

On the Psycho-Legal Study of True and False Intentions: Dangerous Waters and Some Stepping Stones

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Abstract: The topic of true and false intent has been more or less ignored within the field of legal psychology. This is remarkable considering the frequency and importance of situations calling for assessments of whether a person is lying or telling the truth about his or her intentions (e.g., when crossing a border). There were four aims to the present paper. The first was to outline a psycho-legal research program on true and false intentions. The second aim was to highlight some conceptual issues which might be relevant for planning and conducting research in this domain. The third aim was to offer some stepping stones which might assist researchers launching investigations on true and false intentions. The final aim was to briefly summarize the first round of empirical psycho-legal studies on true and false intentions.

Keywords: False intent, true intent, criminal intent, episodic future thought.

INTRODUCTION

It is now possible to look back at more than 30 years of systematic psycho-legal research on deception, and a rough estimate shows that there are more than 400 scientific reports to be found within this sub-discipline (Vrij, 2008). One of the main lines of research has been to map people's ability to detect deception, and in another major line of research scholars have tried to arrest non-verbal and/or verbal cues to deception (objective cues). Both these and related strands of research have dealt exclusively with liars and truth-tellers telling about their past actions (Granhag & Strömwall, 2004). This is remarkable considering the frequency and importance of situations calling for assessments of whether a person is lying or telling the truth about his or her intentions. 'False intent' is not new as a topic to disciplines such as economical modelling (Crawford, 2003), military studies (Donald & Herbig, 1981), negotiation research (Lewicki & Stark, 1996), social cognition (Beck & Ajzen, 1991) and developmental psychology (Peterson, 1995). 'False intent' has, however, been more or less ignored within the field of legal psychology (Granhag, 2008).

Afghanistan, 2010: an informant recruited by Jordanian intelligence was invited to a tightly secured CIA base on the Afghan-Pakistan frontier. The informant, al-Balawi, said he had information vital to the hunt for Ayman al-Zawahiri, bin Laden's right-hand man. The military personnel trusted al-Balawi's word that he was about to share extremely important intelligence, and he was therefore not strip-searched as he got onto the camp. Shortly after his debriefing had started, al-Balawi detonated his bombs; his suicide attack killed seven CIA agents and one Jordanian intelligence officer.

Finland 2008: in the city of Kauhajoki, the police questioned the young student Matti Saari about his new

weapons license and the video clips he recently posted on the Internet showing how he fires his Walther P22 Target. The officer in charge was assured by Saari's explanations with respect to his past behaviour and his future plans, and saw no reason to take further action. The next morning, Matti Saari placed a hood over his head and entered a room where a group of his fellow students were taking an exam. He killed nine students and one teacher, and shortly thereafter took his own life.

United Kingdom 2006: a group of British born Muslims planned to create liquid bombs disguised as soft drink bottles. The idea was to use these bombs to launch suicide attacks on at least 10 transatlantic airliners from the U.K. A massive surveillance operation, lasting for months, generated information on their planning activities. After a lengthy trial - where the three main suspects (Abdulla Ali, Sarwar and Hussain) consistently denied that their intention was to attack airliners - the accused were found guilty of "conspiracy to murder involving liquid bombs".

Germany 1996: on an American military base one FBI agent and two prosecutors interrogated a Sudanese informant for more than two weeks. The informant's name was Jamal al-Fadl and he claimed to have inside information on an organization called al-Qaida. al-Fadl told that this organization had set up training camps and established sleeping terrorist cells. al-Fadl's story about al-Qaida's future plans stunned his interrogators, but as they returned to the U.S. no one paid much attention to the intelligence that they brought back.

These four cases are both different and similar. Three of them reflect our era of terrorism, whereas the Finnish case may remind us of the school shootings taken place during the recent years. Three of the cases ended in mayhem and multiple deaths, whereas in one case the criminal plans were stopped before it was too late. The four cases are similar in that they all called for explicit assessments of whether a particular statement made about the future was truthful or not. That is, all four cases coincide on the issue of true and

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false intent. These and many related cases make evident that the societal value of an increased accuracy in interrupting criminal acts planned - but not yet committed - can not be overstated. Differently put, it is an enormous challenge for psycho-legal researchers to develop tactics and techniques which could be of assistance when having to discriminate between true and false intentions.

This paper have four main objectives; (1) to sketch a psycho-legal research program on true and false intentions; (2) to acknowledge some conceptual issues relevant when planning and conducting such research, and to warn against some issues that might mislead scholars entering this area; (3) to offer some stepping stones that might be of assistance to investigations launched in this domain; and (4) to summarize the first round of studies taking a psycho-legal perspective on true and false intentions.

DEFINING INTENTION

A natural starting point is to agree upon what the term 'intention' denotes. One way forward is to consult current research on social cognition; and one will then quickly learn that 'intention' refers to an agent's mental state preceding a corresponding action (Malle, Moses & Baldwin, 2003). On the most basic level we will also learn that intention is not the same as intentionality (actions done on purpose). At the next level of the analysis we are told that 'intention' is not the same as 'desire' (Malle *et al.* 2003). That is, intentions are directed at the intender's own action (many desires are not), and the intentions tend to come with a strong commitment (which many desires lack). In addition, many intended actions are based on some amount of planning (many desires are not).

The above might be helpful, but still leave us with 'intention' as a rather loose concept. For example, the message from social cognition does not put any restrictions as to the spatial and temporal aspects of the intended act. That is, not much is said with respect to the question of 'where' and 'when'. A planned act might be performed within the next hour or a year from when it was planned. Furthermore, it could be that the issues of what (how), where and when are intertwined, and therefore decided upon in the very same act of planning. But it might also be that the forming of the intended act is done separately from the 'when' and 'where', and that the exact time (or place) for the intended act is decided upon at a later stage (or that information on when is provided by someone else than the actual intender). Furthermore, the intended final act may require a step-by-step procedure, whereof none, some or all separate preceding acts are criminal.

The research program sketched in this paper will deal with single acts that are planned to be performed in a specific situation and in the very near future. The program deals only with situations for which the 'what' (how), 'when' and 'where' is decided upon in one single act of planning by the intender. Hence, the current program aims to inform on situations where the intender who is under suspicion (and interrogated) has already decided what he or she will do, how she or he will do it, as well as where and when the act will take place. This puts a clear limitation to the current approach. On the other hand, the current program bears on situations which are highly relevant for many

intelligence and security settings. That is, situations where the task is to assess whether a person is lying or telling the truth about the intentions that he or she is stating.

As will be explicated below, the task of (a) assessing whether a person is lying or telling the truth about his or her intentions is a task very different from (b) trying to read a person's true intention or, for that matter, (c) deciding upon who - of a number of persons - is the one who intends to commit a certain hostile act. Task (b) pertains to different forms of so-called mindreading (e.g., Goldman, 2006; Malle & Hodges, 2005), and task (c) demands that the investigators hold detailed and reliable intelligence on that particular act is about to be executed at a certain time and place. The current research program is first and foremost occupied with task (a).

DANGEROUS WATERS

To reiterate, a successful psycho-legal investigation on intentions can not afford any misconceptions with respect to the definition of intent. There are however not only definitional issues to bear in mind navigating these waters. Below, I will briefly discuss three issues which may cause problems when approaching this topic; (1) deciding on the proper research question (2) the dilemma of ground truth and (3) how to experimentally study true and false intentions.

The research question. As already said, the topic of intent is under-researched in legal psychology and there is a multitude of questions to be addressed. The fact that the field is wide open for research is in many ways positive, but this may also come with some potential problems. First, it might be difficult to chisel out the different research questions that need to be addressed, and to keep them separate. Second, the proper order in which to address the most basic questions might not be very evident. Furthermore, to find the most appropriate method/s to address each research question might be a challenging task.

A helpful starting point for many research programs might be to decide which questions should be left out. For the current context, consider the following two questions: (1) How do one best predict whether a stated intention will be executed?, and (2) How are criminal intentions formed? It is obvious that both these questions are related to the topic of true and false intentions. However, the first question draws on prospective memory and intention implementation (e.g., Gollwitzer, 1999), and the second question is related to goals and the preceding planning processes (e.g., Morris & Ward, 2005). It is easy to grasp that each of these questions demand separate research programs.

To be clear on which questions to save for future investigations is important, but not enough. Below I will offer a note on how a research program might be further delineated. In short, I will argue that one need to be clear on whether the program is chiefly on (a) concealed intentions, (b) criminal intentions or (c) false intentions; and to what extent the program will be concerned with non-criminal intentions.

To conceal is one of the most basic forms of lying (Vrij, 2008). To conceal the truth is sometimes put in contrast to outright lies, and the person who conceals the truth can lie without using many (or even any) words. Recently, Burgoon

and her colleagues (2009) presented an investigation on intent, with the aim to elicit knowledge applicable for transportation screening. Their multidisciplinary investigation used ‘concealment’ as its core concept. In my view, concealment is a somewhat problematic concept in this context. It is of course true that a person inclined for a future criminal act wants to conceal his or her intention. But the term ‘concealment’ fails to send a clear message with respect to the research question under examination. First, a person inclined for a criminal act might decide to avoid talking about his or her intentions all together, or to state a false intention in order to mask his or her criminal intention. As soon as a false intention is stated the object under study becomes unclear: is it the concealed (criminal) intention, the stated (false) intention, or both? In brief, to try to detect criminal intent and to try to detect false intent are two distinctly different tasks. Second, if choosing ‘concealment’ as the central concept one needs to make a clear distinction between (a) situations in which the investigator knows what is concealed, but does not know who is the one concealing (i.e., the question to answer is ‘who is the one who will do ‘x’?’) and (b) situations in which the investigator has very little prior knowledge about the intended act as such, but suspect that a particular individual is about to perform a criminal act of some sort (i.e., the question to be answered is ‘what is the intention of this particular individual?’).

The aim of the suggested program is to learn about the trademarks of statements expressing true intentions and statements expressing false intentions, and – in the next instance – to provide information on how to best discriminate between true and false intentions. Hence, the present approach differs on two important aspects from the approaches that depart from ‘concealment’ and/or ‘criminal intent’. First, the program aims at finding ways to assess the veracity of a statement expressing an intention, the main objective is not to be able to say anything significant about an intention which is concealed. Second, the program emphasizes the trademarks of true intentions to the same extent as it emphasizes the trademarks of false intentions, this whereas the trademarks of true intentions are downplayed in the approaches that depart from ‘concealment’ and/or ‘criminal intent’. Differently put, the current approach is inspired by the following analogy: in order to decide whether a coin is false, one need to be able to recognize a true coin.

Finding ways to detect false (and criminal) intent is highly relevant for end-users like security and intelligence personnel (e.g., Andrew, Aldrich & Wark, 2009; Godson & Wirtz, 2002). The fact that practitioners and policy-makers have shown interest in this new line of research, and that they are willing to provide financial support is good news, but this also calls for researchers carefully avoiding having practitioners formulating their research agendas. Obviously, researchers in the field should be open to the problems raised by practitioners, but it would be a serious mistake to let the same practitioners decide on how to organize and conduct the research that need to follow. In short, there is still a long distance to travel before psycho-legal scholars can provide constructive advice on how to reliably discriminate between true and false intentions, and an even longer distance (I would estimate) before they are in a position to offer any precise advice on how to spot criminal intent. For the time

being researchers should concentrate on: (1) organizing their research agendas in order to address the more basic issues within this new field, (2) drawing on established psychological theory when conducting such research, and (3) warning against the many quick-fixes and pseudo-scientific techniques that promise to spot criminal intent; such techniques are too often sparked by strong commercial motives (for such warnings, see e.g. Honts *et al.*, 2009; Meijer *et al.*, 2009).

Ground truth. My interest in true and false intentions have been met with comments like “Sounds difficult - how can one ever say anything reliable about other people’s intentions?”. Such a reaction is sound. The issue raised is the issue of ‘ground truth’. Simply put, in order to be able to do solid scientific work on deception one needs to find ways to establish that the statements classified as lies really are lies, and that the statements classified as truthful really are truthful. In paradigmatic laboratory-based deception research the issue of ground truth is rarely a problem. However, in field studies the same issue often poses major difficulties (Vrij, 2008). For example, could we know whether a suspect who denies having committed a particular crime is telling the truth or lying? Ground truth is an important issue irrespective of temporal direction (past or future).

The issue of ground truth might make it very difficult to conduct sound field studies on true and false intentions. Consider for example a person who, at a certain point in time (t1), expresses the intention of X to be carried out at time (t2). The person then at t2 does Y instead of X. The person did not follow through the intention stated at t1; but still it might be very difficult to decide whether he or she was lying at t1. It might be that the person was lying (stating X in order to mask the true intention Y), but it could also be that he or she was truthful at t1, and later decided to go for Y instead of X. I am not arguing that psycho-legal field studies on intent are impossible to conduct, only that such research might be very difficult.

Ground truth might also be a problem in laboratory research on intentions, and the difficulties will probably vary with the research question under examination. I think it is reasonable to argue that investigations pertaining to ‘false intent’ put less demand on ground truth than investigations pertaining to ‘criminal intent’. For the former situation one needs to find ways to establish whether a stated intention was actually truthful or deceptive (which might not be very easy). The latter situation, however, might be even more problematic as it demands not only to have established ground truth with respect to the stated intention, but also with respect to true (criminal) intention. In essence, to study ‘false intent’ one needs to know the ground truth with respect to the stated intention; in order to study ‘criminal intent’ one also need to be able to unmask the intention that is concealed. In the present paper I discuss intentions with respect to laboratory based research, and below I will outline one way how to reach ground truth in such research.

The experimental set-up. First and foremost the experimental set-up should accommodate the basic trademarks of intent. That is, the participants should be given time to plan their future acts. A possible way forward might be to instruct half of the participants to plan a mock-criminal act of some sort (e.g. placing illegal material in a shopping

mall). In addition they should be instructed to plan a cover-story to be used if they are intercepted before having executed their planned task. The remaining half of the participants should plan to execute a non-criminal act. Ideally, this non-criminal act should be structurally similar to the mock-criminal act (e.g. visiting a mall to shop). Furthermore, what the participants plan should be directed towards their own actions (e.g., they should not make a plan for someone else). The participants should be committed to their planning. If possible, they should receive bogus information that will convince them that they actually will carry out their planned task. A clever manipulation check might reveal whether or not the participants believed that they were to carry out the task that they have planned.

Note that although the forming of a mock-criminal intention can be viewed as an inherent part of the suggested experimental set-up; this mock-criminal intention is *not the object under study*. The mock-criminal intention is there only to evoke the need for a cover-story (i.e., as a reason to express a false intention). In brief, the aim of the above experimental set-up is to study true and false intentions, not to study the detection of criminal intentions.

After the planning phase follows the interception phase. That is, before the participants will have the chance to execute their planned task they will be stopped and put through questioning. In this interview the participants who had planned a non-criminal act should tell the truth (their responses will then be analyzed under the heading 'truth-tellers'), and the participants who had planned a mock-criminal act should use their cover-story to mask their criminal intentions (their responses will then be analyzed under the heading 'liars'). In brief, truth-tellers and liars should have the same goal for the interview; to try to convince the interviewer that they are telling the truth. The interview could come in many different forms, but preferably it will cover both the suspect's intentions and the planning phase during which the intentions were formed.

SOME STEPPING STONES

As been reviewed above there are several problems to overcome in order to properly study true and false intentions. But there is also possible assistance in the form previous psychological research, and below I discuss three domains on which psycho-legal investigations on true and false intentions might draw; (1) planning; (2) episodic future thought, and (3) suspects' counter-interrogation strategies.

Planning. A first possible stepping stone might be to acknowledge that intent is closely related to planning. Planning is often described as a multi-component process, operating at various levels. The present research program draws on higher order planning, i.e., planning the 'what', 'how', 'where' and 'when' (Morris & Ward, 2005). Obviously, not all intentions need planning (e.g., script-like routine activities like doing the laundry may not require any particular planning). However, situations for which the current program has relevance are situations for which the intender is very likely to have planned; e.g., crossing a border, to departure from an airport, applying for a new passport, signing up for specialist training, or purchasing a weapon.

The fact that many intentions are preceded by planning has a number of important implications. First, if the planning leaves some sort of trace, for example web-browser history, this trace could be collected and used strategically during an interview. Second, there is research showing that people who make specific plans for the future do not simply memorize their plans (Watanabe, 2005). Many of them can testify to that they – during their planning – 'pre-experienced' the future event. That is, that they activated concrete mental images of the future. How people mentally simulate hypothetical future scenarios represents a relatively new area of interest in both psychology and cognitive neuroscience (Schacter, Addis & Buckner, 2008, Markman, Klein & Suhr, 2009). This development is in full accord with the concept of the 'prospective brain'. That is, the idea that a crucial function of the brain is to use stored information to imagine, simulate and predict possible future events (Schacter, Addis & Buckner, 2007). The ability to imagine personal future episodes is variably referred to as 'episodic future thought' (Atance & O'Neill, 2001), 'simulation' (Schacter & Addis, 2007) or 'prospection' (Buckner & Carroll, 2007). For the present paper I will use the term 'episodic future thought'.

Episodic Future Thought (EFT) represents the ability to mentally pre-experience a one-time personal event that may potentially occur in the future. This just as episodic remembering is an act of re-experiencing instances of one's personal past (e.g. Tulving, 1983). Differently put, EFT represents an expression of episodic memory, i.e., episodic memory provides the building blocks from which episodic future thoughts are constructed (Schacter & Addis, 2007). This claim is supported by a number of brain imaging studies showing that neural regions known to underlie the retrieval of past personal memories are similarly engaged by the act of episodic future thought (e.g., Addis *et al.*, 2007). Although research on EFT is a emerging area of interest, a considerable amount of data has already been accumulated (Szpunar, 2010). In brief, the concept of EFT have been examined from a number of different perspectives, such as neuroimaging (e.g., Addis & Schacter, 2008), neuropsychological (e.g., Hassabis & Maguire, 2007) and behavioural (e.g., Szpunar, 2010).

There are a number of features typically following EFT (for more details on this see, Szpunar, 2010). The perhaps most basic of these features is the activation of one or several vivid mental images. Different lines of research converge on the assumption that EFT is a core component in the forming of true intentions (Schacter *et al.*, 2008). Underscoring this are the facts that EFT occurs during planning (intent also demands planning), and that EFT is evoked by events of self-relevance (intent also relates to personal events of relevance). In essence, by arresting the features typically following EFT – features which are detectable in a verbal statement expressing true intent – one will be better equipped in identifying statements lacking the EFT features (as will be discussed below, statements expressing false intent are not assumed to be coloured by the typical EFT features).

When organizing the empirical research on EFT, two different areas emerge as particularly relevant for the current research program: Studies on the neural characteristics of EFT (e.g., Addis *et al.*, 2007), and the content and the

phenomenological characteristics of EFT (e.g., Hassabis & Maguire, 2007). Research on the content has consistently shown that EFT revolves around short-term concerns and that it typically can be characterized by familiar contextual information (D'Argembeau & Van der Linden, 2004). Recent research using neuroimaging methods (fMRI) has advanced these findings by showing that EFT can be parsed into (a) a construction phase, where the participants generate a personal future episode (e.g. a soccer game); and (b) an elaboration phase, where the participants elaborate on the specific details of the future event (e.g., fights, goals, a shouting crowd). Recently, Hassabis and Maguire (2007) suggested 'scene construction' to be the central feature of the construction phase, and defined it as to include the integration of information into "[...] a coherent spatial context, and online maintenance for later manipulation and visualization including possible viewpoint transformation" (p. 301). Differently put, scene construction provides the 'where' for the 'what' to occur in.

For the present program it is also important to acknowledge the link between 'scene construction' and 'navigation'. Navigation (topographic orientation) refers to route planning and way finding, and involves simulating another view and/or a mental mapping of the environment (Buckner & Carroll, 2007). In brief, both scene construction and navigation are essential in the process of taking (or shifting between) alternative viewpoint representations, such as for example a third-person (observer) perspective or a first-person (own) perspective.

The notion of 'scene construction' is assigned special status as it makes the act of EFT concrete, and draws attention to the cognitive traces that EFT might leave; the output to be reflected in a subsequent verbal statement. In addition, scene construction is strongly related to the concepts of viewpoint and navigation. In turn, 'viewpoint representation' fits nicely with cutting edge psycho-legal research showing that liars' (*vs* truth-tellers') statements tend to be characterized by a third-person perspective (Vrij *et al.*, 2009). Furthermore, 'navigation' fits well with research showing that liars' (*vs* truth-tellers) have a much more difficult time reconstructing a scene when having to draw, than when having to describe it verbally (Vrij, *et al.*, 2010).

EFT research shows that temporally distant (*vs* close) events are often represented with an observer (third-person) perspective (D'Argembeau & Van der Linden, 2004). Considering that the third-person perspective has been seen as serving as a distancing mechanism, it is interesting to note that liars have been found to appear as more distant than truth-tellers (DePaulo and colleagues, 2003). Hence, it is of both theoretical and practical interest to examine further how the expressed viewpoint representation is moderated by truth status.

In brief, I argue that EFT might be a valuable concept for understanding the processes behind forming true intentions, and as argued above, to learn about the trademarks of true intentions might be necessary in order to detect false intentions. In the next section a few lines will be offered on why I think that statements expressing false intentions are not as closely related to EFT as are statements expressing true intentions.

Liars' counter-interrogation strategies. Both theoretical accounts (Granhag & Hartwig, 2008), as well as empirical work (Hartwig, Granhag, & Strömwall, 2007; Vrij *et al.*, 2009), support the notion that lying suspects use different counter-interrogation strategies than innocent suspects. In essence, guilty suspects' strategies seem to be more characterized by aversion, resulting in more avoidant strategies. Innocent suspects' strategies, on the other hand, seem to be coloured by the belief in a just world (Lerner, 1980) and/or the illusion of transparency (Savitsky & Gilovich, 2003), resulting in much less avoidant strategies.

Translated to the current context it is expected that a person inclined for a criminal act, and who therefore need to construct a cover-story in order to mask his or her true (criminal) intentions, will evoke mental processes that are very different from episodic future thoughts. It is assumed that the construction of a convincing cover-story will be characterized by information management; specifically (a) the anticipation of the questions asked if intercepted and (b) the production of ready-made answers to these anticipated questions. Importantly, the core assumption is that the construction of ready-made answers to anticipated questions will not evoke EFT to the same extent as the forming of true intentions. The principle argument to back this up is that there is no real intention to carry out the actions described in a cover-story. That is, a cover-story does not fulfil the basic set of criteria for a true intention, e.g., that an intention should be directed at one's own actions and come with a strong commitment (Malle *et al.*, 2001). The planning of a cover-story might evoke EFT, but only in relation to the specific circumstances surrounding a situation where the cover-story is used (e.g., the specific time and place when having to try to deceive another person). Differently put, the persons own actions and commitments are, if anything, related to the purpose of the cover-story (to falsely convince), and not to the content of the cover-story (as the actions described will not be executed).

THE FIRST ROUND OF EXPERIMENTAL STUDIES ON TRUE AND FALSE INTENTIONS

To my knowledge there are so far only four papers examining true and false intentions. Specifically, for each of these papers the authors have collected one set of statements for which the participants lie about their intentions (lying suspects), and one set of the statements for which the participants tell the truth about their intentions (truth-telling suspects). In the next phase these sets of statements are compared in order to map potential differences.

The first study, conducted by Aldert Vrij and his colleagues (in press, a), was carried out at an international airport in the U.K. The study showed that passengers who lied about their intentions (what they were going to do when arriving at their final destination) came up with statements that were less plausible than, but equally detailed as, statements from passengers who told the truth. The study also showed that the two interviewers who elicited the statements could discriminate between lies and truths with about 70% accuracy.

In the second study the same team of researchers had serving military and police officers acting as undercover agents, each of them meeting both hostile and friendly agents

(Vrij, Leal, Mann & Granhag, in press, b). This set-up resulted in each participant lying to two agents (to one about past actions, and to one about future actions) and telling the truth to two other agents (to one about past actions, and to one about future actions). The first part of the study showed that false intentions and lies about past actions were less plausible than their truthful counterparts. There was no difference in terms of details comparing truthful and deceptive intentions. This finding confirmed what was found in the first study by Aldert Vrij and his colleagues (in press, a). Experiment 2 showed that observers reading the transcribed interviews were reasonably accurate in discriminating between statements expressing true and statements expressing false intentions (around 70% accuracy), whereas the accuracy rates for discriminating between true and deceptive statements on past actions was much lower (around 55%).

In the third study Knieps, Granhag and Vrij (2010) asked one group of participants (students) to individually plan a mock-criminal act (to place a memory stick containing illegal material in store in a shopping mall). These participants were also asked to plan a cover-story, to be used if they were stopped outside or inside the shopping mall. Another group of participants (students) were asked to individually plan for going to the same shopping mall in order to carry out a non-criminal act (i.e., to shop a gift for a close friend). Very soon after the planning, and before leaving for the shopping mall, all participants were intercepted and interviewed about their intentions and their planning activities. The participants who had planned a mock-criminal act used their cover-stories during the interview, in order to try to mask their criminal intentions (liars). The participants who had planned to shop a gift told the truth during the interview (truth-tellers). It was predicted and found that the liars' and the truth-tellers' answers to questions on their intentions did not differ with respect to dimensions such as length of answer, details, clarity and plausibility. Furthermore, and in line with what was predicted, the answers in response to questions on the planning activities differentiated liars from truth-tellers. That is, the truth-tellers' answers were significantly richer, and were perceived as significantly more detailed, compared to the liars' answers to the same questions. This pattern of result was explained by that guilty suspects had anticipated questions on their intentions (and therefore prepared a cover-story which covered intentions), but had not anticipated questions on the planning of their intentions (i.e., the cover-story did not cover this aspect). The result showed that the questions on planning (*vs* intent) were rated as much less anticipated by both liars and truth-tellers, but it seems that truth-tellers had an easier time answering these unanticipated questions as they could draw on their memory of the planning.

The fourth study, conducted by Granhag and Knieps (in press), is based on the same set-up and the same sample of participants as the third study above. In this paper it was argued that the concept of episodic future thought (EFT) would be a good candidate for capturing the core mental processes at play when forming an intention, and that tapping essential EFT features can be helpful in

understanding how statements on the forming of true and false intentions may differ. Specifically, and in line with what has been discussed above, it was argued that the processes relevant for constructing a convincing cover-story (which a guilty suspect needs in order to mask his criminal intention) will be much less characterized by the typical EFT features (e.g., a vivid mental image). It was predicted and found that a significantly higher proportion of truth-telling (*vs* lying) suspects agreed that they had evoked a mental image while planning their future actions. In a similar vein it was found that guilty suspects who claimed to have activated a mental image during the planning phase, provided significantly less rich verbal descriptions of the most dominant mental image compared to truth-telling suspects. Furthermore, tapping memory of EFT using a post-interview questionnaire (where the role-playing on behalf of the lying suspects was called off), revealed that innocent suspects remembered their planning as being more characterized by the activation of mental images, compared to guilty suspects asked to remember the planning of their cover story. In addition, truth-telling suspects reported their memory of having pre-experienced their future actions as much clearer than did the lying suspects who were asked about their memory of having pre-experienced their cover-story. In essence, the combined empirical evidence strongly supported the assumption that EFT is a helpful concept for illuminating the differences that may occur when forming true and false intentions.

SUMMING UP

In the present paper I set out to do four things. First, to outline the basics of a research program aimed at studying true and false intentions. It goes without saying that this is not the only way to do psycho-legal research on true and false intent - it is perhaps not even the best way - but I believe that it is one possible way forward. Second, I argued that researchers entering this field need to be clear on a number of conceptual issues. Much due to the fact that the field is still so open there is a risk that data is collected before the research question has been decided upon and refined. In the worst of all cases this will lead to solutions searching for their proper problems. Third, I offered a few stepping stones that might be of assistance initiating research in this domain. Finally, the first round of empirical studies on true and false intentions was summarized.

Needless to say, there is a great need of psycho-legal research on true and false intentions (Granhag, 2010). Briefly put, an increased knowledge on how to interrupt illegal actions planned but not yet committed is of paramount societal value. Furthermore, I think it is only sound that research on intentions is sparked by the problems that practitioners in the field are facing. But I also think that the same research must be organized and conducted in a systematic manner, and that it should be driven by psychological theory. The calls from practitioners and policy-makers for quick-fixes must be met by crystal clear messages on what it takes to address complicated issues programmatically. Furthermore, pseudo-scientific techniques promising to detect criminal intent with a high accuracy rate must be warned against – we are simply not there yet.

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