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To cite this article: Christopher J. Lively, Laura Fallon, Brent Snook & Weyam Fahmy (2020) Seeking or controlling the truth? An examination of courtroom questioning practices by Canadian lawyers, *Psychology, Crime & Law*, 26:4, 343-366, DOI: [10.1080/1068316X.2019.1669595](https://doi.org/10.1080/1068316X.2019.1669595)

To link to this article: <https://doi.org/10.1080/1068316X.2019.1669595>



Published online: 09 Oct 2019.



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Seeking or controlling the truth? An examination of courtroom questioning practices by Canadian lawyers*

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ABSTRACT

The questioning practices of Canadian lawyers were examined. Courtroom examinations ($N=91$) were coded for the type of utterance, the assumed purpose of the utterance, and the length of utterance. Results showed that approximately one-fifth of all utterances were classified as productive for gathering reliable information (i.e. open-ended, probing); less than one percent of all utterances were open-ended. Direct examinations contained more closed yes/no, probing, and open-ended questions. Cross-examinations contained more leading and clarification questions, and opinions. Moreover, cross- (vs. direct) examinations contained more questions with a 'challenging the witness' purpose. The longest utterances were opinions, followed by multiple and forced-choice questions. The longest answers were in response to open-ended questions, followed by multiple and probing questions. Implications for the truth-seeking function of the judiciary are discussed.

ARTICLE HISTORY

Received 26 March 2019
Accepted 26 August 2019

KEYWORDS

Courtroom questioning; lawyers; truth-seeking; question types; justice system

A central objective of the criminal justice system is to establish the truth about crimes that have been committed. To achieve this goal, triers of fact use evidence – from forensic and human sources – to make decisions about culpability. Few would dispute that the evidence used to make such decisions should be uncontaminated from the time the crime is initially reported until the trier(s) of fact render(s) a final verdict. The failure of the police to handle evidence properly may lead lawyers to ask for contaminated evidence to be ruled inadmissible. One predominant type of evidence that lawyers challenge are the statements provided by witnesses, suspects, and victims; with a focus on how police officers ask questions. Lawyers who are aware of the frailties of memory (e.g. it is malleable and reconstructive), and how questions can influence memory quality, sometimes raise these memory issues to challenge the statement admissibility (Loftus, 1979; Neath & Surprenant, 2003; Simons & Chabris, 2011; see *R. v. Forbes*, 2006; *R. v. Klaus*, 2017; *R. v. Morgan*, 2013; *R. v. Sterling*, 1995). Beyond objections from the opposing lawyers, there are no checks or balances in place to account for the influence of lawyer questioning on the quality of witness evidence. Very little is known about how lawyers

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*This research has been presented, in part, at the 78th Canadian Psychological Association Convention (Toronto, ON, Canada), the 1st Forensic Psychology in Canada Conference (Ottawa, ON, Canada), and the 19th Aldrich Multidisciplinary Graduate Research Conference (St. John's, NL, Canada).

gather information from witnesses. As a consequence, the goal of the current study is to quantify the questioning practices of lawyers during courtroom examinations of adult witnesses in order to gauge the extent to which evidence is being contaminated during courtroom proceedings.

Questioning and Its effects on memory recall and information production

Given that asking questions is arguably the *sine qua non* of the truth-seeking function in the justice system, much research has examined the effect of questioning practices on memory performance (Milne & Bull, 2003). The general consensus in the scientific literature is that *productive* questions are those that maximise the completeness and accuracy of information extracted. Specifically, open-ended questions (i.e. those that start with tell, explain, or describe) and follow-up questions that probe the account (i.e. those that start with who, what, when, where, why, and how) are thought to be the most productive question types (Fisher & Geiselman, 1992; Griffiths & Milne, 2006; Milne & Bull, 2003). Open-ended questions require respondents to be active in the information provision process, whereby the onus is put on the respondents to recall information in a free and uninhibited manner (e.g. no interruptions or prompting from the questioner, no time constraints). Letting a witness have control over their memory retrieval process reduces the likelihood that the questioner will influence the information that is provided. In terms of the amount of information generated from open-ended questions, a study by Snook, Luther, Quinlan, and Milne (2012) found that, on average, almost 100 words are provided by suspects in response to this question type; over five times more than the next highest response length (e.g. multiple questions).

Asking probing questions – although resulting in the extraction of information that is narrower in scope than the information gained through open-ended questions – allows respondents to engage in cued recall (Griffiths & Milne, 2006). Such questions are meant to help interviewers achieve clarity and comprehension of information that was provided in response to open-ended questions. As well, probing questions are used to explore new lines of inquiry with respondents, and – similar to open-ended questions – have minimal influence on the answers provided by the respondent, and generate additional information. In terms of the response length to probing questions, Snook et al. (2012) reported that asking probing questions resulted in suspects providing, on average, 16 words per response (also see Oxburgh, Myklebust, & Grant, 2010, for a review on productive questions).

By contrast, *unproductive* questions (Griffiths & Milne, 2006; Oxburgh et al., 2010) are those that inhibit the memory retrieval process by, for example, encouraging short answers, introducing confusion, and contaminating responses (Fisher, 1995). Four main unproductive question types are closed yes/no, forced-choice, multiple, and leading questions. Closed yes/no questions generally refer to those that elicit a response in a yes/no format. Closed yes/no questions can lead to guessing, acquiescing, and can prevent the respondent from providing unsolicited, but important, information (Fisher & Geiselman, 1992). Forced-choice questions provide the respondent with two (or more) options to choose from in formulating their response. Ultimately, this type of question forces the respondent to choose from one of the provided response choices, when it is possible that the correct answer may not be one of the available options; potentially

resulting in the provision of inaccurate information. Asking multiple questions at once is also considered a problematic questioning technique, as it can create confusion when the respondent has to decide which question to respond to first and has to multitask to remember and respond to the remaining questions. Moreover, if the respondent provides an answer to the string of questions, it is not always clear to which question the given answer is linked. Leading questions suggest directly or imply a specific response to the respondent – one that may or may not be correct. In other words, the interviewer is providing the respondent with the answer they want to receive. Asking leading questions strays from the fundamental interviewing task of *listening* to what the witness knows and shifts towards *telling* the witness what they know (see Loftus, 2005; Zaragoza, Belli, & Payment, 2006 for overviews on how the adoption of post-event misinformation presented within leading questions has the potential to affect a person's memory; i.e. the misinformation effect). As for the response length to the aforementioned unproductive questions, Snook et al. (2012) found that closed yes/no, forced choice, and leading questions all resulted in, on average, less than 13 words per response, while multiple questions elicited an average of 17 words per response from suspects.

Two other question types identified within the literature (Griffiths & Milne, 2006; Milne & Bull, 2003; Oxburgh et al., 2010; Snook et al., 2012) are re-asked and clarification questions. Re-asked questions have been deemed by some researchers as concerning because a respondent may feel as though their original answer to the question did not satisfy the questioner, and may subsequently change their response; that is, the practice may appear coercive to witnesses (e.g. Brock, Fisher, & Cutler, 1999; Gilbert & Fisher, 2006; Henkel, 2014; Poole & White, 1991). In contrast, other researchers have found that re-asked questions do not have this negative effect, and can even result in additional information from witnesses (e.g. Scrivner & Safer, 1988; Turtle & Yuille, 1994). Clarification questions refer to reciting verbatim what the respondent has answered, or paraphrasing the response back to the respondent in the form of a question. Clarification questions could be considered a productive type of question as they may serve to enhance the questioner's comprehension (e.g. Oxburgh et al., 2010). However, some experts have argued that, rather than clarifying information mid-interview, it would be better to perform a summary of the reported information with the respondent after all of the information gathering questions have been asked on the topic of interest (Fisher & Geiselman, 1992; Milne & Bull, 2003). Given the limited and conflicting research available on re-asked and clarification questions, it is unclear currently whether they should be categorized as productive or unproductive question types. From the point of view of how much information is obtained by these types of questions, researchers have reported that re-asked and clarification questions generate, on average, 14 and 11 words per response, respectively (Snook et al., 2012).

Other important utterances that emerge during an interview – but are not questions – are opinions and facilitators. Posing a personal belief or viewpoint to the respondent has the potential to sway the respondent's answer and can result in the respondent adopting the questioner's opinion into his or her answer. Similar to the concerns related to unproductive question types, uncertainty regarding the origin of the information is a factor to consider when the questioner offers an opinion. Facilitators are verbal indicators or encouragements uttered during the interview. Given the difficulty to define them in the interview setting (Oxburgh et al., 2010), facilitators could be viewed as either helpful or

harmful during the questioning process, depending on the context, tone, and expression of the questioner. On the one hand, muttering 'mmhmm' or 'yes, okay' may simply be the questioner's way of displaying their engagement and may encourage the respondent to continue providing information. On the other hand, however, such encouragements or acknowledgements may be interpreted by the respondent as an indication that he or she is providing the 'correct' answer; such interpretations can become risky when trying to collect accurate information. Snook et al. (2012) reported the amount of information obtained from suspects via opinions as being approximately 12 words per response, however, in their study opinions and statements were collapsed together into one questioning category. Snook et al. did not report on facilitators in their study, and to our knowledge, no data appears to be available from any other studies to suggest the typical response length to facilitators.

Research on questioning practices in the criminal justice system

Given that accessing memory is a fundamental piece of the information gathering process, questioners who are seeking the truth aim to avoid the contamination of the memory retrieval process – much the same way that police officers are taught to secure a crime scene (see St-Yves, 2014). Therefore, questioning should be conducted in a way that preserves the witnesses' memory; it is imperative that police do not ask questions that contaminate memories or impede recall. Unfortunately, research on police interviewing practices has shown that untrained officers tend to use unproductive questions frequently (e.g. Clifford & George, 1996; Davies, Westcott, & Horan, 2000; Fisher, Geiselman, & Raymond, 1987; Myklebust & Alison, 2000; Snook et al., 2012; Snook & Keating, 2011; Wright & Alison, 2004). This body of empirical literature suggests that police interviewers often do not follow best practices for gathering information, despite some officers having had received training about proper interviewing techniques (Lamb, Hershkowitz, Orbach, & Esplin, 2008).

Unsurprisingly, defence lawyers sometimes raise faults in police interviews during trial proceedings because it speaks to the quality of the evidence provided by human sources and the integrity of the investigation. Given what is known about the quality of police interviewing practices (e.g. use of unproductive questioning techniques), this legal strategy is warranted. Pointing out faults in interviewing quality during court proceedings has the potential to result in evidence (e.g. inculpatory statements) being dismissed or given little weight – both of which can impact decisions about culpability. Even worse, it may be the case that police questioning practices are so ineffectual that they verge on being negligent, thereby resulting in legal arguments that such police malpractice ought to warrant the acquittal of a defendant and result in civil proceedings (see e.g. *Hill v. Hamilton-Wentworth Regional Police Services Board*, 2007).

It has not escaped some researchers that the criticisms directed toward police questioning practices – often by lawyers themselves – are also applicable during courtroom examinations. Although the purpose of a courtroom examination is seemingly different from a police interview (e.g. the aim of the police is to construct an accurate account of the events that transpired, whereas lawyers aim to convince triers of fact to accept their version of facts; Kebbell, Deprez, & Wagstaff, 2003; Westera, Zydervelt, Kaladelfos, & Zajac, 2017), the information gathering process is identical. Witnesses in both scenarios are asked to

recall a past experience, and the information obtained serves as evidence upon which consequential decisions are made. Thus, the identified concerns surrounding the impact of asking unproductive questions on witness evidence are directly applicable to the courtroom.

Some research has shown that lawyers are very similar to untrained police officers in the way they gather evidence from human sources in criminal proceedings (e.g. Kebbell et al., 2003). Existing data suggests that lawyer questioning practices have the potential to taint the evidence used by triers of fact. To date, much of the research on courtroom questioning practices pertains to the effect of confusing courtroom language on witnesses (i.e. legal terminology and vocabulary; e.g. Hanna & Henderson, 2018; Kebbell & Johnson, 2000; Perry et al., 1995; see Gibbons, 2003), and how lawyers examine vulnerable witnesses (e.g. children and witnesses with intellectual disabilities; Kebbell et al., 2003; Zajac & Cannan, 2009). Most of what is known about how lawyers specifically ask questions in the courtroom pertains to the examination of children in New Zealand, Scotland, and the US (Andrews & Lamb, 2016, 2019; Andrews, Lamb, & Lyon, 2015; Hanna, Davies, Crothers, & Henderson, 2012; Klemfuss, Quas, & Lyon, 2014; Zajac & Cannan, 2009; Zajac, Gross, & Hayne, 2003). The general finding from this body of research is that lawyers mostly ask closed yes/no questions, and that open-ended questions are asked rarely.

Regarding differences between lawyers, data suggests that prosecutors use more productive questions with children than defence lawyers: prosecutors are more likely to ask open-ended and probing questions, whereas defence lawyers are more likely to ask suggestive (i.e. leading) questions. It is important to note, however, that a large proportion of the questions asked by prosecutors are closed yes/no and leading questions (e.g. Klemfuss et al., 2014). Of course, these findings need to be considered within the context of whether or not the witness under examination is 'friendly' to the prosecutor or defence, and how the witness' testimony is helpful to the goal of each lawyer. It is logical that lawyers may be more apt to use favorable questions during their witness examination if the witness is called to the stand from their side.

To our knowledge, three published studies have quantified lawyers' questioning practices of *adult* witnesses. In one of the first studies, Kebbell et al. (2003) computed the frequency of question types asked during courtroom examinations of six rape trials. The researchers were interested in comparing the types of questions asked to complainants and defendants during the direct and cross-examinations. No meaningful differences were found with respect to the types of questions asked to the complainant or defendant, but differences did emerge for question type asked as a function of examination type. Specifically, for direct examinations of complainants, approximately 49% of questions asked were closed yes/no, 27% probing, 22% open-ended, 3% multiple, and 1% heavily leading. By contrast, for cross-examinations of complainants, approximately 82% of questions were closed yes/no, 15% heavily leading, 10% probing, 9% multiple, and only 6% were open-ended. When the witness was a defendant, for direct (vs. cross-) examinations, 50% (vs. 78%) of questions were closed yes/no, 27% (vs. 10%) were probing, 20% (vs. 12%) were open-ended, 3% (vs. 7%) were multiple, and 1% (vs. 14%) were heavily leading.

In a similar vein, Kebbell, Hatton, and Johnson (2004) conducted a follow-up study that compared how lawyers asked questions to witnesses from the general population with how questions were asked to witnesses with intellectual disabilities, as a function of

examination type. For general population witnesses, Kebbell et al. (2004) found that direct (vs. cross-) examinations contained a higher proportion of open-ended (36% vs. 16%) and probing questions (15% vs. 5%), whereas cross-examinations contained more closed yes/no (83% vs. 46%), leading (30% vs. 9%), multiple (3% vs. 1%), and re-asked questions (2% vs. 0.5%) than direct examinations; similar trends emerged in the sample of witnesses with intellectual disabilities (see Kebbell et al., 2004). In sum, Kebbell and colleagues' (2003, 2004) work suggests that the majority of questions asked by lawyers – particularly during cross-examination – are suboptimal for the purpose of obtaining accurate and complete information.

In a subsequent study, Zajac and Cannan (2009) extended the work of Kebbell and colleagues (2003, 2004) by examining how lawyers asked questions to adult witnesses and compared the types of questions asked by prosecutor and defence lawyers. Among others, the types of questions considered by the researchers were what they referred to as open, closed, and leading questions (see Zajac & Cannan, 2009, for remaining coding categories).¹ They found that prosecutors asked more open (45%) and closed questions (40%) than defence lawyers (11% and 23%, respectively). Conversely, defence lawyers asked more leading questions (66%) compared to prosecutors (15%).² In line with the work of Kebbell et al. (2003, 2004), these results indicate that the overall quality of lawyers' questioning practices is substandard. Similar to the consensus of the research on child questioning discussed above, Zajac and Cannan (2009) also showed that defence lawyers ask a greater proportion of unproductive questions than prosecutors when gathering information from adult witnesses. As mentioned earlier, it is important to note that all of these findings need to be considered within the context of the witness' allegiance (i.e. whether they were called by the prosecution or defence).

Current study

The generalizability of the findings from the aforementioned studies is limited because the data pertains to only two countries (the UK and New Zealand), are based on small sample sizes ($N = 6$, $N = 32$, and $N = 30$, respectively), and utilise relatively homogenous samples (i.e. only sexual assault trials). The goal of the current study was to expand on the existing research by assessing the types of questions asked to adult witnesses in the Supreme Court of Newfoundland and Labrador in Canada, and to examine whether or not lawyers adhere to best practices when engaging in a truth-seeking function.

Building on the approaches used by Kebbell and colleagues (2003, 2004), who considered courtroom questions as a function of examination type (i.e. direct vs. cross-examination), and Zajac and Cannan (2009), who considered courtroom questions as a function of lawyer type (i.e. prosecutor vs. defence lawyer), the current study aimed to explore how questions asked in the courtroom are related to examination type and lawyer type combined. Based on the data reported previously, we predict:

Hypothesis 1A: *Direct examinations will contain significantly more probing and open-ended questions than cross-examinations.*

Hypothesis 1B: *Cross-examinations will contain significantly more leading questions than direct examinations.*

Hypothesis 1C: *Regardless of examination type, open-ended questions will be asked infrequently (i.e. less than 5%).*

Hypotheses 2A: *Prosecutors will ask significantly more open-ended and probing questions than defence lawyers.*

Hypothesis 2B: *Defence lawyers will ask significantly more closed yes/no and leading questions than prosecutors.*

Due to the lack of data on the use of other possible types of questions asked by lawyers (e.g. forced-choice, multiple, re-asked, clarification, opinion, facilitator), we refrained from making predictions.

In addition to the aforementioned goal of the current study, we were also interested exploring the assumed purpose of each utterance (e.g. administrative, information gathering, challenging the witness' account, unknown). Since no prior studies appear to have considered the purpose of each utterance spoken by lawyers during courtroom examinations, we refrained from making predictions about the expected outcomes of assumed purpose type as a function of examination type and lawyer type. Rather, our objective in exploring this avenue was to contribute novel findings to the field of courtroom questioning practices.

Previous research has well established that asking productive questions (i.e. open-ended, probing) produces much longer responses – a fact that has been documented in police interview (e.g. Snook et al., 2012) and courtroom questioning studies (e.g. Kebbell et al., 2004). Based on data previously reported, we predict:

Hypothesis 3A: *Productive questions (i.e. open-ended, probing) will produce the longest witness responses.*

Hypothesis 3B: *Unproductive questions (i.e. closed yes/no, forced-choice, multiple, leading) will produce the shortest witness responses.*

The only study that we are aware of that included data regarding response lengths with adults to other utterance types (e.g. re-asked, clarification, opinion) is that of Snook and colleagues (2012), albeit facilitator was not included. Although the current study considers these utterances in an arena different from a police interview (i.e. courtroom), we could not think of any theoretical reason as to why witness response lengths to the aforementioned utterances would differ in the courtroom as compared to the police interview room. Consequently, we also predict:

Hypothesis 3C: *The remaining utterance types (i.e. re-asked, clarification, opinion) will produce responses that are similar in length to one another.*

Given the lack of existing data on response length to facilitators, we elected not to offer any prediction for this utterance type.

Method

Sample

Verbatim transcriptions of 12 criminal cases, heard between 1991 and 2014, were obtained from the Supreme Court of Newfoundland and Labrador (Trial Division) in

St. John's, Canada. Crimes were categorized into one of four author-constructed groups, namely *person* (e.g. aggravated assault, sexual assault, domestic violence), *property* (e.g. break and enter, embezzlement of money, arson), *hybrid* (i.e. a combination of person and property crimes; e.g. fraud, drug trafficking, driving under the influence), or *unknown* crimes (i.e. crime information not provided or unable to be determined from court transcript). In this sample, only two crime types emerged; six (50.0%) were person crimes and six (50.0%) were hybrid crimes. In terms of lawyer composition, ten trials (83.33%) had one prosecutor and one defence lawyer, one trial (8.33%) had two prosecutors and one defence lawyer, and one trial (8.33%) had two prosecutors and two defence lawyers. A total of 25 different lawyers were involved in the cases; two (8.0%) of those lawyers were advocates in more than one case (i.e. two cases each). Sixteen (64.0%) of the lawyers were men.

A convenience sample of 91 witness testimony examinations (henceforth referred to as examinations) were extracted from the 12 cases. On average, 7.58 ($SD = 5.04$, $Range = 1-18$) examinations were extracted from a single court case file. Testimony was provided by 47 different witnesses; all witnesses (100%) underwent a direct examination, while 44 (93.62%) also underwent a cross-examination. Of the 47 witnesses, 26 (55.32%) testified on behalf of the prosecution and 21 (44.68%) testified on behalf of the defence. In terms of witness type, 23 (48.93%) were eyewitnesses, 15 (31.91%) were police officers, five (10.64%) were defendants, three (6.38%) were victims, and one (2.13%) was a character witness. Twenty-nine (61.70%) of the witnesses were men. The mean number of examinations conducted by each of the 25 lawyers was 3.64 ($SD = 2.86$, $Range = 1-9$). Of the 91 examinations, 47 (51.65%) were conducted by a prosecutor and 44 (48.35%) were conducted by a defence lawyer.³

Coding

A 24-item coding guide and associated content dictionary was author-constructed (a copy can be obtained by visiting <https://osf.io/ab3w7/>, or by contacting the corresponding author). The following seven trial/demographic variables were coded: examination type (1 = *direct*, 2 = *cross*), lawyer type (1 = *prosecutor*, 2 = *defence*), lawyer gender (1 = *male*, 2 = *female*), witness type (1 = *victim*, 2 = *eyewitness*, 3 = *police officer*, 4 = *accused*, 5 = *character*, 6 = *specified other*), witness gender (1 = *male*, 2 = *female*), crime type (1 = *person*, 2 = *property*, 3 = *hybrid*, 4 = *unknown*), and the year that the trial took place. Every utterance in each examination was assigned an identification number and classified, mutually exclusively, as one of 13 utterance types and as one of four purpose types (see Table 1). It is important to note that of the 13 utterance types, three were not considered to be questions (i.e. statements, commands, and incompletes). However, we included these utterance types in our classification system to ensure that every utterance in our transcripts could be sorted into an appropriate category. We chose not to go into detail about these three utterance types because they were removed from the subsequent data analyses and are not discussed any further. Utterances were only coded if the witness was actively testifying under oath on the stand. That is, if the witness was asked to stand down while the lawyers and judge entered into a *voir dire*, then the utterances spoken during the *voir dire* proceedings were not coded.

Table 1. Descriptions and examples of utterance and purpose types coded.

Utterance Type	Description	Example
Open-ended	Invite witness to recall answers freely from memory. Allow for a wide range of responses. Typically start with 'tell,' 'explain,' or 'describe.'	'Tell me about the party you attended.'
Probing	Tap into cued recall memory. Answers narrower in scope compared to those from open-ended questions. Goal is to obtain additional information from the witness. Start with 'who,' 'what,' 'why,' 'where,' 'when,' or 'how'.	'How many people were at the party?' 'When did you first notice the fight?'
Closed yes/no	Tap into recognition. Answered with a 'yes' or 'no' response.	'Did you drink alcohol?'
Forced-choice	Offers the witness a limited number of response options (usually two).	'Did you kick or punch the man?'
Multiple	Asking several questions at once without giving the witness a chance to respond.	'How did you get there? What did you do inside? Did you say anything to anyone?'
Leading	Suggests/implies an answer to witness. Desired answer embedded in question.	'You were drunk, right?'
Re-asked	Asking a question that was already asked and answered previously	Questioner: 'Where did you go last night?' Respondent: 'Nowhere. I stayed home.' Questioner: 'Okay, come on Joe, <i>where did you go last night?</i> ' (emphasis added to illustrate re-asked utterance)
Clarification	Duplicate or paraphrase the answer that the witness has given Provide the questioner with a better understanding of what the witness said	Respondent: 'John said he went to a party.' Questioner: 'Okay, so <i>John went to a party?</i> ' Respondent: 'That's right.' (emphasis added to illustrate clarification utterance)
Opinion	Provide a personal opinion or belief related to the allegations before the court.	'I think you assaulted Kirk when you saw him.'
Facilitator	Verbal utterance that encourages the flow of conversation.	'Um-hmm', 'Yes', 'Okay'
Statement	Statement of fact not in the form of a question.	'That water is there for you, Mr. Barron'
Command	Giving a directive or telling the witness to do something.	'Speak up now.'
Incomplete	Questioner was interrupted or cut off by another speaker or witness. Questioner did not complete the thought. Utterances transcribed as '(inaudible)' or '(unintelligible)' in transcript.	'So how often would you –'
Purpose Type	Description	Example
Administrative	Pertaining to procedural aspects of the courtroom. Unrelated to the case or charges.	'The microphone does not amplify your voice, but rather is there for recording purposes.'
Case-Based: Information Gathering	Unique details about the crime.	'Describe what happened when you saw the body on the floor.'
Case-Based: Challenge	Challenge the reliability of the witness account	'An officer asked whether you punched him, and you said that you didn't remember. Now you're saying you never punched him. Do you see any difference in that?'
Purpose Unknown	Does not fit within other purpose types	Used for facilitators or incomplete utterance types.

Inter-rater reliability

All 91 examinations were coded by the first author. Reliability of the data were measured by having the fourth author code 19 (20.88%) random examinations; eight direct and 11 cross-examinations. After receiving training to learn about the coding process, the structure and content of the coding guide, and the content dictionary, the fourth author then practiced coding two examinations (not included in the current study sample) prior to commencing the inter-rater coding duties. During the inter-rater reliability task, the fourth author was blind to the nature and conditions of the study and was not privy to any of the hypotheses or expected outcomes. Excellent inter-rater agreement was achieved for classification of both utterance type ($\kappa = .70$) and purpose type ($\kappa = .83$; Cohen, 1960; Landis & Koch, 1977).

Analytic procedure

Following the example of previous studies (e.g. Kebbell et al., 2003, 2004; Snook et al., 2012; Zajac & Cannan, 2009), the questioning practices of lawyers in the current study were quantified as a proportion (i.e. mean percent) of questions asked during each examination. Frequency analyses were conducted to determine the number of unique utterances. Descriptive analyses of the proportion of utterance types were conducted for utterance types overall, and also as a function of examination type and lawyer type; these descriptive analyses were repeated for the proportion of purpose types overall, and as well as a function of examination type and lawyer type. An analysis of variance test was conducted using each unique utterance type and purpose type (i.e. dependent variable) to examine any differences between their use in direct and cross-examinations (examination type; i.e. independent variable), and their use by prosecutors and defence lawyers (lawyer type; i.e. independent variable).

To display the magnitude of any significant differences found, we presented effect sizes as Cohen's d (Cohen, 1988) using a within-participants design effect size calculator. Cohen's d is used to determine if comparative results have meaningful differences. For ease of interpretation, Cohen proposed four levels of effect sizes: no effect ($d < 0.19$; no practical significance); a small effect ($0.20 < d < 0.49$; low practical significance); a medium effect ($0.50 < d < 0.79$; moderate practical significance); and a large effect ($d > 0.80$; high practical significance).

Given the availability of numerous pre-existing (i.e. nuisance) variables contained within the provided court transcripts, we decided to also conduct unplanned step-wise regression analyses to allow for further exploration into whether or not utterance type (and purpose type) could be predicted by various qualities or characteristics related to the specific court case. The purpose of these analyses was to determine if information could be found to help further explain the findings revealed by the analysis of variance testing, and to contribute additional knowledge to the literature. Prior to conducting the regression analyses, multicollinearity was assessed by conducting a variation inflation factor (VIF) analysis.

To accurately determine the total number of words spoken by lawyers and witnesses during each examination, the word count feature in Microsoft Word 2016 was used to calculate total number of words in each utterance and response per examination. Mean word

length for each utterance type was calculated and compared to each other, and were further examined as a function of examination type and lawyer type, uniquely; mean word response length was also calculated and compared among each other, and also examined as a function of examination type and lawyer type, uniquely. The magnitude of any significant effects were reported as Cohen's *d* (Cohen, 1988).

Results

A total of 8,312 utterances spoken by courtroom questioners (e.g. lawyers, judges, clerk, unidentified speakers) were extracted from the 91 examinations. Since the main focus of the study was to analyze lawyers' questioning practices, a total of 1,038 questioner utterances were removed because they were spoken by a judge ($n = 983$), clerk ($n = 54$), or an unidentified speaker ($n = 1$). An additional 1,116 utterances were removed prior to analyses because they were classified as statements ($n = 880$), incomplete phrases ($n = 173$), or commands ($n = 63$). The total number of lawyer utterances comprising the final sample was 6,158, which corresponded to a total of 5,911 witness response utterances.⁴

Utterance type

The average number of lawyer utterances per examination was 67.66 ($SD = 47.99$, $N = 91$, $Range = 14-220$, $95\% CI = 57.67, 77.65$). The distribution of utterance types is contained in Table 2. As can be seen in the first column, closed yes/no questions were the most frequently asked question, followed by probing and leading questions. Open-ended

Table 2. Mean percentage of utterance type as a function of examination type and lawyer type.

Utterance Type	Overall ($N = 6,158$)	Examination Type		Lawyer Type	
		Direct ($n = 3,107$)	Cross ($n = 3,051$)	Prosecutor ($n = 3,459$)	Defence ($n = 2,699$)
Open-ended	0.44 (0.99) [0.23, 0.64]	0.78 (1.27) [0.41, 1.15]	0.07 (0.25) [0.00, 0.15]	0.51 (1.06) [0.20, 0.82]	0.36 (0.92) [0.08, 0.64]
Probing	21.59 (14.19) [18.63, 24.55]	29.39 (13.89) [25.31, 33.47]	13.26 (8.82) [10.58, 15.94]	22.47 (14.14) [18.32, 26.62]	20.65 (14.35) [16.29, 25.01]
Closed yes/no	28.43 (11.13) [26.11, 30.74]	32.40 (10.90) [29.20, 35.60]	24.18 (9.82) [21.19, 27.17]	30.47 (11.50) [27.10, 33.85]	26.24 (10.41) [23.08, 29.40]
Forced-choice	2.14 (2.83) [1.55, 2.73]	2.49 (3.14) [1.57, 3.42]	1.75 (2.42) [1.02, 2.49]	2.36 (2.65) [1.58, 3.13]	1.90 (3.02) [0.98, 2.82]
Multiple	7.09 (4.23) [6.21, 7.97]	7.07 (3.98) [5.90, 8.24]	7.11 (4.54) [5.73, 8.49]	6.93 (3.94) [5.77, 8.08]	7.27 (4.56) [5.88, 8.65]
Leading	20.14 (16.00) [16.81, 23.47]	10.53 (8.91) [7.91, 13.15]	30.41 (15.55) [25.68, 35.14]	19.30 (16.28) [14.52, 24.07]	21.05 (15.83) [16.23, 25.86]
Re-asked	0.41 (1.12) [0.18, 0.64]	0.19 (0.57) [0.02, 0.35]	0.65 (1.47) [0.20, 1.09]	0.43 (1.32) [0.04, 0.82]	0.39 (0.87) [0.13, 0.66]
Clarification	10.38 (7.54) [8.81, 11.95]	7.90 (4.98) [6.44, 9.36]	13.04 (8.87) [10.34, 15.73]	9.40 (8.48) [6.92, 11.89]	11.43 (6.32) [9.50, 13.35]
Opinion	0.19 (0.82) [0.02, 0.36]	0.03 (0.20) [0.00, 0.09]	0.37 (1.14) [0.02, 0.71]	0.23 (1.02) [0.00, 0.53]	0.16 (0.52) [0.00, 0.32]
Facilitator	9.19 (10.31) [7.05, 11.34]	9.22 (10.33) [6.18, 12.25]	9.17 (10.42) [6.00, 12.34]	7.92 (9.81) [5.03, 10.80]	10.56 (10.77) [7.29, 13.83]

Note: The Standard Deviations are contained within the round brackets, while the 95% Confidence Intervals are contained within the square brackets.

questions comprised less than one percent of all utterances, rendering support for Hypothesis 1C. Taken together, open-ended and probing questions accounted for 22.03% of all utterances, while closed yes/no, forced-choice, multiple, and leading questions accounted for 57.80% of all utterances; the remaining utterance types collectively accounted for 20.17% of all utterances.

When split by examination type, 3,107 (50.45%) of the utterances occurred during a direct examination, and the remaining 3,051 (49.55%) occurred during a cross-examination. Direct examinations contained, on average, 66.09 ($SD = 46.36$, 95% $CI = 52.47$, 79.70) utterances, and cross-examinations contained, on average, 69.34 ($SD = 50.16$, 95% $CI = 54.09$, 84.59) utterances; the effect of examination type on the total the number of utterances spoken was not practically significant, $d = 0.05$. As can be seen in Table 2, direct examinations contained a larger proportion of probing ($d = 1.41$), closed yes/no ($d = 0.71$), and open-ended ($d = 0.59$) questions than cross-examinations, thereby supporting Hypothesis 1A. Hypothesis 1B was supported by the finding that cross-examinations contained a greater proportion of leading questions ($d = 1.63$) and clarifications ($d = 0.60$) than direct examinations. All other effect sizes were small ($d < 0.33$).

When split by lawyer type, 3,459 (56.18%) of the total utterances were spoken by prosecutors, and the remaining 2,699 (43.82%) were spoken by defence lawyers; the average number of utterances spoken by prosecutors was 72.40 ($SD = 43.82$, 95% $CI = 59.54$, 85.27), and was 62.60 ($SD = 52.11$, 95% $CI = 46.75$, 78.43) for defence lawyers; the effect of lawyer type on the total the number of utterances spoken was not practically significant, $d = 0.15$. The effect sizes for the differences in the proportion of utterance types between prosecutors and defence lawyers were all small ($d < 0.31$; see Table 2); consequently, Hypotheses 2A and 2B were not supported.

Purpose type

The distribution of purpose types can be found in Table 3. As shown in the first column, information gathering was the most frequent purpose type, followed by unknown, challenging the account, and administrative. Overall, 89.73% of the utterances were used to obtain information relevant to the case ($SD = 10.62$, 95% $CI = 87.52$, 91.94).

The effect sizes for the differences in the proportion of purpose types as a function of examination type and lawyer type were small or had no practical significance

Table 3. Mean percentage of purpose type as a function of examination type and lawyer type.

Purpose Type	Overall ($N = 6,158$)	Examination Type		Lawyer Type	
		Direct ($n = 3,107$)	Cross ($n = 3,051$)	Prosecutor ($n = 3,459$)	Defence ($n = 2,699$)
Administrative	1.06 (1.89) [0.67, 1.45]	1.14 (2.06) [0.54, 1.74]	0.98 (1.71) [0.46, 1.49]	1.18 (1.96) [0.61, 1.75]	0.93 (1.82) [0.38, 1.49]
Information Gathering	87.92 (10.51) [85.73, 90.11]	89.25 (10.86) [86.06, 92.43]	86.51 (10.06) [83.45, 89.57]	89.18 (9.84) [86.29, 92.07]	86.58 (11.14) [83.20, 89.97]
Challenge	1.81 (3.56) [1.07, 2.55]	0.37 (1.30) [0.00, 0.76]	3.34 (4.48) [1.98, 4.70]	1.70 (3.45) [0.69, 2.71]	1.92 (3.71) [0.80, 3.05]
Unknown	9.21 (10.33) [7.06, 11.36]	9.24 (10.36) [6.20, 12.28]	9.17 (10.42) [6.00, 12.34]	7.94 (9.85) [5.05, 10.83]	10.56 (10.77) [7.29, 13.83]

Note: The Standard Deviations are contained within the round brackets, while the 95% Confidence Intervals are contained within the square brackets.

(all $d_s < 0.21$), with the exception of challenges to the witness' account with regards to examination type; challenges were more frequent during cross-examinations, as compared to direct examinations ($d = 0.72$; see Table 3 for distributions of utterance types).⁵

Unplanned regression analyses

Utterance type

To examine the impact of the nuisance variables on the data, a step-wise regression was performed on each of the ten utterance types retained in the sample using eleven available predictor variables (a Bonferroni's corrected alpha of .005 was used; i.e. $\alpha = .05/10$). There were no concerns regarding multicollinearity (all VIFs $< |2.6|$; $r_s < 0.67$). Examination type emerged as the only significant predictor of the proportion of open-ended questions asked, $F(1, 89) = 13.25$, $\beta = -.36$, $p = .001$, $R^2 = .13$. Lawyers tended to ask open-ended questions more during direct examinations, thereby further supporting Hypothesis 1A. For probing questions, two predictors (examination type and year) explained 40% of the variance, $F(2, 88) = 28.93$, $p = .001$. Lawyers asked more probing questions during direct examinations ($\beta = -.58$, $p = .001$) – rendering further support for Hypothesis 1A – and probing questions were less likely in more recent trials ($\beta = -.27$, $p = .002$). For the closed yes/no questions, examination type was a significant predictor $F(1, 89) = 14.23$, $\beta = -.37$, $p = .001$, $R^2 = .14$. Direct examinations contained more closed yes/no questions than did cross-examinations. Examination type was also a significant predictor of the proportion of leading questions asked, $F(1, 89) = 56.83$, ($\beta = .62$, $p = .001$, $R^2 = .39$). Specifically, more leading questions were asked during the cross-examinations, which strengthened support for Hypothesis 1B.

Examination type was a significant predictor of proportion of clarification questions asked, $F(1, 89) = 11.81$, $p = .001$, $\beta = .34$, $R^2 = .12$. Lawyers were more likely to ask clarifying questions during cross-examinations. As for facilitators, the year emerged as a significant predictor, $F(1, 89) = 13.53$, $\beta = .36$, $p = .001$, $R^2 = .13$. Lawyers tended to use facilitators more often in more recent cases. The step-wise regression analyses for the remaining utterance types (i.e. forced-choice, multiple, re-asked, opinion) did not produce any significant predictors (all $p_s > .005$). Since lawyer type did not emerge as a significant predictor for any utterance type in the regression analyses, this further confirmed no support for Hypotheses 2A and 2B.

Purpose type

Similarly, regression analyses were conducted with the purpose types using all of the same independent variables listed above. Using a series of step-wise regressions, all of the available independent variables were entered as predictors while each purpose type was individually assigned as the outcome variable. A step-wise regression test using the challenging the accounts/details purpose type as the dependent variable revealed that three predictors (examination type, victim as witness, and defendant as witness) explained 31% of the variance for utterances that were challenging in nature, $F(3, 87) = 13.06$, $p = .015$. Specifically, cross-examinations ($\beta = .41$, $p < .001$, $R^2 = .18$), victim as a witness ($\beta = .31$, $p = .001$, $R^2 = .09$), and defendant as a witness ($\beta = .22$, $p = .015$, $R^2 = .05$) significantly predicted the lawyers' tendency to speak challenging utterances toward witnesses on the stand. A step-wise regression using administrative purpose type as the dependent variable

revealed that crime type explained 7% of the variance for utterances that were administrative in nature, $F(1, 89) = 6.34, p = .014$. A step-wise regression using the information gathering purpose type as the dependent variable revealed that year the case went to court explained 10% of the variance for utterances that were information gathering in nature, $F(1, 89) = 9.32, p = .003$. We did not conduct a regression analyses for the unknown purpose type because it was a miscellaneous category designed to capture utterance types where the intention of what the speaker was trying to achieve is unclear (i.e. facilitator, incomplete).

Utterance length

The average length of lawyer utterances is shown in Figure 1. As can be seen, opinions contained the most words on average, followed by multiple and forced-choice questions. Facilitators contained the least amount of words, with clarification questions having the

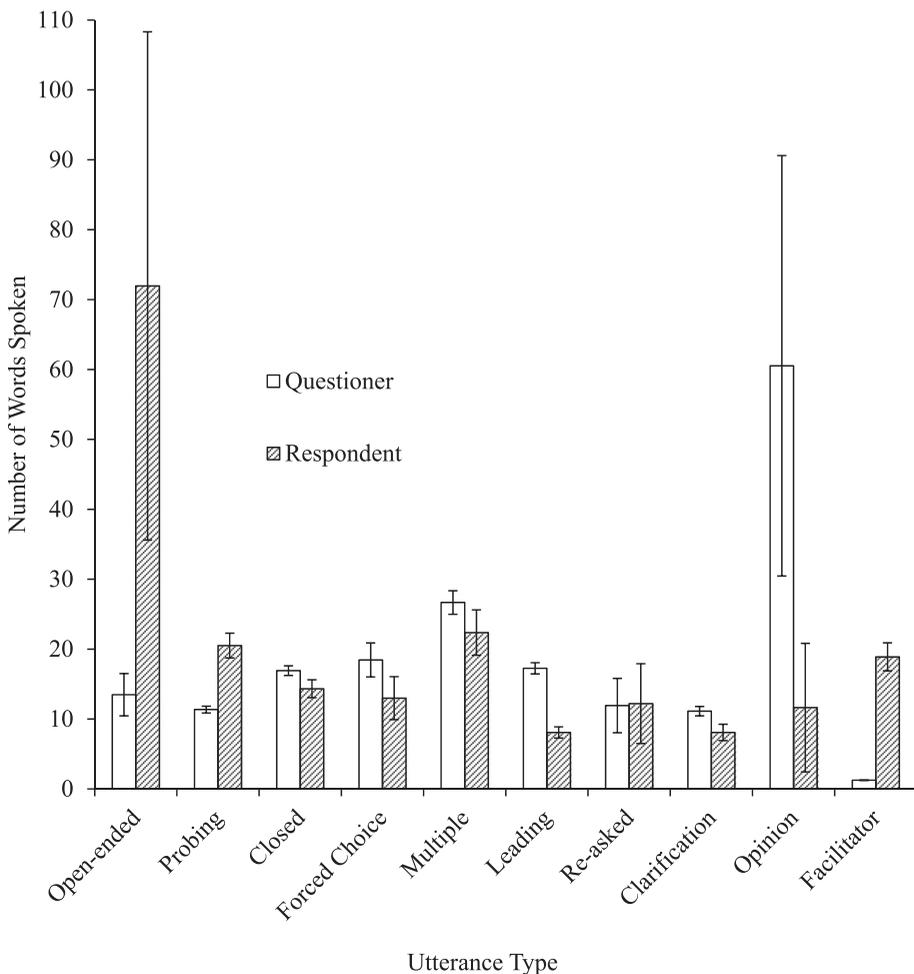


Figure 1. Average number of words spoken per utterance type overall by questioner and respondent, and associated 95% confidence interval, per examination ($N = 91$).

next least amount of words. When split by examination type, open-ended questions ($d = 1.08$) and opinions ($d = 1.79$) contained more words during direct examinations as compared to cross-examination. Re-asked questions ($d = 0.30$) contained more words during cross-examinations (vs. direct examinations). No other meaningful differences were found in terms of the length of the remaining utterance types (all other $ds < 0.17$). When split by lawyer type, re-asked questions ($d = 0.69$) were found to contain more words when asked by a defence lawyer (vs. prosecutor). No other meaningful differences in length were found for the remaining utterance types (all other $ds < 0.11$; see Table 4 for further breakdown).

The average length of response to each utterance type is also shown in Figure 1. Open-ended questions resulted in the longest responses, followed by multiple and probing questions, thereby supporting Hypothesis 3A. The shortest replies were provided in response to leading and clarification questions, followed by opinions rendering support for the prediction regarding leading questions, but not closed yes/no (i.e. Hypothesis 3B). As can be seen in Table 5, opinions, re-asked and clarification questions were all found to have similar response lengths, thereby supporting Hypothesis 3C. When split by examination type, responses to open-ended ($d = 0.52$) and closed yes/no questions ($d = 0.23$), and opinions ($d = 0.62$) contained more words when these replies occurred during direct examinations (vs. cross-examinations). No other meaningful differences of response length emerged for the remaining utterance types with respect to examination type (all other $ds < 0.20$). When split by lawyer type, responses to re-asked questions ($d = 0.25$) and opinions ($d = 0.49$) contained more words when asked by a defence lawyer (vs. prosecutor). No other meaningful differences were found with respect to lawyer type (all other $ds < 0.17$; see Table 5 for further breakdown).

Table 4. Mean number of words spoken by questioner per utterance type as a function of examination type and lawyer type.

Utterance Type	Overall	Examination Type		Lawyer Type	
		Direct	Cross	Prosecutor	Defence
Open-ended	13.48 (7.93) [10.47, 16.50]	14.88 (7.99) [11.50, 18.25]	6.80 (2.28) [3.97, 9.63]	13.45 (6.36) [10.47, 16.43]	13.56 (11.13) [5.00, 22.11]
Probing	11.35 (8.64) [10.87, 11.84]	11.26 (8.64) [10.67, 11.84]	11.56 (8.65) [10.69, 12.42]	10.93 (7.76) [10.38, 11.47]	12.08 (9.96) [11.16, 13.01]
Closed yes/no	16.92 (14.29) [16.23, 17.61]	17.18 (13.00) [16.33, 18.04]	16.59 (15.55) [15.47, 17.72]	16.19 (13.21) [15.37, 17.01]	18.05 (15.75) [16.83, 19.26]
Forced-choice	18.45 (13.78) [16.02, 20.88]	18.38 (12.83) [15.34, 21.42]	18.55 (15.03) [14.48, 22.61]	18.24 (14.23) [15.05, 21.43]	18.81 (13.13) [14.95, 22.66]
Multiple	26.67 (18.37) [24.97, 28.36]	26.44 (20.97) [23.69, 29.19]	26.89 (15.43) [24.88, 28.90]	25.62 (17.26) [23.51, 27.72]	28.08 (19.74) [25.28, 30.89]
Leading	17.25 (14.23) [16.44, 18.06]	17.63 (14.20) [16.12, 19.15]	17.09 (14.25) [16.13, 18.03]	16.66 (12.70) [15.66, 17.67]	17.89 (15.71) [16.59, 19.18]
Re-asked	11.92 (9.60) [8.05, 15.80]	9.43 (7.37) [2.61, 16.24]	12.84 (10.31) [7.87, 17.81]	7.27 (2.80) [5.39, 9.15]	15.33 (11.37) [9.04, 21.63]
Clarification	11.13 (8.82) [10.47, 11.80]	10.14 (8.25) [9.16, 11.12]	11.80 (9.14) [10.91, 12.69]	10.80 (8.71) [9.89, 11.72]	11.48 (8.94) [10.52, 12.43]
Opinion	60.53 (58.49) [30.46, 90.60]	177.00 (72.13) [0.00, 825.02]	45.00 (36.63) [24.71, 65.29]	56.75 (42.99) [20.81, 92.69]	63.89 (72.10) [8.47, 119.31]
Facilitator	1.24 (0.67) [1.19, 1.29]	1.27 (0.76) [1.20, 1.35]	1.21 (0.55) [1.15, 1.26]	1.23 (0.60) [1.16, 1.29]	1.25 (0.72) [1.18, 1.32]

Note: The Standard Deviations are contained within the round brackets, while the 95% Confidence Intervals are contained within the square brackets.

Table 5. Mean number of words spoken by witness in response to utterance type as a function of examination type and lawyer type.

Utterance Type	Overall	Examination Type		Lawyer Type	
		<i>Direct</i>	<i>Cross</i>	<i>Prosecutor</i>	<i>Defence</i>
Open-ended	71.96 (96.76) [35.61, 108.32]	80.65 (99.64) [37.56, 123.74]	32.00 (48.04) [0.00, 91.65]	68.42 (59.85) [39.58, 97.27]	79.44 (146.70) [0.00, 192.21]
Probing	20.51 (31.32) [18.74, 22.28]	21.81 (34.39) [19.46, 24.15]	17.66 (22.94) [15.33, 19.99]	22.49 (35.56) [19.96, 25.01]	17.08 (21.70) [15.05, 19.11]
Closed yes/no	16.92 (14.29) [16.23, 17.61]	17.18 (13.00) [16.33, 18.04]	16.59 (15.55) [15.47, 17.72]	16.19 (13.21) [15.37, 17.01]	18.05 (15.75) [16.83, 19.26]
Forced-choice	12.98 (17.35) [9.89, 16.06]	14.73 (20.90) [9.79, 19.68]	10.62 (10.66) [7.68, 13.56]	12.53 (14.73) [9.21, 15.85]	13.74 (21.22) [7.44, 20.44]
Multiple	22.36 (34.80) [19.11, 25.61]	25.37 (32.09) [21.11, 29.64]	19.38 (37.12) [14.47, 24.29]	23.67 (33.22) [19.58, 27.76]	20.56 (36.87) [15.23, 25.90]
Leading	17.25 (14.23) [16.44, 18.06]	17.63 (14.20) [16.12, 19.15]	17.09 (14.25) [16.13, 18.03]	16.66 (12.70) [15.66, 17.67]	17.89 (15.71) [16.59, 19.18]
Re-asked	12.20 (13.84) [6.49, 17.91]	10.14 (11.85) [0.00, 21.10]	13.00 (14.78) [5.65, 20.35]	9.55 (13.09) [0.75, 18.34]	14.29 (14.54) [5.89, 22.68]
Clarification	8.08 (15.33) [6.91, 9.25]	8.70 (17.49) [6.57, 10.83]	7.68 (13.74) [6.33, 9.02]	9.64 (18.59) [7.64, 11.64]	6.50 (10.87) [5.32, 7.67]
Opinion	11.63 (17.26) [2.43, 20.82]	38.00 (49.50) [0.00, 482.72]	7.86 (5.75) [4.54, 11.18]	5.88 (3.00) [3.37, 8.38]	17.38 (23.54) [0.00, 37.05]
Facilitator	1.24 (0.67) [1.19, 1.29]	1.27 (0.76) [1.20, 1.35]	1.21 (0.55) [1.15, 1.26]	1.23 (0.60) [1.16, 1.29]	1.25 (0.72) [1.18, 1.32]

Note: The Standard Deviations are contained within the round brackets, while the 95% Confidence Intervals are contained within the square brackets.

Discussion

The goal of the current study was to quantify the utterance types used by Canadian lawyers during witness examinations; a proxy for the extent to which evidence is likely being contaminated during courtroom proceedings. Our results revealed that the majority of utterances ran counter to recommended practices for gathering complete and accurate information – confirming findings reported in previous courtroom questioning studies (e.g. Kebbell et al., 2003). When analyzing examination type, we found that more productive questions (e.g. open-ended) were asked during the direct examinations and more unproductive questions (e.g. leading) were asked during the cross-examinations. We also found that the type of lawyer (i.e. prosecutor vs. defence lawyer) did not have an effect on the types of utterances spoken; this is contrary to the findings from previous studies (e.g. Zajac & Cannan, 2009). In terms of the assumed purpose of each utterance, the majority of utterances were oriented toward the gathering of information. When looking at the amount of information provided in response to utterance type, it was revealed that open-ended questions were followed with the provision of much more information than all other utterance types; leading questions produced the least amount of information. The findings pertaining to the relationship between utterance type and response length match results reported previously (e.g. Kebbell et al., 2004; Snook et al., 2012). Broadly, the findings from the current study raise concerns about the way Canadian lawyers ask questions when seemingly trying to establish the truth of the matter before the court.

Our analyses show that lawyers tend to ask questions that inhibit the ability of witnesses to speak and provide information freely in court. As reported above, the most common utterance type overall was the closed yes/no question, followed by probing and leading questions. Decades of research has confirmed that asking open-ended

questions, along with follow-up probing questions, is the best way of helping witnesses directly, and uninhibitedly, provide information of their own volition (Fisher & Geiselman, 1992; Milne & Bull, 2003; Powell, Fisher, & Wright, 2005). The use of open-ended questions also protects against the questioner tainting the reported information – either directly or indirectly. In line with Hypothesis 1C, we found that open-ended questions were used rarely (less than one percent of all utterances) by lawyers in a courtroom setting. Moreover, we found that probing questions comprised approximately one-fifth of all utterances, which is similar to what has been reported by other researchers for probing style questions in both the police and courtroom arenas (Kebbell et al., 2003, 2004; Snook et al., 2012; Snook & Keating, 2011). Collectively, these data suggest that lawyers do not adhere to the guidelines that they themselves expect of expert questioners (i.e. police interviewers) in their quest for obtaining high-quality evidence. These findings are somewhat intriguing and rather duplicitous when considering that police questioning practices have come under scrutiny by lawyers as being a factor for some miscarriages of justice (see Lamer, 2006). The findings in the current study suggest that the very individuals who sometimes make a case against the police for using unproductive questioning practices (i.e. lawyers) are apparently no better at performing the same task. Moreover, these findings raise concerns about the quality and quantity of information being afforded to triers of fact who are tasked with making consequential decisions.

Comparing across examination type, we found our results to be comparable to the findings reported by Kebbell and colleagues (2003, 2004). In our study, more closed yes/no, probing, and open-ended questions were asked during direct examinations than cross-examinations, while cross-examinations contained more leading questions, clarification questions, and opinions than direct examinations. In other words, the data provide support for Hypotheses 1A and 1B. Given that direct examinations are supposed to be relatively open in nature, it is interesting to observe that closed yes/no questions were employed more frequently by direct examiners. We suspect that this was done purposefully to exhibit control over the lawyer's own witness, thereby regulating the quality of information that is being elicited by the witness before the court – information that can then be tested during the cross-examination (see Morley, 2009, for advice given to lawyers regarding questioning practices).

The two largest effects were for probing and leading utterance types, and in opposite direction to one another. The finding that more probing utterance were spoken in the direct (vs. cross-) examination is not entirely surprising since these questions help achieve the goal of the direct examination (i.e. obtaining information in a relatively open manner). Likewise, the higher amount of leading questions used during cross- (vs. direct) examinations is likely related to the strategy of trying to get the witness to adopt an alternative explanation for the case at hand or a revised version of their account. Although leading questions are thought by interviewing experts to be the bane of all question types, proponents of courtroom questioning recognize the leading question as a main tenant and strength of a cross-examination (Evans, 1995; Glissan, 1991; Morley, 2009; Stone, 1995; Wellman, 1997).

Open-ended questions were asked more frequently during direct examinations than cross-examinations. Although this is an encouraging finding, it is important to keep in mind that the proportion of open-ended questions asked during direct examinations was minuscule. Over 6,000 utterances were coded in this study, and only 29 were

identified as being open-ended questions. Specifically, 24 of these were asked during a direct examination while only five were asked during a cross-examination. A lack of use of this productive utterance type during the truth-seeking process would likely be viewed by some as ineffectual, and suggests that courtroom questioners are deviating from what is recognized as the gold-standard of questioning practices. Moreover, considering the positive outcomes associated with open-ended questions (e.g. removes questioner bias, produces uncontaminated and longer responses), a failure to ask questions in this way deprives triers of fact from having complete and accurate information to help them render a verdict.

Contrary to Hypotheses 2A and 2B, lawyer type did not predict any of the utterance types. These findings run counter to research that has reported differences between prosecutors and defence lawyers in the questions they ask to witnesses (Zajac et al., 2003; Zajac & Cannan, 2009). However, the lack of an effect in this study may be due to differences in the operationalization and classification of question types between studies. Nevertheless, our finding is logical when one considers that all lawyers in Canada receive comparable guidance on courtroom examination strategies. It might also be the case that it is not about the type of lawyer or the side they are on, but rather it is about the goal they are trying to achieve – that is, whether they are trying to present a story (direct examination) or unravel a story (cross-examination).

Our analyses of utterance and response lengths illustrate the effect that utterance type has on the amount of information, and is similar to the findings by Snook and colleagues (2012), but is different from that reported by Kebbell and colleagues (2004). This is likely due to the difference in operationalization and classification systems between the current study Kebbell et al. (2004; see notes #1 and #2). Our data shows that opinions contained the most words when spoken by lawyers, but the responses to the opinions were relatively short. In contrast, but in line with Hypothesis 3A, open-ended questions contained relatively few words and elicited the longest responses. In fact, open-ended questions elicited responses that were, on average, nearly 50 words longer than responses given to multiple questions (i.e. the second highest response length). Considering that responding to multiple questions would logically require a longer response (i.e. more words) than would a single question, this finding demonstrates the effect of asking open-ended questions on the amount of information obtained. Moreover, in line with Hypothesis 3B, leading questions elicited the shortest responses; a finding that illustrates yet another reason why such questions are ineffective for gathering information. Not only do leading questions have the potential to contaminate the witness' memory and introduce misinformation (e.g. Loftus, 2005), but they also do not elicit much information. Hypothesis 3C was supported, as opinions, re-asked, and clarification questions all yielded similar – and minimal – response lengths. Interestingly, facilitators were found to elicit slightly longer responses as compared to the opinions, re-asked, and clarification questions. One explanation for this may be because facilitators encourage the respondent to keep talking.

We also found that the greatest proportion of questions asked were for the purpose of gathering information; nearly 90% of the utterances were dedicated to this purpose. At the very least, such a finding suggests that courtroom questioners are focusing their pursuits toward gathering information for their case. Having said that, this finding needs to be considered in light of the *types* of questions being asked to achieve this purpose.

Approximately 20% of the utterances deemed to be for the purpose of gathering information were the productive utterance types (i.e. open-ended, probing).

Police organizations have been under scrutiny for decades regarding the way they gather information from human sources, and more specifically how their questioning practices impact the quality of evidence being presented in court. Historically, police interviewers arguably played the role of both prosecutor and defence lawyer, attempting to both gather a story and break down any resistance from the accused person. In response to those concerns, some police organizations around the world have developed, implemented, and maintained ethical, science-based interviewing protocols and practices (e.g. PEACE; see Milne & Bull, 2003). More contemporary police organizations have established protocols that are focused on using high-quality questions (i.e. open-ended, followed by probing questions) to gather as much complete and accurate information as possible from all interviewees (i.e. victims, suspects). Once all information has been gathered, interviewers then proceed to dissect the quality of the reported information and seek to clarify discrepancies in the information provided. By ensuring that high-quality information is gathered and discordances are resolved, it is possible for officers to make safer decisions (e.g. laying charges). We have yet to learn of a satisfactory reason as to why Canadian lawyers could not follow similar protocols when presenting and examining witness evidence. If such a change towards the use of science-based interviewing protocols is suitable for police officers, it seems reasonable to expect that such an approach would also be suitable for lawyers.

Proponents who endorse standard questioning practices of lawyers will no doubt object to our arguments. Critics may try to argue that lawyers are allowed to ask these unproductive types of questions because it is their job to represent their client well and by all means necessary. Furthermore, the current rules of engagement in Canadian courtrooms allow for such questioning practices to occur (e.g. leading questions during the cross-examination). Yet, if this same logic was applied to police officers – who arguably have the job of representing the community – then a new question about the justice system needs to be addressed: why is it acceptable to call foul on the police for asking unproductive questions, but is viewed as necessary practice for lawyers?

Limitations and Future Direction

The reported findings presented in the current study need to be considered in light of some limitations. One limitation pertains to the generalizability of lawyer questioning practices because all lawyers in the current sample were practicing in the province of Newfoundland and Labrador, Canada. It would have been preferable to use a larger sample that included a representation of lawyers from across Canada; logistical restraints related to obtaining and coding such a sample requires researchers to study the issue on a more local basis (i.e. per province analyses that culminate in a meta-analytic study).

Related to the localized nature of the sample is the courtroom environment itself. All of the criminal cases in this sample were tried by judge only. Perhaps the presence of a jury may render a slight change in lawyers' questioning strategies and practices. In a jury trial, not only do lawyers need to ask certain questions in order to elicit the information from the witnesses, but lawyers also need to guide the jury members – whom assumedly have limited legal expertise – along strategically to accept their version of the case facts

(e.g. story model; Pennington & Hastie, 1986, 1988; but see Simon, 2004). The effect of jury presence on courtroom questioning practices remains to be tested and should be incorporated in future replications.

Another concern pertains to the dependency issue in our sample, whereby some lawyers conducted more than one examination. We attempted to address this dependency issue by conducting identical analyses with a subsample that contained only one examination per lawyer. We found that there were minimal differences in the descriptive data and effect sizes between the samples (i.e. $N = 91$ vs. $N = 25$; see note #5). Given that it was not possible to conduct inferential statistics to compare the two samples, it is imperative that replications are conducted using larger and completely independent samples.

The current study provided new knowledge with respect to the questioning practices in the courtroom, particularly focusing on lawyers' questioning of witnesses on the stand. Future studies may also want to explore the questioning practices of judges to witnesses. In a criminal bench trial, it is not uncommon for a judge to ask questions to the witness during the trial. To our knowledge, no data have been published on the questioning practices of judges to witnesses on the stand directly. Research examining how judges ask questions to witnesses also aims to serve as a completion of all stages of questioning throughout the justice-seeking process (e.g. police questioning, lawyer questioning, judge questioning). At the very least, an analysis of courtroom questioning practices of judges to witnesses is called for in both adversarial and inquisitorial models of justice.

Concluding thoughts

Our results lead to the provisional conclusion that the way Canadian lawyers ask questions tends to run counter to what is recommended practice for gathering complete and accurate information. The data raise interesting questions about the extent to which this part of the adversarial system may need to be reformed and amended in order to protect the quality of evidence that being used by triers of fact when making consequential decisions. The best way to ensure that the tenants of Lady Justice (e.g. impartiality, fairness, and objectivity) are upheld is to use evidence-based practices from the outset of an investigation until the verdict is rendered.

Notes

1. Zajac and Cannan's (2009) definition of an 'open' question is comparable to what the current paper defines as a probing question. Additionally, Zajac and Cannan's definition of a 'closed' question is comparable to a combination of closed yes/no and forced-choice questions as outlined in the current paper.
2. It is important to note in both Kebbell et al. (2003) and Zajac and Cannan (2009), questions types were not mutually exclusive; a single question might have been coded as both a closed and leading question.
3. Although the number of examinations conducted by a prosecutor (i.e. 47) and defence lawyer (i.e. 44) match the number of direct examinations (i.e. 47) and cross-examinations (i.e. 44) that occurred, these numbers are not one in the same or linked to each other. Rather, it was mere coincidence that the numbers matched.
4. The total number of lawyer utterances ($n = 6,158$) and witness response utterances ($n = 5,911$) are not equal because in some cases, other questioners interrupted before the witness could

provide a response utterance (e.g. opposing lawyer objects to question before witness responded).

5. A total of 17 of the 25 lawyers in our sample conducted more than one examination. As such, there were concerns about independence – that is, having multiple examinations conducted by the same lawyer(s) may have skewed the results. To address concerns about this dependency issue, a single examination was selected randomly for each lawyer who conducted more than one examination, leaving a subsample size of 25 examination transcripts upon which the same aforementioned analyses for the main sample were conducted. Across all utterance types, there was, on average, a 1.04% ($SD = 0.74$) difference in the proportion of utterance types asked per examination between the means of the two samples (i.e. $N = 91$ vs. $N = 25$). Specifically, the mean proportion for the subsample and the absolute difference in proportion between samples are as follows: open-ended ($M = 0.58$, $SD = 1.32$, 95% $CI = 0.03$, 1.12, $M_{diff} = 0.14$), probing ($M = 23.65$, $SD = 16.45$, 95% $CI = 16.86$, 30.44, $M_{diff} = 2.06$), closed yes/no ($M = 27.73$, $SD = 11.95$, 95% $CI = 22.80$, 32.66, $M_{diff} = 0.70$), forced-choice ($M = 1.64$, $SD = 2.68$, 95% $CI = 0.53$, 2.74, $M_{diff} = 0.50$), multiple ($M = 5.70$, $SD = 3.82$, 95% $CI = 4.12$, 7.27, $M_{diff} = .39$), leading ($M = 17.75$, $SD = 14.95$, 95% $CI = 11.97$, 23.53, $M_{diff} = .39$), re-asked ($M = 0.19$, $SD = 0.59$, 95% $CI = 0.00$, 0.43, $M_{diff} = 0.22$), clarification ($M = 11.80$, $SD = 10.10$, 95% $CI = 7.63$, 15.97, $M_{diff} = 1.42$), opinion ($M = 0.38$, $SD = 1.36$, 95% $CI = 0.00$, 0.94, $M_{diff} = 0.19$), and facilitator ($M = 10.60$, $SD = 10.91$, 95% $CI = 6.10$, 15.10, $M_{diff} = 1.41$).

The difference in the effect sizes for the difference between direct and cross-examinations for each utterance type was negligible. The average difference in d -values between the two samples was 0.20 ($SD = 0.13$). The effect sizes for each utterance as a function of examination type in the subsample, and the difference in the size of the d -values between the two samples are as follows: open-ended ($d = 0.62$, $d_{diff} = 0.03$), probing ($d = 1.88$, $d_{diff} = 0.47$), closed yes/no ($d = 0.35$, $d_{diff} = 0.36$), forced-choice ($d = 0.47$, $d_{diff} = 0.27$), multiple ($d = 0.12$, $d_{diff} = 0.11$), leading ($d = 1.50$, $d_{diff} = 0.13$), re-asked ($d = 0.05$, $d_{diff} = 0.27$), clarification ($d = 0.80$, $d_{diff} = 0.20$), opinion ($d = 0.41$, $d_{diff} = 0.01$), and facilitator ($d = 0.09$, $d_{diff} = 0.09$).

The difference in the effect sizes for the difference between prosecutors and defence lawyers for each utterance type was negligible. The average difference in d -values between the original sample and subsample was 0.13 ($SD = 0.09$). The effect sizes for each utterance as a function of lawyer type in the smaller sample, and the difference in the size of the d -values between the two samples are as follows: open-ended ($d = 0.29$, $d_{diff} = 0.18$), probing ($d = 0.11$, $d_{diff} = 0.02$), closed yes/no ($d = 0.01$, $d_{diff} = 0.29$), forced-choice ($d = 0.22$, $d_{diff} = 0.10$), multiple ($d = 0.35$, $d_{diff} = 0.29$), leading ($d = 0.18$, $d_{diff} = 0.10$), re-asked ($d = 0.00$, $d_{diff} = 0.03$), clarification ($d = 0.11$, $d_{diff} = 0.10$), opinion ($d = 0.13$, $d_{diff} = 0.07$), and facilitator ($d = 0.26$, $d_{diff} = 0.07$).

Likewise, the trends for purpose type in the smaller sample largely remained the same; it was found that 88.06% of the utterances were used to obtain information relevant to the case ($SD = 11.57$, 95% $CI = 83.28$, 92.83). Across all purpose types, there was, on average, a 0.84% ($SD = 0.43$) difference in the proportion of purpose types classified between the means of the two samples. Specifically, the means for the subsample and the absolute difference in proportion between the samples are as follows: administrative ($M = 1.34$, $SD = 1.94$, 95% $CI = 0.54$, 2.14, $M_{diff} = 0.28$), information gathering ($M = 87.32$, $SD = 11.70$, 95% $CI = 82.49$, 92.15, $M_{diff} = 0.60$), challenge ($M = 0.74$, $SD = 1.63$, 95% $CI = 0.06$, 1.41, $M_{diff} = 1.07$), and purpose unknown ($M = 10.60$, $SD = 10.91$, 95% $CI = 6.10$, 15.10, $M_{diff} = 1.39$).

The difference in the effect sizes for the difference between direct and cross-examinations for each purpose type was negligible; the average difference in d -values between the two samples was 0.04 ($SD = 0.02$). The effect sizes for each utterance as a function of examination type for the subsample, and the difference in the size of the d -values between the two samples are as follows: administrative ($d = 0.10$, $d_{diff} = 0.04$), information gathering ($d = 0.16$, $d_{diff} = 0.04$), challenge ($d = 0.73$, $d_{diff} = 0.01$), and purpose unknown ($d = 0.09$, $d_{diff} = 0.08$).

Negligible differences were found in proportions of purpose types as a function of lawyer type, with the exception of challenges. That is, prosecutors in the subsample asked more challenging questions than defence lawyers in the subsample; however, it is important to note

that the difference in the quantity of the questions challenging the witness were minimal between the original sample (e.g. prosecutors – 1.70%; defence lawyers – 1.92%) and subsample (e.g. prosecutors – 1.12%; defence lawyers – 0.32%), respectively. The average difference in d -values between the larger and smaller sample was 0.11 ($SD = 0.15$). The effect sizes for each utterance as a function of lawyer type in the smaller sample, and the difference in the size of the d -values between the two samples are as follows: administrative ($d = 0.10$, $d_{diff} = 0.00$), information gathering ($d = 0.20$, $d_{diff} = 0.01$), challenge ($d = 0.40$, $d_{diff} = 0.36$), and purpose unknown ($d = 0.26$, $d_{diff} = 0.07$)

Given the similarity in findings between the main variables of interest (e.g. examination and lawyer types) for the $N = 91$ and $N = 25$ samples, the secondary analyses conducted to explore the impact of any dependency issues as explained here were not included in the results section in order to avoid redundancy and confusion. The conclusions drawn based on the subsample data remained the same.

Acknowledgement

Thank you to the clerks at the Supreme Court of Newfoundland and Labrador (Trial Division) courthouse in St. John's, NL, Canada, for providing the researchers with the dataset. Portions of this research was completed as part of the first author's master of science thesis at Memorial University of Newfoundland, St. John's, NL, Canada.

Disclosure statement

No potential conflict of interest was reported by the authors.

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