TRAINING LAW ENFORCEMENT OFFICERS TO DETECT DECEPTION: A CRITIQUE OF PREVIOUS RESEARCH AND FRAMEWORK FOR THE FUTURE

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This article reviews principles of effective training (Beebe, Mottet, & Roach, 2004), explicates the strengths and weaknesses of deception detection training research, and proposes a research agenda for deception detection training within the law enforcement context. Overall, deception detection training studies to-date fail to follow principles of effective training. Trainee needs are not assessed, training content is lacking, and the trainer and trainee engage in passive roles. A model is proposed with the aim of providing a conceptual framework for thinking about deception detection training and establishing a research agenda for future studies. In particular, it extends previously suggested changes to deception detection training research (Frank & Feeley, 2003), applies principles of effective training methods (Beebe et al., 2004), and calls for a *context-dependent* (Flyvbjerg, 2001) shift in deception detection training studies.

Law enforcement officers are confronted with making judgments of truth and deception on a daily basis. They decide on the veracity of claims about the whereabouts of suspects, who physically assaulted whom, if someone is using or selling drugs, among hundreds of other situations. The decisions law enforcement officers make regarding the truth of a suspect's statement have potentially tremendous consequences. Whether or not an officer believes a victim's statement at a crime scene may dictate if

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the suspect is placed under arrest, charged for a particular crime, or set free.

Despite the importance of deception detection to their jobs, research suggests that most law enforcement officers are not able to detect deception better than chance (e.g., Garrido & Masip, 1999; Hartwig, Granhad, Sromwall, & Vrij, 2004). Law enforcement officers' experience dealing with deceit and their difficulty in detecting lies led Inbau and colleagues (Inbau, Reid, & Buckley, 1986; Inbau, Reid, Buckley, & Jane, 2001) to publish a police manual, *Criminal Interrogation and Confessions*, explaining how to detect deception. The manual claims that liars exhibit gaze aversion, place the hand over the mouth when speaking, and display unnatural posture changes; however, "none of these behaviors have been found to be reliably related to lying in deception research" (Mann, Vrij, & Bull, 2004, p. 139). It is no surprise then, that Kassin and Fong (1999) found that participants who were trained using the cues identified as indicators of deception in *Criminal Interrogation and Confessions* were significantly less likely to detect deception than untrained observers.

Although Inbau and colleagues' (Inbau, Reid, & Buckley, 1986; Inbau, Reid, Buckley, & Jayne, 2001) deception detection[2] training (DDT) techniques have failed, a number of scholars havedeveloped and tested DDT methods. A meta-analysis of 11 DDT studies concludes that, overall, there is a 4% gain in accuracy for those trained in deception detection and that this number might underestimate proper training procedures (Frank & Feeley,

[2]Scholars define *deception* differently. DePaulo et al. (2003) define *deception* as "a deliberate attempt to mislead others" (p. 74). Ekman mentions that "in my definition of a lie or deceit, then, one person intends to mislead another, doing so deliberately, without prior notification of this purpose, and without having been explicitly asked to do so by the target" (p. 28). Vrij (2000) defines deception as *'a successful or unsuccessful deliberate attempt, without forewarning, to create in another a belief which the communicator considers to be untrue"* (p. 6). Whaley (1982) mentions that deception "is the distortion of perceived reality" (p. 182) and Bell (2003) defines deception as "the conscious, planned intrusion of an illusion seeking to alter a target's perception of reality, replacing objective reality with perceived reality" (p. 244). Each of these definitions in some way remarks on deception being *deliberate* and an *attempt to mislead another*. DePaulo et al.'s (2003) definition of deception is particularly useful in that it is parsimonious and captures the nature of the phenomenon under investigation, thus deception is defined in this paper as *a deliberate attempt to mislead another*. *Deception detection* refers to distinguishing between truth and deception.

2003). However, what constitutes proper training procedures and to what degree do DDT studies use proper procedures? This article begins by highlighting principles of effective training, which are then used to analyze the strengths and weaknesses of DDT studies. Finally, in light of principles of effective training and the strengths and weaknesses of DDT studies, a model is proposed with the aim of (a) providing a conceptual framework for thinking about DDT and (b) establishing a research agenda for future studies.

PRINCIPLES OF EFFECTIVE TRAINING

Beebe et al. (2004) conceptualize *training* as "the process of developing skills in order to more effectively perform a specific job or task" (p. 5). The *needs-centered training model* (Beebe et al., 2004) offers nine elements of effective training, including analyzing organizational/trainee needs, analyzing the training task, developing training objectives, organizing training content, determining training methods, selecting training resources, completing the training plan, delivering the training, and assessing the training. Each is summarized below.

Analyze organizational and trainee needs

The first element of effective training—analyzing organizational and trainee needs—should be at the heart of any training session or program. At the beginning of the training process, a needs assessment, which evaluates what is lacking, helps identify trainee needs. A needs assessment can be done through questionnaires, interviews, and observation. Analyzing trainee needs should come at every step of the training process and changes should be made when appropriate.

Analyze the training task

In addition to analyzing needs, analyzing the training task, or doing a *task analysis* is an essential step for effective training. A task analysis is a "detailed, step-by-step description of precisely what the trainee should do and know in order to perform that desired skill" (Beebe et al., 2004, p. 18). In order to conduct a

task analysis, the trainer must be knowledgeable about the skill, clearly lay out the steps involved in performing the skill, and determine the best sequence to follow when teaching the skill.

Develop training objectives

Training objectives should also be developed, which are "concise statement[s] that describe what the trainees should be able to do when they complete the training" (Beebe et al., 2004, p. 70). Beebe et al. (2004) mention that objectives should be observable, measurable, attainable, and specific. Similarly, Docan-Morgan (2007) proposes that objectives should be learner-focused, attainable, targeted toward learning domains, focused on specific behavior, observable, and indicate degree.

Organize training content

The content of any training session or program must be developed, which may come from internal sources (e.g., own experiences, knowledge) and external sources (e.g., internet, books, periodicals, experts). At this stage, the trainer needs to thoroughly consider how best to teach the skill being taught. Beebe et al. (2004) suggest that trainers (1) tell trainees what they want them to do, (2) show the trainees examples, (3) invite trainees to practice the skill, (4) encourage trainees to offer feedback about their and others' performance, and (5) correct trainees by offering specific suggestions for improvement.

Determine training methods

A training method "is the procedure you use to present the training content to demonstrate the behaviors you want trainees to learn" (Beebe, 2004, p. 110). Trainers should propose a variety of methods, discuss the advantages and disadvantages of each, and propose how to develop and prepare these methods. Specific methods include lecture, experiential activities (e.g., case study, simulation, project-based learning, role play, demonstration), and group discussion.

Select training resources

Training resources, or presentational aids, should be selected and developed well before the training session. Beebe et al.

(2004) discuss a variety of presentational aids, purposes for using them, and how to use them effectively. The various options include: handouts, posters and flipcharts, dry-erase boards, overhead projectors, video, and computer-generated visual presentations.

Complete training plans

Effective training also involves the development of training plans which contain: "(1) the objectives, (2) a summary of the training content, (3) a description of the training methods, and (4) a detailed description of all presentation aids and resources (e.g., handouts) that are needed to transform the plan into a training session" (Beebe et al., 2004, p. 164). Completing the training plans also involves selecting a format for training plans (descriptive, outline, and multicolumn), preparing a participant's guide, practical training planning tips, and testing the training plan.

Deliver training

The actual delivery of the training session must also be considered. An effective trainer should consider the trainees' needs, create an inviting physical and psychological environment, and establish nonverbal and verbal immediacy with the trainees.

Assess the training process

Effective training involves an assessment of the training process. Training assessment is a "systematic process of evaluating training programs to ensure that they meet the needs of the trainees and organization" (Beebe et al., 2004, p. 239). The final assessment identifies if the trainees actually learned. Learning outcomes can measure cognitive learning (did they learn it?) through exams, affective learning (did they like it?) through questionnaires, and behavioral learning (can they do it?) through questionnaires and behavioral instruments (Bloom, 1956). Particular designs must also be considered (e.g., pre/post-test, post-tests only, qualitative). Effective training involves the analysis and reporting of this data.

Do deception detection training studies use principles of effective training?

The finding that previous deception detection training increases accuracy by only 4% (Frank & Feeley, 2003) begs the question of *why*. There exists a need to discover how these studies approach training, as the results of the training are likely at least partially indicative of its quality.

Data

Data in this analysis consist of previously written scholarly reports of deception detection training. Several search procedures were used to include all DDT studies. These search methods are similar to those used by Frank and Feely (2003) in their meta-analysis of lie detection training results. First, key terms were searched in electronic databases such as the Expanded Academic Index. These searches included combinations of terms such as "deception," "deception detection," "lying," "training," and "instruction." Further, the author examined popular deception books (e.g., Ekman, 2001; Vrij, 2000) for relevant sources on DDT. An ancestry search was also completed on sources related to DDT. All articles in Frank and Feely's (2003) meta-analysis of lie detection training results were included (deTurck, 1991; deTurck, Feeley, & Roman, 1997; deTurck, Harszlak, Bodhorn, & Texler, 1990; deTurck & Miller, 1990; Fiedler & Walka, 1993; Kassin & Fong, 1999; Kohnken, 1987; Vrij, 1994; Vrij & Grahm, 1997; Zuckerman, Koestner, & Alton, 1984; Zuckerman, Koestner, & Colella, 1985), as were more recent articles (Crews, Cao, Lin, Nunamaker & Burgoon, 2007; Hartwig, Granhag, Strömwall, & Kronkvist, 2006; Hill & Craig, 2004; Levine, Feeley, McCornack, Hughes, & Harms, 2005). For each of the 15 studies, every detail provided by the authors as pertinent to training were analyzed. When reviewing the information provided about training, both existing and missing components of Beebe et al.'s (2004) guidelines for effective training were noted. Each is discussed next.

ANALYSIS

Analysis of organizational and trainee needs

Each of the 15 studies of DDT do not formally analyze organizational or trainee needs. Instead, many assume that training is needed because those in law enforcement constantly deal with liars. Some of these studies begin with attention catching and emotional narratives about false confessions (Kassin & Fong, 1999), discuss the prevalence of lies regarding eyewitness testimonies (Kohnken, 1987), and highlight the importance of training for police detectives (Vrij, 1994). Many of these scholars also assume that training is needed because of studies demonstrating individuals' (particularly law enforcement officers') lack of skill in deception detection (e.g., DePaulo & Pfeifer, 1986; Ekman & O'Sullivan, 1991; Vrij & Mann, 2001). Conducting training on the assumption that officers are not highly skilled in detecting deception is warranted; however, previous DDT studies fail to conduct formal needs assessments in terms of what exactly law enforcement officers need to know about the deception process. Frank and Feeley (2003) mention that DDT scholars need to map out the features of deceptive situations faced by professional lie detectors, however they fail to provide specific direction. Regardless, the needs of officers in the specific contexts in which they deal with deception would be better understood and allow for more focused training. Scholars need to do more than simply map -out features of deceptive situations faced by officers. Conducting in-field observations and interviews would likely help to assess officers' needs in deception situations to a much greater extent.

Pre-assessment

DDT studies fail to conduct specific pre-assessment of officers' ability to detect deception before the training begins. Instead, they use training groups and a control group to measure the effectiveness of the training (e.g., deTurck et al., 1997; Levine et. al, 2005). Thus, the content of training is not based on the specific groups of individuals selected for training; instead, they are trained with pre-determined content, regardless of the groups' skill and knowledge level. This flaw in the training program is

detrimental to further steps in the training program as possible objectives cannot be revised, and instructional content is narrowly focused and not needs-based. Specific skill discrepancies have been ignored as well (e.g., does the specific group of officers chosen for the study lack skill in detecting truth, deception, both, or neither?). Further, the pre-tests used in experimental DDT studies, which are the closest scholars get to conducting specific pre-assessments, lack ecological validity.[3]

Analysis of training task

In most DDT studies, the training task, or the specific knowledge trainees will be expected to know, is partially laid out in the literature review section of the report as well as when the training content is discussed. The literature reviews of these studies discuss cues associated with deception, which are largely based on studies conducted in laboratory environments. Information provided about the task of detecting deception is based on limited deception studies, and in some cases, on just one experiment conducted by the same scholar. For example, deTurck's studies (deTurck, 1991; deTurck et al., 1990; deTurck et al., 1997; deTurck & Miller, 1990) are based on a single study of correlates of deception he conducted in 1985 (deTurck & Miller, 1985). Task analyses in DDT research conducted to-date are limited. Scholars also differ on what indicates deception, thus more contextualized research on indicators of deceit is necessary (see

[3]Participants, usually white college students majoring in communication or psychology, are forced to tell particular, often awkward, unrealistic lies at precise, calculated times, and for specific durations of time while being videotaped in the university laboratory environment with little, if any incentive (e.g., a nursing student is told to lie about visual images to an interviewer or a communication undergraduate is told to lie about the amount of dots on a card). These video clips of lies and truth are then shown to DDT participants either as training material or pre- or post-test assessments. Although approaches attempt to emulate deceptive encounters, they fail miserably. They do so because the characteristics of deception cannot be replicated in a laboratory while accounting for its dynamic nature (e.g., deception is often spontaneous—lies are made up on the spot and told by an individual; whereas participants in deception studies are often told what to lie about, when to do it, and for how long). The scientific tradition (or practice) of singling out specific variables and testing effects of manipulations all the while seeking to limit any sort of contamination, impurity, or confounding variables, gives little hope that the actual nature of deception is still intact. The real, context-specific nature of deception is lost; the intricacies of deception are muddled, if not drowned in a sea of generality. This issue, perhaps, needs to be further addressed in a separate paper.

DePaulo, Lindsay, Malone, Muhlenbruck, Charlton, & Cooper, 2003). Proper task analyses must also clearly lay out the steps involved in performing the skill, and determine the best sequence to follow when teaching the skill. These steps are absent in DDT studies.

OBJECTIVES

DDT studies do not propose objectives which describe what the trainees should be able to do when they complete the training. One reason why objectives are not stated in these studies is that they attempt to follow social scientific procedures in that they must abide by certain expected protocols of scholarly research (which do not include formulating objectives for training). Rather, many of these studies aim to discover what kinds of training are most effective. For example, researchers (e.g., Vrij, 1994) manipulate variables in their training groups, primarily to discover what information or content (e.g., nonverbal indicators of deception, verbal and nonverbal indicators of deception, performance feedback) affect trainee success at detecting deception. This social scientific approach traditionally does not allow objectives to be stated; therefore DDT researchers do not state objectives. Further, as the main focus of these studies is to manipulate variables in the training groups, it is no wonder why nearly all other training fundamentals are left on the backburner (i.e., needs are not analyzed, the trainer and trainee play passive roles).

Developing clear objectives would likely be beneficial for DDT scholars and practitioners as objectives guide much of the training program. Forming clear objectives not only creates observable, measurable, attainable, and specific goals, but also leaves room for revising and improving objectives for future DDT. For example, by beginning with objectives such as "at the end of this training session, trainees should be able to detect/ identify truth/lies at a 70% accuracy rate or higher," there now exist specific aims in which other DDT programs may wish to consider, use, or alter in hopes of creating a more refined and useful training program. By providing clear objectives, the specific

roles of the trainer and trainees would be more clearly delineated. Following effective training fundamentals will likely ensure more successful training sessions.

Organization of training content

Deciding what content to use in DDT studies is perhaps the most difficult and problematic choice to make in this type of training. Although some crossover exists, most DDT studies to-date differ on the content taught to trainees. As mentioned, de-Turck (deTurck, 1991; deTurck et al., 1990; deTurck et al., 1997; deTurck & Miller, 1990) bases his training content on one of his own deception studies (deTurck & Miller, 1985). Similarly, Vrij (1994) uses training content solely from a single study of his conducted in 1993 (Vrij, 1993). Some scholars briefly discuss what content they taught to trainees, but do not cite where this content was published (e.g., Fiedler & Walka, 1993). This practice is problematic in that scholars who wish to use Fiedler and Walka's (1993) work are left guessing where this information originates. Interestingly, although hundreds of published reports provide information on indicators of deception, this research is not utilized, thus creating very narrow content selections. However, there is some hope. DePaulo et al. (2003) recently published an extensive meta-analysis of indicators of deception, which has promise in helping scholars choose training content more representative of the field's findings.

Training methods

The training methods, or procedures used to present the training content in previous DDT studies have both advantages and disadvantages. On the positive side, a number of studies (e.g., Fiedler & Walka, 1993; Kassin & Fong, 1999) used small groups (2-6 trainees), which may create a more productive learning environment than using larger groups (Schoenfeld, 1983). Additionally, a few studies showed trainees cues indicative of deception on video (e.g., Hill & Craig, 2004; Vrij, 1994). Some studies also provided feedback to trainees during the training session, which increased deception detection success in many cases (e.g., Hill & Craig, 2004; Zuckerman et al., 1985).

As a whole, however, these studies fail in terms of using sound training methods. First, some studies simply showed a video which consisted of the entirety or nearly all of the training content. For example, Kassin and Fong (1999) showed a 15-minute segment of a video about detecting deception and gave trainees 10 minutes to study written material. In a recent study (Levine et al., 2005), participants watched a 5-minute videotaped lecture on cues related to deception. Being able to detect deception is an extremely difficult task to master. Using a non-immediate and one-way, linear training approach is sorely lacking fundamental principles of training, especially when dealing with a new and difficult-to-learn skill. Trainees cannot ask questions, clear up misunderstandings, or hear additional explanations or examples. General principles of instruction (Kibler, Cegala, Watson, Barker, & Miles, 1981), such as motivation, active responding, guidance, practice, and knowledge of results are completely left on the backburner. The roles of both trainer and trainee are passive ones—trainers simply play a video, whereas trainees are treated as knowledge receptacles.

Second, the short nature of these training sessions is problematic. Only some of the DDT studies provided information as to how long the training sessions lasted. These times range from 5 minutes (Levine et al., 2005), 25 minutes (Kassin & Fong, 1999), 30 minutes (deTurck, 1991; deTurck et al., 1990; deTurck et al., 1997; deTurck & Miller, 1990), 60 minutes (Crews et al., 2007; Kohnken, 1987), and three hours (Hartwig et al., 2006). In one study, trainees were read a one-paragraph briefing on deception detection (Vrij & Graham, 1997). Providing only one, 5 to 60 minute session in length is not nearly enough time for trainees to become successful lie detectors. The small amount of information trainees are provided, especially when given solely in lecture or video format, likely contributes to the low effects of deception detection accuracy.

Some procedures have both advantages and disadvantages. For example, in many cases, participants had the indicators of deception modeled by a live research assistant. deTurck &

Miller (1990) mention that "to illustrate adaptors, the research assistant scratched his/her head, rubbed his/her upper arm, and so on" (p. 610). On the positive side, trainees are shown live, in-person examples that are easily seen by trainees. However, the research assistant is not actually telling a lie, there is no context about the lie provided, and indicators of deception are likely to be much more subtle than the obvious manner in which they were demonstrated in the study. Unfortunately, these DDT studies do not take advantage of other training methods, such as experiential activities (e.g., case study, simulation, project-based learning, role -play) or even group discussion, all of which may be useful for DDT.

Training resources

At least one kind of training resource, or presentational aid, was used in most studies. For example, deTurck (deTurck, 1991; deTurck et al., 1990; deTurck et al., 1997; deTurck & Miller, 1990) often used handouts and samples of lies on video, Hill and Craig (2004) provided trainees with a training manual, and Vrij and Graham (1997) used an overhead projector to aid in presenting information. A number of DDT studies failed to provide information about the training resources used. Conceivably, the resources, as well as how they are used will have an effect on trainees, thus what trainers use should be discussed in detail in future studies. With the advent of technology, trainers have endless options for creating and using resources, such as using computer-generated visual presentations to aid trainees' learning (see Crews et al., 2007).

Training plans

Unfortunately, DDT scholars do not provide training plans in their write-ups. This may in part be due to page limitations of academic journals, or scholars simply do not develop training plans. Regardless, creating and making available training plans would likely be useful for DDT scholars and practitioners.

Delivery of training

Apart from limited information given about the training content, methods, and resources, information about the delivery

of the training is not provided in these studies. No information is provided about considering the trainees' needs, the environment, or establishing nonverbal and verbal immediacy. Based on the information included it seems that these elements were ignored during the training sessions (e.g., simply showing trainees a video upon arriving and then assessing their performance on a test likely does not allow for a sense of immediacy to be established, which likely hinders learning).

ASSESSMENT

Each of the 15 DDT studies assesses trainees' ability to detect deception. They do so primarily by showing trainees video clips of lies and truths, and ask trainees to make veracity judgments. The results of 11 of these tests, overall, demonstrate that DDT in these studies increases accuracy by 4% (Frank & Feeley, 2003). However, when considering that assessment is a "systematic process of evaluating training programs to ensure that they meet the needs of the trainees and organization" (Beebe et al., 2004, p. 239), uncertainty exists as to whether or not the kind of training provided meets the needs of the specific training group. For example, Kohnken (1987) did not assess whether the type of training he provided met the officers' needs other than employing a post-test. Officers could have been interviewed about their needs, asked for suggested revisions of the training program, etc. Trainees were only assessed in terms of their ability to detect deception, which concerns behavioral learning (can they do it?). They were not assessed for their cognitive learning (did they learn it?) or affective learning (did they like it?). Furthermore, no information was provided about whether the results were reported back to the participants.

SUMMARY

Unfortunately, the basic principles of effective training are severely lacking in DDT studies. Using Beebe et al.'s (2004) model, which highlights elements of effective training, to better understand current DDT research provides some important find-

ings and implications. Organizational and trainee needs are not thoroughly assessed, nor are trainees' ability to detect deception before developing particular training content. Training objectives are not proposed and task analyses, as well as training content, is based on limited empirical research. The training methods used have some advantages—small training groups, use of examples, and feedback. However, most training methods are sorely lacking. The roles of the trainer and trainee in many of these studies are passive ones in which little cognitive, behavioral, and affective learning (Bloom, 1956) likely takes place. Although trainers assess trainees' success in detecting deception once training is completed, we are left uncertain as to whether or not the kind of training provided met the needs of the specific training group. The combination of these limitations prohibits trainees' ability at deception detection. Shulman's (1987) remarks about effective teaching illuminates why previous DDT studies have produced limited results: "Critical features of teaching, such as the subject matter being taught, the classroom context, and the physical and psychological characteristics of the students, or the accomplishment of purposes not readily assessed on standardized tests, are typically ignored in the quest for general principles of effective teaching" (p. 6). Here, Shulman mentions some of the fundamental components of what aids trainees' learning, which should be at the heart of DDT. The goal of the next section of this paper is to address many of these ignored components Shulman (1987) illuminates and propose procedures for future DDT research.

PROPOSED MODEL FOR FUTURE DECEPTION DETECTION TRAINING RESEARCH

In light of the basic principles of effective training as explicated by the needs-centered training model, as well as the strengths and weaknesses of previous DDT studies, direction for future DDT studies in the law enforcement context is proposed. The *Staircase Model of Deception Detection Training Research for Law Enforcement Officers* provides both a conceptual framework for thinking about DDT as well as a research agenda for conducting future studies. A model is a "visual, verbal, or tangi-

ble way of representing something" (Beebe et al., 2004, p. 13) and is used here, in part, to elucidate the interconnected steps involved in deception detection training. Numerous assumptions of the model are discussed and each component of the model is explicated.

Underlying Assumptions of the Model

One primary assumption of the model is that context must be considered at every stage of the training process. The methods used to study deception and train others in deception detection to-date, are *context-independent* (see Flyvbjerg, 2001), or lacking context in which deceptions hinge. *Context-dependent* deception means that every deceptive account has its own particular characteristics and should be studied in a manner that accounts for this feature. Further, the staircase assumes that each step builds on previous steps and creates a foundation for the procedures to follow. This model also assumes that there is an end goal (assessment of trainees' success and trainees' need) that trainers should pursue actively. The order of the steps in the model take into account the necessary elements of what should be considered first and foremost in the training process (i.e., analyzing officer needs), and continues with steps that build on one another. The model also assumes that the trainer can move up or down the steps as necessary.

COMPONENTS OF THE MODEL

Questions asked at each step of the model

At every point in the training process, trainers should ask themselves eight questions. Four of these questions are based on Sarthory's (1977) work on teaching. Applied to training, they ask: Where are our trainees now? Where do we want them to be? What are the reinforcing and constraining factors? How do we get them from here to there? Quite obviously, these questions should be asked at the beginning stages of any training program. However, they should also be asked when considering what content to include in the training session, how to deliver the training, and what to do once the assessment has been completed.

Four other important questions ask the trainer to consider the trainer's role, trainees' role, and the implications of these roles: What are the roles and goals of the trainer? What are the roles and goals of the trainee? What are the implications of these roles and goals? How do we align the roles and goals of the trainer, trainee, and content? These questions are important as the answers will likely guide much of the actual training.

Analysis of law enforcement officer needs

The first step in any DDT study should consist of a thorough investigation of law enforcement officers' needs in the context of deception. Frank and Feeley (2003) mention that DDT scholars need to map out the features of deceptive situations faced by professional lie detectors; however, they do not propose specific questions to be answered. Some questions to consider include the following:

(1) What are officers' goals, experiences, and schemas in terms of truth/deception detection?

Officers' Goals in Searching for Truth/Detecting Deception

Are officers *searching for the truth* and/or *detecting deception*, or neither? What is the difference between these goals?

If officers have the goal of uncovering truth and/or detecting deception, how often do they have this goal, when do they have this goal, and how do they achieve this goal?

Officers' (Receivers') Experience when Detecting Truth/Deception

What do officers experience when dealing with civilians/suspects?

How do officers behave when dealing with civilians/suspects?

Officers' Truth/Deception Schemas

What are officers' schemas (stereotypes, prototypes) for truth/deception?

What heuristics do officers have about deception/truth?

Officers' Use of Truth/Deception Schemas

What schemas and heuristics do officers *use* in truthful/deceptive encounters?

How do officers' use of truthful/deception schemas and heuristics affect interactions with civilians/suspects?

(2) What are the (a) features of a truthful/deceptive officer-civilian/suspect speech situation, and (b) features of a truthful/deceptive officer-civilian/suspect speech act?

Features of Truthful/Deception Situation (speech situation)

What are the truthful and deceptive situations that officers face, and what are the important factors in these situations?

What are the characteristics of a truthful/deceptive situation faced by officers?

What are the important factors in these situations?

Features of Truth/Deception Act (speech act)

Topics

What are the *content topics* officers face when detecting truth/deception? What are officers lied to about (e.g., whereabouts, possession of drugs, actions with another)?

Types of Deception

What kinds of deception are officers faced to detect (e.g., white lies, half-truths, concealments)?

Stakes

What are the stakes for the deceiver in officer-civilian/suspect interaction (citation, severe punishment)?

Functions

What are the functions of truth/deception in officer-civilian/suspect interaction?

Many of these questions cannot necessarily be answered similarly for all law enforcement officers. For example, an officer working in the small town of Cloudcroft, New Mexico might face fewer high stakes lies and interact more with culturally homogenous individuals on a daily basis compared to an officer in Los Angeles who frequently deals with high stakes lies and culturally diverse individuals. Needs must be considered for the specific group of trainees. By answering the questions posed above, the needs of officers in the specific contexts in which they deal with deception would be better understood, training would be more focused, and officers' deception detection accuracy would likely increase. Conducting interviews and in-field observations are two methods useful for assessing officers' needs in deception situations.

Pre-assessment of specific groups of law enforcement officers.

Vrij's (2000) review of studies examining law enforcement officers' ability to detect deception indicates that deception detection accuracy varies according to receivers' or practitioners' specific job duties. For example, Ekman and O'Sullivan (1991) found that members of U.S. Secret Service, Central Intelligence Agency, Federal Bureau of Investigation, National Security Agency, Drug Enforcement Agency, and California police and judges detected deception at different rates of success. Their findings highlight, in part, that law enforcement officer's role affects their skill levels in detecting deception as well as the different types of circumstances and deceptions faced. As such, trainers must take the specific duties of law enforcement officer into consideration before training begins. Pre-assessing officers' ability to detect deception requires understanding what kinds of lies officers deal with as well as the contextual factors of a deception situation. Appropriate pre-assessment tests are also necessary. For example, patrol officers should not be pre-assessed with video clips of college students lying in a laboratory, but instead with real-life lies captured from patrol officer-suspect interaction. By appropriately pre-assessing officers, specific skill discrepancies officers have in detecting deception can be adequately addressed in training. After officers' needs are assessed and their specific

skill levels are pre-assessed, training objectives can then be created.

Develop training objectives

Clear objectives are beneficial for DDT scholars and practitioners as they guide much of the training itself. The objectives should be observable, measurable, attainable, and specific. The following training objectives fulfill these requirements:

> *Training objective 1:* At the end of this training session, trainees should be able to describe cues of a truthful and deceptive message/communicator on a written and oral exam.
>
> *Training objective 2:* At the end of this training session, trainees should be able to detect/identify truth/lies at a 70% accuracy rate or higher based on real police officer-suspect interaction on video clips.

These objectives are observable because the trainer can literally observe the trainee describing cues of truthful and deceptive messages. These objectives are also measurable in that trainees' knowledge and skill are assessed by the exam taken at the end of the training. For example, trainees' skill at detecting deception could be measured by showing trainees video clips of liars and truth tellers and having them make veracity judgments about the suspect in the clip. After a requisite amount of veracity judgments are made, the trainer can then measure the trainees' ability to detect deception.[4] These objectives are also attainable in that they are realistic to achieve. Additionally, they are attainable because previous research claims that individuals are able to achieve 70% accuracy.[5] These objectives are also specific in that they provide detail (e.g., "describe cues," "written and oral exam," "70% accuracy rate," "based on real police officer-suspect interaction on video clips"). Training objectives are also important to publish in

[4]This will inform the trainer if the training was successful (assuming that a similar pre-assessment measure was used).

[5]The 70% level was chosen because this is the level at which individuals are considered "extraordinarily accurate" at detecting truth and deception (Ekman & O'Sullivan, 1991; Ekman et al., 1999; O'Sullivan, 2005, p. 241).

written reports as they allow other DDT scholars and practitioners to consider using or altering them in their own training sessions in hopes of creating a more refined and useful training program. After officers' needs have been assessed, specific skill levels have been pre-assessed, and objectives have been formed, the training task and content should be thoroughly developed.

Analysis of training task and development of content.

In order for trainers to analyze the specific task of deception detection in the officer-suspect interaction and develop appropriate training content, two main factors should be considered. First, trainers must take the entire spectrum of deception detection studies into consideration, instead of simply focusing on the results of one study. Having a well-rounded understanding of deception itself, as well as how to detect it, will enable trainers to better understand what content to include in the training session (s) and how to teach trainees methods of deception detection. In particular, recent meta-analyses, such DePaulo et al.'s (2003) may better help trainers analyze the specific task of deception detection as it incorporates the results of nearly all studies examining indicators of deception. Similarly, Mann, Vrij, and Bull's (2002, 2004) recent work, which provides findings about real-life lies discovered in detective-suspect interaction, may better inform trainers about the specific nature of deception within this context. Task analyses and the development of training content for DDT must consider all relevant sources.

Secondly, trainers cannot *fully* analyze the task of concern or *entirely* develop content as of yet. To date, there has not been a single study of law enforcement officer-suspect interaction that examines the deception process that takes place where most officers spend their time—on patrol answering emergency calls and ensuring safety.[6] Collins, Brown, and Holum (1991) argue that to make a difference in the learner's skill, "we need both to understand the nature of expert practice and to devise methods that are appropriate to learning that practice" (p. 8). In terms of deception detection, there is a need to understand what experts in detecting

[6]Of the nearly one million police officers in the United States, "most full-time sworn personnel are uniformed officers who regularly patrol and respond to calls for service" (The U.S. Bureau of Labor Statistics, 2005)

lies focus on, as well as what and how to teach others this skill. More contextualized research focusing on indicators of deception in patrol officer-suspect interaction is necessary if the task of detecting deception is going to be better understood by deception detection trainers, as well as what content to include in training sessions. Once training content and the task of deception detection is better understood, trainers may be better able to elucidate the steps involved in performing the skill and determine the best sequence to follow when teaching it.

Develop training methods

When making decisions about the methods used to train deception detection, trainers should consider a wide array of options. Especially when considering that a successful DDT regiment will take more than one hour to complete[7], the methods used to train should be varied in type, as well as address different learning styles (e.g., auditory, visual). Furthermore, the training methods also need to address the three types of learning: cognitive, behavioral, and affective (Bloom, 1956). Interestingly, Vrij (2000) reports that officers' motivation is one reason why DDT programs are not highly successful. The trainer must find ways to activate trainees' motivation and affective learning. This might be accomplished by actively and creatively beginning training sessions by establishing trainer credibility, getting trainees to make an emotional investment in the training, providing strong listener relevance links, and establishing immediacy with the trainees from the onset of the training.

In addition to addressing different learning styles and the three types of learning, trainers need to consider the means by which the training will be presented. They have the option of using lecture, experiential activities (e.g., case study, simulation, project-based learning, role-play, demonstration), and group discussion, among others. Trainers might consider adopting teaching

[7]The specific amount of time that should be used to train cannot be definitively recommended here. Trainers need to consider how much time should be devoted to the training itself once the needs-assessment and pre-assessment are completed, and depending on how much time the particular law enforcement agency or department provides for the trainer. As Frank and Feeley (2003) suggest, any DDT program that aims for successful results should be more than 50 minutes in length, allow trainees to practice the skill outside of training time, and have multiple sessions over time.

strategies such as cognitive apprenticeship, which focuses on modeling, coaching, scaffolding, articulation, reflection, and exploration, as well as focusing on global before local skills, increasing the complexity of tasks for trainees, and increasing diversity (see Collins et al., 1991). Trainers might also consider incorporating principles of what is referred to as direct instruction: "Proceeding in small steps, checking for student understanding, and achieving active and successful participation by all students" (Rosenshine, 1984, p. 30). Further, general principles of instruction such as motivation, active responding, guidance, practice, and knowledge of results are essential features of a training program in deception detection (Kibler et al., 1981). The trainer and trainees must play active roles in assuring that these principles of instruction are imperative concerns. Furthermore, the strengths of previous training studies should also be incorporated, including using small training groups (3-15 trainees per group) to facilitate individual learning, showing video footage of indicators of truth and deception as examples[8], and providing trainees with the opportunity to practice and receive feedback.

Training aids

While trainers consider the content of the training, they must simultaneously consider which types of presentational aids will be most effective in helping meet the training objectives. One option deception detection trainers have is to use computer-generated visual presentations, such as PowerPoint which can *aid* in guiding the training session. If used creatively, a program such as PowerPoint can provide structure to the presentation, informational knowledge (e.g., which behaviors indicate deception), video-clip examples, discussion questions, and the like.

The use of technology may be especially important when showing trainees examples of truths and lies. Video clips of liars

[8]Video examples need to be of real life law enforcement officer-civilian/suspect interaction, instead of college students lying to a researcher in a university laboratory. One avenue researchers might peruse is to select clips from the television show COPS. The interaction is real and lies are often told (in some scenes, the suspect makes a claim and then later admits guilt; in other scenes the suspect sometimes makes a claim, and the police officer finds physical evidence to the contrary). These clips of lies could potentially be used as training content and assessment measures.

and truth tellers should be digitized so at specific moments when indicators of truth and deception occur, the trainer can replay, slow down, and pause the clip with ease. By replaying, slowing down, and pausing these clips at particular moments, trainees will be able to more clearly see and hear indicators of deception (e.g., raise in voice pitch, use less hand gestures). When considering what training aids to implement, trainers should keep in mind trainees' needs and the training objectives.

Training plans

The training plans, or outline of the entire training should be completed well before the training session. Furthermore, scholars need to make available their training plans for other trainers to consider using and revising as more detail provided about the training will likely help facilitate more successful training in the future (i.e., trainers can revise plans, incorporate certain elements of previous training sessions into their own). Scholars should consider either including their training plans (and as much information about the training) in their published reports and/or making them available upon request.

Delivery of training

The success of any training session likely hinges on how the training content and methods are delivered. Although many factors (i.e., trainees' needs, establishing verbal and nonverbal immediacy, the training environment) should be thoroughly thought out when devising the training content and training plans, it is important that they are fulfilled in the delivery of the training.

First, trainers should consider the needs of law enforcement officers even when the officers arrive at the training site. For example, if the officers come to the training session immediately after finishing their patrol shift, the trainer should make available food and/or water so the officers can operate in a functioning and competent manner. In addition to trainees' physiological needs, trainers need to consider trainees' attention span and plan accordingly (e.g., allow for breaks).

Second, trainers should follow basic presentational speaking rules-of-thumb such as using conversational delivery and developing a sense of immediacy or psychological closeness (Beebe et al., 2004; Mehrabian, 1971). Although obvious, actually carrying out a training session in front of police officers foreign to the trainer might prove to be difficult. Regardless, a highly motivated trainer can establish immediacy through nonverbal (e.g., their appearance; making positive, professional, and friendly facial expressions; making appropriate eye contact) and verbal communication (e.g., using "we" language, using personal examples, encouraging trainees, using trainee names).

Another consideration concerns the training environment. Regarding the physical environment, the trainer should make conscious decisions about the room set-up, assure a comfortable temperature, and decrease any physical or auditory distractions (e.g., block off a hallway high in traffic connected to the training room). The trainer should also consider the psychological environment or organizational culture of the law enforcement department. The trainer should be well aware of the norms, rules, vocabulary, policies, customs, values, and characteristics of law enforcement culture, as well as the specific department's culture.

Delivering the training based on the analysis of officer needs, pre-assessment, objectives, task analysis and training content in a manner that accounts for the officers' immediate needs, establishes verbal and nonverbal immediacy, and takes the training environment into consideration can predictably lead to positive results. However, officers must be assessed to make any determination of the effectiveness of the training.

Assessment of trainees' success and of the trainees' needs

The officers need to be assessed based on the training objectives to determine the outcome of the training. Assessment should be done in a manner that considers the training objectives stated and in terms of the officers' needs. For example, if the training objective states: "At the end of this training session, trainees should be able to detect/identify truth/lies at a 70% accu-

racy rate or higher based on real police officer-suspect interaction on video clips," officers should be assessed in accordance with this objective. Officers should be shown clips of real officer-suspect interaction in which they make judgments about deception. After an officer makes a requisite amount of judgments, his or her accuracy levels can be measured to discover whether the training met the objectives.

In addition to assessing whether or not the trainees met the objectives, the trainer needs to assess to what degree the training met the needs of the trainees. This can be done by comparing the answers of the original needs assessment conducted at the outset of the training process to the results of the assessment at the end of the training. For example, if one of the questions during the needs assessment asked about the kinds of lies officers are faced with, the trainer should compare the answers of this initial question to the results of the assessment. More specifically, if the trainer found that officers are often told half-truths by motorists whom were pulled-over, the trainer should then determine, or at least consider if the training session actually made an impact on the officers' ability to detect half-truths when interacting with motorists. This process is not easy, nor tidy in nature. Deception detection, as well as training is not easy or tidy; however, their impact may be extremely beneficial.

Assessing to what degree the training met the needs of the trainees can also be done by informing trainees' of their success on the assessment and conducting short interviews with the trainees about their opinion of whether the training met their needs. Although the trainees' opinions may not be in complete accordance with the results of the deception assessment, or their actual ability to detect deception, their opinion may provide some fruitful information. For example, trainees might speculate on whether or not they learned deception detection skills, areas in which the training session was informative and helpful, and areas in which the session was ineffective or difficult to follow.

Reporting the results of the deception assessment back to the officers also potentially enables the officers to either use or

ignore the information learned in the training session. For example, if an officer is informed that she achieved an 80% success rate, the officer may be likely to use the training session content when on the job. Additionally, informing officers about their success rate, whether successful or not, provides them with knowledge about themselves, which may influence their motivation to learn more about deception detection on an individual basis.

SUMMARY

The proposed model provides a heuristic framework for conceiving of DDT, and highlights new paths for DDT research. The model entails numerous elements, including analyzing officer needs, pre-assessing the specific group of officers, developing training objectives, analyzing the training task and developing the content, developing training methods, delivering the training, and assessing the trainees' success and needs. The model also urges trainers to ask themselves questions about where the trainees are in their current state, where they should be in the future, how to get them from where they are to the intended future state, and about the roles of the trainer and trainee.

CONCLUSION

Attempting to detect deception is a routine activity in which officers engage everyday; however, their ability to detect deception is usually no better than chance (Vrij, 2000). Although DDT studies have aimed to increase officers' ability to detect truth and deception, their overall success is quite limited. This article summarized principles of effective training, highlighted advantages and shortcomings of previous DDT studies, and proposed a model with the aim of providing a conceptual framework for thinking about deception detection training and establishing a research agenda for future studies. Schoenfeld's (1988) argument that "if we really intend to have an impact on practice, we will need to become deeply involved in the development and testing of instructional materials" (p. 165) should ring a bell for scholars and practitioners interested in training and development, decep-

tion detection, deception detection training, or law enforcement. The proposed model is a step toward the development of training and instructional materials that aim to impact research and practice.

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