th>
<th>Discouraged</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Initial responses</td>
<td>Answerable</td>
<td>Correct</td>
<td>3.63</td>
<td>1.88</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DK</td>
<td>4.04</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Error</td>
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<td>1.34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accuracy</td>
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<td>0.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Output</td>
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<td>Correct</td>
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<td>1.34</td>
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<td></td>
<td>DK</td>
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<td>Error</td>
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<td></td>
<td></td>
<td>Output</td>
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<td>Correct</td>
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<td>1.84</td>
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<td></td>
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</tr>
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<td></td>
<td></td>
<td>Error</td>
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</tr>
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<td></td>
<td></td>
<td>Accuracy</td>
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<td>0.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Output</td>
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<td>0.15</td>
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<td>Unanswerable</td>
<td>Correct</td>
<td>5.73</td>
<td>1.73</td>
</tr>
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<td></td>
<td></td>
<td>Error</td>
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<td>1.72</td>
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<td></td>
<td>Output</td>
<td>0.92</td>
<td>0.13</td>
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Note: All participants were asked 10 answerable and 10 unanswerable questions about the video, after which they were asked to clarify the meanings of any don’t know responses. Accuracy rates are the proportion of correct responses to total responses provided. Output rates are the proportion of responses provided to number of questions asked. DK responses clarified to mean ‘not present’ or ‘present not remembered’ were recoded as correct or erroneous, depending on the type of question, which were then used to adjust the variables.
Table 2

*Study 2, Initial and Post-clarification Correct, DK, Error and Accuracy rates.*

<table>
<thead>
<tr>
<th>Instructions</th>
<th>Question type</th>
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<th>Discouraged</th>
<th>Control</th>
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<td></td>
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<td>SD</td>
<td>Mean</td>
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<td></td>
<td></td>
<td>Error</td>
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<td>1.34</td>
</tr>
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<td></td>
<td></td>
<td>Accuracy</td>
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</tr>
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<td></td>
<td></td>
<td>Output</td>
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<td>1.99</td>
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<td>Error</td>
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<td>Accuracy</td>
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<td>0.54</td>
</tr>
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<td></td>
<td></td>
<td>Output</td>
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<td>0.25</td>
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<td>Post-clarification</td>
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<td>Accuracy</td>
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<td>Output</td>
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<td>1.59</td>
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<td>DK</td>
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</tr>
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<td></td>
<td>Error</td>
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<td>1.68</td>
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<td>Output</td>
<td>0.89</td>
<td>0.10</td>
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Table 3

*Clarified Don’t Know Response Categories by Group and Question Type, Studies 1 and 2.*

<table>
<thead>
<tr>
<th>Study</th>
<th>Question type</th>
<th>Meaning of DK response</th>
<th>Encouraged</th>
<th>Discouraged</th>
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<td>Mean</td>
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<td>Study 1</td>
<td>Answerable</td>
<td>True don’t know</td>
<td>1.15</td>
<td>1.43</td>
<td>0.96</td>
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<tr>
<td></td>
<td></td>
<td>Not present</td>
<td>0.81</td>
<td>1.13</td>
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<td></td>
<td></td>
<td>Present not remembered</td>
<td>2.04</td>
<td>1.25</td>
<td>1.04</td>
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<tr>
<td></td>
<td>Unanswerable</td>
<td>True don’t know</td>
<td>0.88</td>
<td>1.28</td>
<td>0.58</td>
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<tr>
<td></td>
<td></td>
<td>Not present</td>
<td>2.04</td>
<td>1.69</td>
<td>1.08</td>
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<tr>
<td></td>
<td></td>
<td>Present not remembered</td>
<td>0.65</td>
<td>0.75</td>
<td>0.54</td>
</tr>
<tr>
<td>Study 2</td>
<td>Answerable</td>
<td>True don’t know</td>
<td>1.36</td>
<td>1.41</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not present</td>
<td>0.52</td>
<td>0.59</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present not remembered</td>
<td>2.96</td>
<td>1.90</td>
<td>1.28</td>
</tr>
<tr>
<td></td>
<td>Unanswerable</td>
<td>True don’t know</td>
<td>1.04</td>
<td>0.98</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not present</td>
<td>2.36</td>
<td>1.44</td>
<td>0.84</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present not remembered</td>
<td>0.72</td>
<td>0.95</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Note: Number of initial don’t know (DK) responses clarified as meaning not present in the video, present in the video but not remembered, or unable to respond.
Study 1

![Bar chart showing diagnosticity of responses by group before and following the clarification of don’t know responses.]

**Figure 1.** Diagnosticity of responses by group before and following the clarification of don’t know responses. Higher values indicate greater likelihood that substantive responses are in fact correct responses to answerable questions. Clarification refers to querying the meaning of don’t know responses and incorporating ‘not present’ and ‘present not remembered’ statements into the calculation of the diagnosticity index. Bars show standard errors.
Appendix A

Questions

1. How many robbers were there? (NS)
2. What did the robber’s vest say on the back? (A)
3. Where did the robbers say they were going after the robbery? (U)
4. What did the witness say about the robbers? (U)
5. Where did the police think the robbers were going? (A)
6. What evidence did the robber leave as to where he had exited the house, if any? (U)
7. Did the robber take any jewellery? (A)
8. What did the witness tell the police about herself when she called? (A)
9. What did the robber do with the stolen objects during the chase? (U)
10. What evidence, if any, did the robber leave that he had been in the bedroom? (A)
11. What was the driver of the robbers’ car wearing? (A)
12. What did the robber do upon entering the car? (A)
13. How did the robber get into the house? (U)
14. Did the robber take anything from the living room? (U)
15. Did the robbers know the people who lived in the house that they robbed? (U)
16. What did the police have to say about the speed of the robber’s car during the chase? (A)
17. What was the colour of the carpet in the bedroom? (A)
18. What was the robber’s criminal history, if any? (U)
19. Were the robbers related? (U)
20. What was on the shirt that the robber in the house was wearing? (A)
21. How old were the robbers? (U)
22. What gender(s) were the police officers? (NS)

A – Answerable; U – Unanswerable; NS – Not scored (easy question).
Appendix B

Don’t Know Instruction Scripts

Encouraged:

*I am going to ask you a series of questions about the video you watched. Please answer every question to the best of your ability. Because I am interested in obtaining the most accurate information that you may remember, you should respond “I don’t know” as frequently as needed. This is preferable to providing answer when you do not actually remember.*

Discouraged:

*I am going to ask you a series of questions about the video you watched. Please answer every question to the best of your ability. Because I am interested in obtaining any and all information that you remember, you should respond “I don’t know” only if you absolutely must. This is preferable to answering that you do not remember.*