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Question Formulation

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Abstract

This paper contains observations about question formulation for polygraph testing followed by specific guidelines. Applicable to the frequently used testing formats, the guidelines cover relevant questions, probable lie control/comparison questions, irrelevant questions, and wording of peak of tension and guilty knowledge tests. The paper does not offer guidelines for technical questions used by only one test format. There are abstracts of three legal cases where question formulation was an issue. The references cited are included in a larger reference section.

Keywords: Control question, comparison question, guilty knowledge test, irrelevant question, peak of tension, question formulation, relevant question, semantics.

General Observations

One of the clinical aspects of polygraph testing is the formulation of questions. Some guidelines are suggested in this paper.

A word of caution about prepared question lists and notepacks. Blind adherence may result in the examinee not understanding one or more questions, causing problems in testing. Written questions are a good guide to policy, but the suggested words may not be in the examinee's vocabulary. The advantage of prepared lists and notepacks is better compliance with policy, regulations and law.

When working with investigators or attorneys who do not understand the limits of polygraph testing, you may be presented with a lengthy list of poorly worded questions that you cannot use. Ask them to describe the case and suggest one question, answered "yes" or "no" that will solve it. Try to conduct your tests with a single-issue test format, as they tend to be more accurate than multiple issue formats. More issues create more opportunities for error.

Be wary of precisely worded relevant questions proffered by the examinee or his attorney. The question may avoid the issue or be part of an effort to rationalize.

An examinee will not readily admit he does not understand a question. The lack of understanding shows up when the examinee is asked to explain why the question is being asked and what it means.

When the questions are agreed upon, and they exclude details or the wording is a bit unusual, be sure the missing details and a discussion of the development of the relevant questions are in the report. Details that were agreed upon, but were deleted from the question, must be in the report. Persons who were not present may criticize the relevant question wording because the report does not adequately describe the question development.

In screening applicants, keep in mind that EEOC and ADA rules on job interviewing apply to polygraph testing. For example, under ADA you cannot ask medical questions until a bona fide offer of employment is made,

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To make this paper into a workbook for teaching, 35 questions may be obtained from the author. Each of the questions has one or more errors in wording. The student identifies the errors, then writes a correct version of the questions.

and the questions you usually ask to determine fitness for testing are considered medical, you either don't ask, or have the polygraph tests performed after the offer stage. In addition to the Federal limits, there are state laws and city ordinances that further limit what you can say.

The technical questions that are designed to appear as relevant questions must be treated with the same thoroughness as the relevant questions. Included are the control/comparison questions (except in PCQT and DLC), sacrifice relevants, and the identity irrelevants in some RI tests.

While keeping a question short is often desirable for clarity, it is not essential. I have seen long and complex questions used in contract fraud, and the tests were successful.

Some technical questions such as the sacrifice relevant (Capps, 1991; Horvath, 1994) and the symptomatic (Capps, Knill & Evans, 1993) have been the topic of specific papers. Much has been written about techniques and questions for disclosure and maintenance tests in sex offender tests. It is too early to comment on those questions or suggest guidelines. Wording of relevant and control/comparison questions in certain types of crimes suggest the need for expert advice. Examples are arson, bomb cases, contract fraud, and insider trading of stocks or commodities.

Relevant Questions - Guidelines

The relevant question must solve a vital problem.

The issue covered by the relevant question must be of vital importance to the examinee.

The question must pose a dichotomy, answerable by "yes" or "no."

The question must be fully understood and mean the same thing to the examiner and examinee.

When possible, a relevant question should not use legal or technical terms.

The question must not contain obscene, profane, racial, derogatory, degrading, or insulting words or phrases.

Qualifiers, such as "Other than ..." are placed at the beginning of the question.

There should be enough facts in the question to avoid outside issues.

There should be no more facts in the question than necessary.

The facts in the question should not only be correct, but would be recognized as correct by the perpetrator.

The question must not imply or assume guilt.

The question must not imply disbelief by the examiner.

The sentence must be a question (POT/GKT exception).

It is preferable to use the action (verb) rather than the result.

The question must not ask for an opinion.

The question should not give away facts you plan to use in a POT/GKT.

It is generally held that you cannot test on the issue of intent.

When testing victims, the issue is truthfulness, not rape, robbery, or some other crime.

Be wary of using specific amounts of money stolen in the question.

Avoid words that are emotional, and likely to cause a response.

Separate relevants are asked about direct involvement, secondary involvement, guilty knowledge, and evidence connecting facts.

Control/Comparison Questions

The final written descriptions of control/comparison questions are by Summers (1939) whose "emotional standards" questions were paired with relevant questions. Examples he gave included, "Were you ever arrested?" "Are you living with your wife?" and "Do you own a revolver?" From the text and examples it appears that Summers used probable lies, embarrassing, evidence connecting, and other questions. Inbau & Reid (1948) introduced a test format in the 1940s which included a probable lie and a guilt complex question for comparison purposes. The guilt complex was later dropped for a second probable lie. The Reid control question may include the offense at issue. However, the Backster (1969) technique and DoDPI control/comparison question techniques do not permit the control/comparison questions to include the offense. They separate relevant and control/comparison coverage and offense by date or location.

The guilt complex question is a known-truth answer to what appears to be a relevant question about a crime. Other comparison questions include the yes answer to the relevant question in the PCQT format, a directed lie to a trivial matter, and the situational control where the examinee confirms and inculpatory fact with a yes answer. In one relevant-irrelevant screening test format, a relevant question with a low base rate of deception, such as terrorism, may serve as a probable truth (guilt complex) comparison question.

Probable Lie Control/Comparison Question Guidelines

The control/comparison question must be treated as a relevant question.

It is broader in scope than a relevant in order to be more likely applicable.

It is usually on the same topic as the case issue, but slightly lesser in severity of offense.

It should not mention or imply sex, except where sexual behavior is the issue.

Qualifiers such as "OT" from admissions should be at the beginning of the question.

Time bars should be used or not used, depending on the rules for the format.

It is usually worded to be answered "No."

When possible it should use the same verb as is in the relevant question.

The topic of the question should be one the examinee is likely to lie about or have serious doubt regarding the truthfulness of the reply.

Do not use a control/comparison question on race, religion, or politics, or that will humiliate or embarrass the examinee.

The question must be fully discussed with the examinee.

Irrelevant Questions

Almost all test formats open with an irrelevant question. Some formats anticipate additional need for an irrelevant question and fix its place in the format, while other techniques allow the examiner to insert them as needed. Irrelevant questions allow the orienting and other reactions to return to baseline, establish a norm level, reduce general nervous tension, provide relief from a previous reaction, separate reactions to relevant questions, and confirm the identity of the person being tested.

There are two types of irrelevant questions. One is the obvious irrelevant question, such as "Are you wearing brown shoes?" The other type of irrelevant involves identity questions, and is disguised as a relevant. These involve name, date and place of birth, residence, etc. Both of these types of irrelevant questions have a place in testing, and the type is sometimes prescribed. However, favoring the identity questions, Weir (1974) notes that the obvious irrelevants appear ridiculous, seem like a game, and do not pose a threat to the examinee.

Regarding research, Kircher and Raskin (1986) found that examinees were aware that the irrelevant questions produced their weakest reactions; and Frisby (1979) found that identity irrelevants produced fewer responses than did obvious irrelevants.

Irrelevant Questions - Guidelines

Identifying irrelevants are treated as relevants and thoroughly discussed.

Consistent significant reactions to identify irrelevants warrant interrogation.

Irrelevants must pose a dichotomy, answerable by "yes" or "no."

Irrelevants, obvious or identity, must be discussed with the examinee.

Answered truthfully, an irrelevant should not provoke emotions.

The proposed irrelevant is not a question you expect an examinee to lie to.

An obvious irrelevant is not related to the topic at issue.

Irrelevant questions are usually worded to be answered "yes." However, the Marcy and Arther CQT formats have obvious irrelevants answered "no." Several irrelevants must be reviewed before the test if the examiner is allowed by the technique to insert irrelevants as needed.

Most test formats open with one irrelevant, and some open with two.

Peak of Tension and Guilty Knowledge Tests

The peak of tension group includes the known solution peak (Type A) in which the investigator and the perpetrator know some specific item of information which would not be known to someone who was not involved in the offense. There is a variant called the guilty knowledge test (GKT). The primary difference between the POT and GKT is that in the latter the key item is placed by chance in the list anywhere except the first position, while in the POT the key is in or near the middle. There is a searching peak of tension (SPOT) in which the examiner is seeking to locate evidence from a subject who may possess information he refuses to divulge, such as the location of loot, or location of the victim of a kidnapping. The stim or acquaintance test is in the peak of tension group. There are many variations of the stim, with a number described in a special issue of *Polygraph* (1978) 7(3) 173-215. Stim tests differ from most POT formats in that the series is asked only once, where most POT, GKT, and SPOT tests employ three series, often varying the sequence in each presentation.

Known Solution (Type A) and Guilty Knowledge Test - Guidelines

Place the key item in or near the middle of the list. In the GKT the key is to be placed by chance, but not at the beginning.

Be certain the key is the correct item.

Be certain that other items in the list cannot possibly be correct.

Be certain the guilty or involved would recognize the correct item.

Be certain the innocent would not know the correct item.

Be certain that concealing recognition of the key is important.

Try to keep all the items of similar length, one word, two words, etc.

Try to keep all the items of similar emotional content.

Do not include an absurd or illogical item.

You may use a logical sequence to the items, if the key is not first.

Five, six, or seven items are ideal, but more may be used if logical.

The examinee may be given the order, or a list posted.

To avoid dissociation have the examinee repeat the item before saying "No."

If you plan to give a POT after an RI or CQT, be sure the key item(s) are not given away in the questions or pretest.

All items must be discussed with the examinee.

If the list includes guns or cars, be certain the examinee is sufficiently knowledgeable to recognize calibers, makes, and models.

If you use Arther's false key, place it at number 2, and the key at 4 or later.

Searching Peak of Tension Tests (Type B, SPOT)

The most probable item should be in the middle of the list during the first of three presentations.

The least probable item should be at the beginning of the list during the first of three presentations.

Use a question about other possibilities as the last item on each chart.

The order should be varied with each presentation.

The order of items may be announced or posted.

Concealing the correct item must pose an obvious threat.

The items in the list should be discussed in detail.

When maps or diagrams are used, they must have clearly marked boundaries, numbers, letters, and names for each area.

Question Formulation - Legal Opinions

In *United States v. Lech*, 94 Cr. 285, 895 F.Supp. 582 (USDC SD NY 1995), a bribery case before federal trial Judge Sonia Sotomayer, defendant Wlodek Jan Lech, attempted to enter into evidence the results of a polygraph examination in which he answered such questions as, "Did you try to bribe any Board of Education officials to obtain asbestos removal contract?" and "Did you take part in trying to bribe Board of Education officials to obtain an asbestos removal contract?" Lech sought admissibility in light of *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 113 S.Ct. 2786. Judge Sotomayer did not address *Daubert* and Rule 702. She applied Rule 403 of the Federal Rules of Evidence and found Lech's polygraph evidence precluded because "its probative value is substantially outweighed by the danger of unfair prejudice, confusion, or misleading of the jury." She explained that "Each of the questions Lech seeks to introduce calls for his belief about the legal implications of his actions, without setting forth the factual circumstances underlying such conclusion." In other words, she wrote, "the jury would receive evidence showing Lech's personal belief that he did not violate any federal criminal statute, but would not receive any information that would assist its inquiry to find facts." In a footnote, the Judge indicated the outcome may be different if a defendant sought to introduce answers "to an exam where he or she completely denied any connection or involvement" with the alleged crime. [*New York Law Journal*, 28 July 1995]

In *Hester v. Milledgeville*, 777 F.2d 1492 (11th Cir. 1985) the Eleventh Circuit overruled a trial court's conclusion that the use of control questions was a violation of the Constitutional right to privacy. The appellate court said the City's interest in using control questions to improve the accuracy of the polygraph test is an important one ... and the specific control questions at issue constituted only a limited intrusion into the sphere of confidentiality. The Court noted that the questions were general in nature, were asked for a specific, limited purpose, and, although potentially embarrassing, avoided issues such as those related to marriage, family and sexual relations generally considered to be the most personal. The Eleventh Circuit issued a word of caution, saying they would have reservations if any governmental unit were to use a subject's response to a control question for any purpose other than comparing the polygraph reading for the control question to the same subject's reaction to a relevant

question. The Court added there might well be a point at which a control question is so embarrassing or specific, or concerns so personal a matter, as to render the question unconstitutional even when asked for the proper purpose.

In *State v. Stowers*, 580 S.W.2d 516 (Mo.App. 1979) the defendant was appealing conviction for forcible rape. The results of a stipulated polygraph examination had been admitted, and on appeal defendant said one of the questions asked during the test was factually inaccurate. The question at issue was "Did you rape ... on Route FF?" Defense stated that the prosecutrix testified that the rape was along a gravel road just off Route FF, and that inaccuracy should cast doubt over the reliability of the whole test, thus rendering it inadmissible. The Missouri Court of Appeals said that the reference to geographic area was sufficiently proximate to the crime site not to invalidate the test results.

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