GUARDIA CIVIL'S ICARO TEAMS: BEHAVIOUR ANALYSIS AT AIRPORTS AND PORTS

MARIA CARMEN FEIJOO FERNÁNDEZ

GUARDIA CIVIL FIRST CORPORAL, TAX AND AIRPORT UNIT - PROVINCIAL HQ

Entry: 1 September 2021. Acceptance: 21 December 2021

ABSTRACT

This article deals in detail with the beginning, evolution and current moment of the ICARO Teams (Identification of Anomalous behaviours and Operative Reaction)" within the Guardia Civil. First, the situation of the implementation of the behaviour analysis in the airport context is analysed and the first steps that were carried out within the Guardia Civil using our own resources are detailed below. The specific needs that led to the design of a scientific research supervised by the university are explained as well as a brief summary of it, the international ramifications, the training phase and the deployment of behaviour detection officers in the national territory. Finally, a section is presented with some of the difficulties found in the development of this project as well as possible solutions.

Keywords: behaviour analysis, behaviour detection, airports, İCARO, aviation security, Guardia Civil.

1. INTRODUCTION

International civil aviation devoted to both cargo and passenger air transport has been evolving for over eighty years. The change from an aviation mainly focused on military purposes to a civilian-focused aviation posed new threats to protect from (as regard threats, cf: Tomás-Rubio, 2009).) With the Chicago Convention of 1944, the International Civil Aviation Organization (ICAO) was established as a UN agency specialized in promoting efficient and safe air transport worldwide. The regulations issued by this body, mandatory for all countries, have adapted to address the different threats over the years. Terrorist attacks, whether actually completed or only attempted, have always been considered one of the major threats and, as a consequence, they have triggered the most significant regulatory changes in relation to airport security. Since this article does not aim at reviewing all the changes in security measures, the interested reader can turn to multiple open sources on this particular aspect. On the contrary, this article does aim at presenting one of the innovative techniques that, for a little more than a decade, has been developed and implemented as a complementary security measure at airports: behaviour analysis, also known as Behaviour Detection (BD).

This article starts with a brief review of the regulations addressing the use of this technique in the field of civil aviation, and details the first steps taken within the Guardia Civil before implementing behaviour analysis, how research has been designed to

empirically support the use of this new tool and its international impact. We detail the training program, as well as the national deployment of Guardia Civil at airports and ports. To finish with, it includes a brief review of the challenges faced over the years, suggesting possible solutions.

2. BEHAVIOUR ANALYSIS IN THE FIELD OF CIVIL AVIATION

The terrorist attacks simultaneously launched against different U.S. facilities in 2001 have led to the farthest-reaching changes in international civil aviation regulations. As a direct result of subsequent (attempted) terrorist attacks (Richard Raid's shoe bomb, plot to attack London airports with liquid explosives, explosives concealed in cargo planes, attacks on airports such as Zaventem and Atatürk) (Blanco-Hermo, 2016; El Mundo, 2006; Piquer, 2001) screening equipment adapted to tackle the new threats, and security measures for passengers before accessing boarding areas have undergone constant modifications. This perspective, considered reactive in its implementation, implies high investment in new equipment and, at the same time, forces airport users to constantly re-adapt to changes.

Due to the need to anticipate potential threats, new proactive measures have been explored, including behaviour analysis. One of the first references to behaviour research can be found in Regulation (EC) 300/2008 of the European Parliament and of the Council (11/03/2008), Annex 1.5: "There shall be surveillance, patrols and other physical controls at airports and, where appropriate, in adjacent areas with public access, in order to identify suspicious behaviour of persons ...". However, it was not until 2016 that international regulations included for the first time the definition of behaviour screening, as well as the recommendation that states consider its integration among their practices and procedures (International Civil Aviation Organization, 2017):

Within an aviation security environment, the application of techniques involving the recognition of behavioural characteristics, including but not limited to physiological or gestural signs indicative of anomalous behaviour, to identify persons who may pose a threat to civil aviation. (Annex 17, Ch. 4, p-1-2).

Europe has its own body dedicated to grant approval and to certify security equipment, to training and procedures applicable to civil aviation security. The European Civil Aviation Conference (ECAC), with strong ties to ICAO, has been created to harmonize regulations and support European countries, and its main mission is to promote a constant development of safe, efficient and sustainable air transport. Within this organization, the Behaviour Detection Study Group (BDSG) was created in 2011. Spain joined this group in 2015 through the State Aviation Safety Agency (AESA - Agencia Estatal de Seguridad Aérea), the Spanish competent authority for civil aviation. Since 2018, the meetings of the Behaviour Detection Study Group (hereinafter, the BDSG) have been chaired by the author of this article.

The BDSG includes those countries with a programme currently in place at an airport that have applied for access, either after a direct evaluation (as was the case for Spain) or through mentoring (as was the case for Ireland); in both cases the group itself authorizes entry. At present, some of the BDSG countries are full members (Switzerland, United Kingdom, France, etc.) or may join it as observers, since they are not

members of the ECAC (United States and New Zealand)¹. Nowadays, it is considered the largest forum of experts in this technique with the capacity to promote the development of regulatory policy, as well as to foster the development of cutting-edge research in this field. At the same time, it is considered the appropriate forum for cooperation of experts in the field of research, developing common materials and tools that help in the promotion and implementation of this technique in the field of civil aviation.².

Having contextualized the use of behaviour detection in the field of airport security, as well as the international organizations involved in its development and approval, we now begin the journey within the Guardia Civil, including a brief description of scientific research, international impact and national deployment.

3. FIRST STEPS IN THE GUARDIA CIVIL TO IMPLEMENT BEHAVIOUR ANALYSIS AT AIRPORTS

The Guardia Civil made the decision to address this issue in 2014 with the help of internal resources from the Criminal Behaviour Analysis Section of the Criminal Investigation Police Technical Unit (UTPJ). Personnel from this Section, together with personnel from the Training Area of the Tax and Airport Unit - Provincial HQ (Adolfo Suárez Madrid Barajas Airport) designed the first workshop, where subjects such as indirect personality profiling, deception detection, interview techniques, etc. were taught. From this first workshop in February that year, the first behaviour analysts appeared whose specific field of work is airports; it was also the origin of the name these teams would take: Identification of Anomalous Behaviour and Operational Reaction (ÍCARO, Identificación de Conductas Anómalas y Reacción Operativa). Fieldwork began using indicators drawn from practice (based on police experience) and from academia to make a first initial screening.

It was during this same period that the existence of the BDSG became known, and the first workshop entirely devoted to this subject was held at the CEAC headquarters in Paris. It covered topics such as: what is considered "behaviour detection", presentation of some of the behaviour detection programs of several BDSG countries, behaviour analysts selection and training, or pros and cons of implementing behaviour detection at airports. Particularly interesting were the conclusions: no program could be considered perfect, since all of them had strengths and weaknesses; the profile of a good behaviour analyst remained undefined; it was not defined who or to what extent analysts should be trained as such. Perhaps the most critical and important point was the fact that there was no common criterion in relation to the indicators (specific behaviours to be observed) and, therefore, scientific validation was necessary. In view of the above, the Guardia Civil considered two issues to be of vital importance: to be accepted as a BDSG member (a programme had to be in place in one airport at least) and launch a scientific research to validate the behaviours being used. All this led to launching a research that included both the phases of anomalous behaviour observation and detection, and the subsequent interview phase, with the corresponding credibility/deception assessment, detailed below.

¹ The countries belonging to the group are not listed because in some of them the existence of the airport behaviour analysis program is confidential.

² Readers interested in the BDSG can find more information at https://www.ecac-ceac.org/activities/security/behaviour-detection-study-group-bdsg

4. CRIMINAL BEHAVIOUR ANALYSIS & DECEPTION DETECTION AT AIRPORTS: RESEARCH DESIGN

Within the framework of civil aviation, behaviour detection consists of three fundamental pillars: baseline context, observation of the environment in search of anomalous behaviour, and appropriate resolution of interviews. The importance of the baseline lies in the fact that each scenario is unique and depends on the particular context.

Analysing an environment involves taking into account details such as the specific time (time of day, time of year, weather conditions, events, etc.), the specific location (outdoor, indoor, infrastructure, etc.), culture (background that can condition people's behaviour) and the individual (with their own characteristic repertoire of behaviours). The interaction of all these elements allows us to identify a usual baseline for a particular infrastructure and, therefore, anomalous behaviours defined as:

Given a specific context and a specific situation, an anomalous behaviour is that perceived by an observer, familiar with the environment, as unexpected and for which no plausible explanation can be found. Moreover, it does not resolve itself satisfactorily after a period of time (Feijoo-Fernández, Halty, & Sotoca-Plaza, 2020: p-3).

However, none of the above would be sufficient if we do not conduct a proper interview that allows us to determine what has caused the abnormal behaviour, and whether the person is telling the truth or lying during his or her statement. The correct resolution of an interaction involves clarifying the detected anomalous behaviour for which an explanation must be found.

Logically, depending on the entity conducting behaviour detection at airports, it may perform the entire process, including a possible final physical inspection (in the case of police forces), or it must refer the incident to a police force to finalize it (for example in the case of private security personnel).

4.1. SCIENTIFIC RESEARCH

After acquiring the basic knowledge on behaviour detection at airports, a scientific research supervised by the university was designed, resulting in a doctoral thesis. (Feijoo, 2018). The design took into account the working method of the analysts in the field. It led to a first part of deployment and observation of anomalous behaviour, followed by an interview and ending with a physical inspection, both of the person (including police records) and their luggage.

With the sole exception of the studies by Koller, Wetter & Hofer (2015a; 2015b) focused on perpetrators of theft and simulated crime, there were no previous studies on specific behaviours detected at airports. For this reason, for one year the analysts compiled those anomalous behaviours which, after identification, interview and inspection of the persons displaying them, resulting in arrest or a proposal for administrative sanction (deployment took place in two different areas: prior to security control and prior to customs control).

These behaviours were included in a list that was part of the sampling, in its stop mode, for identification, as decided by an analyst. In addition, it included stops: due to previous investigations (derived both from airport and external units), due to the need for clarification about checked baggage, and due to random selection (this would become the control group).

Following identification, the persons were interviewed by analysts who had to decide whether the speech was credible or not. As was the case with behaviours, specific studies on deception detection conducted at airports were very scarce (Ormerod & Dando, 2015; Vrij, Granhag, Mann, & Leal, 2011), and the findings in the general academic remit were not too encouraging. In general, humans are not good at detecting lies, and those groups particularly interested in detecting deception are no exception. (Aamodt & Custer, 2006; Bond & DePaulo, 2006).

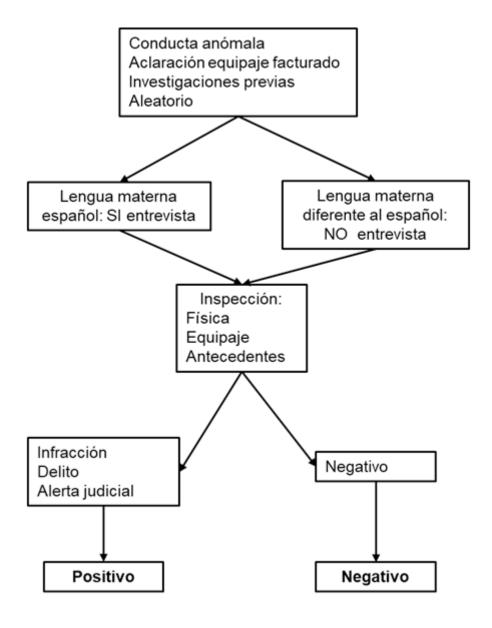
Meta-analysis researches show that the relationship between verbal and nonverbal behavioural cues and deception is weak, and no specific cues can be unequivocally associated to lies (DePaulo et al., 2003). In the quest for new lines in an attempt to mitigate these poor results, various interview modalities were studied in the area of deception detection, such as: the strategic use of evidence (Hartwig, Granhag, Strömwall, & Vrij, 2005), limited time to answer (Walczyk, Harris, Duck, & Mulay, 2014) and other specific techniques, such as asking the interviewee to repeat the statement in reverse chronological order (Vrij et al., 2008), requesting not to avoid eye contact with the interviewer (Vrij, Mann, Leal, & Fisher, 2010), asking unexpected questions (Warmelink, Vrij, Mann, Leal, & Poletiek, 2013), requiring verifiable details (Nahari, 2018; Nahari & Vrij, 2019), or changing the speaking order in group interviews (Vernham, Vrij, Mann, Leal, & Hillman, 2014). The main characteristic is that the interviewer is not a mere observer any more, but becomes an active participant.

To design the interviewer/passenger interaction to be carried out in the airport context, the TRI-Con cognitive interview was taken from the academic milieu (Time Restricted Integrity Confirmation, Walczyk et al., 2005). It consists of two parts: a first semi-structured part where general and as neutral as possible questions are asked, such as "name", "origin/destination of flight", and a second part consisting of a questionnaire of 20 closed questions, connected in pairs, although in different positions and posed in different ways (among your belongings, do you have anything to declare? / If your luggage goes through customs control now, would we find anything that you should declare?).

The characteristic of this second part is that the person is asked to answer as quickly as possible; this way, an increase in the cognitive load³ may lead to contradictions. In addition, a measurement/analysis instrument was created that included both non-verbal indicators, such as hand movement or prolonged pauses during speech, and verbal indicators, such as repetitive language or quality and timely details.

For readers interested in further details on the adaptation of interviews to the airport context, as well as the instrument with indicators, cf. Feijoo (2018) (Picture 1).

³ Cognitive load: mental resources required to perform a particular task.



Picture 1 Sequence followed during the sampling: initial stop motivated by conduct, investigation, checked baggage or random; if the native language is Spanish, the interview is conducted; otherwise, it goes directly to inspection (physical, baggage and background); if the person is proposed for sanction, the person is arrested for committing a crime or for having a judicial alert in force cases are considered positive and, if not, they are considered negative.

After four years of research and with a total sample of 352 people, the results showed that 7 of the 13 abnormal behaviours analysed were significant, with a total predictive capacity of 82.1%, a sensitivity of 90.7% (positive) and a specificity of 63.6% (negative). Consequently, we are talking about a detection of 9 out of 10 people who are committing illegal activities, and a maximum of 4 out of 10 could be false positives. It should be noted that this capacity to detect people committing illegal acts is independent of their nationality or race (Molotch, 2014). It constitutes a simple model, where anomalous behaviours are understood as a modus operandi displayed by those who try to go unnoticed.

Considering that the sampling was conducted at an international airport, some of the people identified were not native Spanish speakers; because of that, 254 out of 352 people were interviewed. Again, predictive indicators of sincerity and deception were found for both past events and intention descriptions. Despite these findings, the need for agility during real-time interviews calls for the use of techniques that can be introduced during them. For example, the use of unexpected questions is recommended (Vrij et al., 2009), i.e., those the interviewee may not have prepared in advance, but prompting a clear and immediate answer from a sincere person. In addition to behavioural cues, interviewers may employ contextual cues(Blair, Levine, Reimer, & McCluskey, 2012; Park, Levine, McCornack, Morrison, & Ferrara, 2002), such as checking whether a passenger who says that he does not know anyone in our country has people coming to pick them up, or someone who says that he intends to take a cab to the hotel but heads to the metro/train station. Given that, the interviewer appears as the key element of a good interview, who is able to detect and counteract strategies (for a review of the liar's strategies; Feijoo-Fernández, 2020), pose the right questions and make a reasoned unbiased decision.

4.2. COMPETENCE AND FLEXIBILITY

Since the Guardia Civil's jurisdiction at airports includes the restricted area, customs and, in some cases, the public area, this circumstance was taken into account when designing the research. Given the fact that the Guardia Civil officers who participated in the study came from the security and tax areas, during their joint initial training they should develop their future capacity for deployment in any of the areas described, as well as the necessary competence to conduct interviews. This adaptive capacity is essential, for example, when the airport in question only has specialized personnel in one area, allows personnel to be released when necessary due to holidays or private matters, and gives the Guardia Civil officers a global knowledge about and familiarity with the airport: departing and arriving passengers, visitors, facility employees, crews, etc.

In general, given the efforts involved in focusing and maintaining attention for a long period of time, both during the environment observation and the interview phases, a minimum deployment of two analysts has always been recommended. Under no circumstances will this mean that the analysts work alone, but quite the opposite, since they must work in permanent contact with the personnel located at the checkpoints, the personnel of research groups, both internal (current ODAIFI / ODAISA) and external to the airport, the personnel of the mobile scanner teams, etc. This is one of the ICARO teams major advantages: flexibility. They may work independently or in collaboration with other groups (e.g. in the case of aircraft anchorages); in plain clothes, in uniform or a combination of both; deployed in a random and unpredictable manner, etc. This type of teams can render service in different ways, as each unit can decide which modality is appropriate according to the specific risk or threat.

Having explained the design and research carried out, we will detail their international impact in parallel with the aforementioned study.

5. INTERNATIONAL IMPACT

As the research was being carried out, the BDGS requested an evaluation to join it. In February 2015, and still in the initial phase, the project and status of the research at that time were presented. After evaluation of the data obtained, and with

a clear intention of the Guardia Civil to continue, direct and unconditional entry into the BDSG was obtained. In general, each country can appoint two representatives, preferably from the competent civil aviation authority or from a police force, as they are the ones implementing the behaviour analysis programme or researching in this field. Spain is represented by one member of the Spanish Aviation Safety and Security Agency and one member of the Guardia Civil. Once in the group, the countries commit themselves to sharing progress, experience and best practices in this area, while actively collaborating in the development of material related to regulations, standard programme models, tutorial material, training programme models, academic research, etc. The group's priority objectives include facilitating the implementation and application of behaviour analysis as a complementary safety measure in legislation, improving it through best practices and state of the art research, fostering the use of behaviour analysis among the different entities involved in civil aviation, and harmonizing the programmes of the different countries.

In addition to promoting safe, efficient and sustainable transport among European countries, the European Civil Aviation Conference (ECAC) actively collaborates with other civil aviation organizations in other continents. Within this framework of cooperation and collaboration, the BDSG has held workshops to promote the use of behaviour analysis among African countries (workshop held in Accra with the support of the African Civil Aviation Commission - AFCAC), and also among Arab countries (workshop organized in Marrakesh with the support of the Arab Civil Aviation Organization - ACAO).

In line with the above, and urged by the Guardia Civil, the behaviour detection working group within AIRPOL was created in 2016. Since then, the Institution has collaborated with this organization in the preparation of handbooks, giving lectures and attending training sessions on this subject. It is precisely this training aspect that has aroused great interest, and for which support has been requested on most occasions. Some examples are, on the one hand, the request for training from the United Nations Office on Drugs and Crime - UNODC, in the MENA region (Middle East and North Africa), for different institutions in Morocco (customs, intelligence, security personnel) and, on the other hand, the request for training received from AQUAPOL to be given to police officers in the port area at its academy located in Marseille, where collaboration has been constant since 2018.

6. NATIONAL DEPLOYMENT

In 2018, following the doctoral thesis and in view of the good results, the possibility of extending the use of behaviour analysis to airports and ports throughout Spain where the GC is deployed was raised by the Coast and Border Department. The UFAC has developed a two-phase training programme to train infrastructure behaviour analysts: the first consists of a distance learning course (required before moving on to the next phase) and a second two-week on-site part (a first week of theoretical/practical content and a second internship week with a tutor at the airport). The first part, distance learning, is regularly published in the Official Bulletin of the Guardia Civil (BOGC) under the name of "Course on Basic Techniques for Behaviour Analysis", now in its seventh edition. For the development of this distance course, a manual and presentations were provided by the SACD of UTPJ. These training

materials include five study units considered essential for an analyst: interpersonal communication and basic communication skills, introduction to the police interview technique, basic notions of credibility analysis and basic personality concepts, including indirect profiling. Once this distance learning course is completed, the trainee has the option to take the classroom course where, in addition to deepening in the contents previously studied and performing classroom practices that facilitate the assimilation and internalization of what they have learned, they will also expand their knowledge related to the modulating factors of perception (e.g., limitations of perception, biases and stereotypes), they will receive training on the indicators of abnormal behaviour and their correct interpretation, as well as different interview techniques researched in the academic field, while explaining the correct interpretation of nonverbal and verbal language indicators. All the theoretical contents included in the first week's programme are accompanied by practical exercises in the classroom, to be complemented and put into practice during the second week. In the last week, trainees are deployed at the airport accompanied by a tutor who will guide the exercises in real time and with real passengers.

Following the design of the model, a training period began from 2018 to 2020; a total of 150 members of the NCO and basic ranks of Corporals and Guards Echelon were trained. In September 2019, the General Staff created the Guardia Civil ICARO teams within the Tax and Border units (airports and ports). They should have a minimum of two members per unit (expandable according to needs), serving in plain clothes, although in permanent contact with uniformed personnel, and not necessarily in exclusive dedication, although allocating a minimum of 40% of duty time to behaviour analysis. In addition, the corresponding SIGO (Integrated Operational Management System) event was created for the purpose of monitoring and analysing this type of services. Considering the possible deployment areas of the teams, there are three main fields of work: security (airport and public), taxes and investigation (within the unit itself or at the request of external units). The functional dependence of these teams lies with their natural commanders, and their technical dependence with Customs and Borders, through the Coast and Borders Department.

After showing the Guardia Civil's journey to implement the use of behaviour detection at airports and ports, the paper concludes with a brief review of the challenges along the way, as well as possible solutions.

7. PERFECTION DOES NOT EXIST

Whenever a new project is launched, multiple problems arise along the way, and we can make mistakes when making decisions. The ÍCARO project has been no exception, taking into account the challenge of creating a project of these characteristics using only internal resources. In spite of that, the lack of an external and outside perspective, which helps to solve difficulties or correct mistakes, does not mean that we do not have critical thinking and the ability to rectify.

Behaviour analysis is a technique whose core is the human being: we train people who must detect anomalous behaviour in other people, interview them to check whether they are telling the truth or lying, and finally make decisions on how to proceed. We assume that every human being has a series of social skills (skills considered complex

that facilitate the exchange of information through interaction), as well as the ability to understand the true meaning of certain facial expressions or to infer the purpose of certain behaviours.(Blake & Shiffrar, 2007; Brewer, Wei Ying, Young, & Nah, 2018). But not every person possesses good interaction skills, or simply tends to be more solitary, and the ability to infer mental states in others may be conditioned by biases or stereotypes. When evaluating human behaviour, the decision-making process is not always rational but can be biased, particularly when resources are scarce (due to attentional distractions, limited time or lack/misinterpretation of knowledge). (Gigerenzer & Gaissmaier, 2011; Tversky & Kahneman, 1974).

7.1. AN INNOVATIVE TECHNIQUE

In the operation of X-Ray equipment, capable of detecting threats, we would carefully study the accuracy of results: false positives (the times it detects a threat that is false), false negatives (the times it does not detect a real threat), and a myriad of parameters that we would quickly discard if not considered adequate. Of course, human beings are not machines, and their behaviours are not always so predictable. Programming equipment is easier than training a person, although we tend to assume that through training we are all capable of doing the same thing at the same level. It seems clear that not everyone is good at mathematics, that some people tell beautiful stories through their paintings where others would only scribble, and that some are brilliant communicators, where others would be happy not making a mistake. Consequently, we should neither assume that all people reach the appropriate level in interviewing or in detecting behaviours. (Akca, Larivière, & Eastwood, 2021), nor that they will be able to pass on to others the knowledge they have theoretically acquired in a training activity.

So far, we have not empirically proved the characteristics a person must possess to become a good interviewer or behaviour analyst at airports, or whether the same abilities are needed to perform both tasks or they are differentiated. What we can do is to take into consideration all the things on which there does seem to be consensus and which should characterize a good interviewer, such as good listening skills, the ability to show empathy, flexibility and open-mindedness, as well as having the necessary knowledge of the subject, being organized and duly posing the questions. (Bull, 2013). Even so, possessing certain characteristics is no guarantee of success, since each person shows different interests with a specific degree of commitment. (Trapp, Blömeke, & Ziegler, 2019; von Stumm, 2018) and conditioned by motivation (Ryan & Deci, 2000; Tan, Lau, Kung, & Kailsan, 2019). Given the peculiarities of this technique, not everyone will be expected to find it interesting, and some may even think that it is a waste of time. Therefore, mandatory training on a tool that is not considered useful will necessarily lead to failure. Human beings need a certain degree of autonomy to decide, and voluntary choices are usually a guarantee of at least showing some interest in learning something new.

7.2. IS OUR TECHNIQUE THE BEST OF ALL?

From the beginning, this project yielded good results which, although desirable, required certain caution. The search for quick and immediate solutions can lead us to

make mistakes and, as a consequence, become the focus of criticism, as has happened in other countries. (Denault et al., 2020). Just as sampling during research could not be accelerated, it is not advisable to rush during a training phase. In a sequential design, where the distance learning phase is followed by a classroom phase, changing order implies a delay in the acquisition of knowledge by trainees. In addition, a distance learning phase is redundant and unnecessary when the contents have already been extensively explained in a classroom phase. Detailed planning and communication are the foundations of any new project that help to understand how it will develop over time. Nonetheless, it is no guarantee that everything will go smoothly on the first try, but it is up to us to insist on good communication.

When conducting scientific research, it is necessary to interpret the results with their strengths and limitations, in the context where it has been formalised. It is not advisable to extrapolate the results to another area without further ado. Obviously there are many commonalities, and even content that can fit into several areas, but we cannot take for granted that all indicators (specific behaviours) work the same without taking into account the particularities of each area. Just as experts in the airport field worked to shape this technique, in order to adapt it to new contexts, situations or services, it is necessary to involve specialists in that particular area in the new adaptation. Working together is always a good starting point that also tends to have a great prognosis when the interest in learning new techniques is accompanied by a high motivation.

On the other hand, it is crystal clear that each country that implements behaviour analysis in airports must adapt it to its particular characteristics: Who implements it (police, private security agents, airline personnel...), where it is applied (check-in counters, security controls, boarding gates...) and how it is performed (observation and interview by different people or the same, by uniformed, plainclothed or combined agents...). In spite of this, all seem to agree on the need to verify the quality of the programs on site: the training program, trainers, analysts and the technique results. Monitoring, updates and permanent feedback are usually a guarantee of success.

7.3. RE-WRITING THE END AND CREATING DOCTRINE

The development of new projects usually involves a great deal of effort and dedication on the part of the personnel in charge of the start-up. Many hours of work and the savoir-faire of the team have made the ÍCARO project possible. The transition from a project to a well-established technique depends, to a large extent, on our ability to transmit knowledge. To achieve this, a series of steps should be taken: collection and custody of all the information gathered and experience acquired during the development of the project, learning and assimilation for new personnel, followed by subsequent supervision and permanent updating, including refresher courses.

We cannot forget that the key element that makes the gears move is the human being, with their virtues and defects. The features that make us unique delimit our capabilities, but also reflect our potential. Identifying those people who possess the right qualities for correct learning, development and subsequent explanation will help us to obtain a progressive and safe dissemination of the behaviour analysis technique. If we add to this a training phase that is also progressive, staggered and constantly updated, we might say that our project has finally ceased to be a project.

8. CONCLUSION

Throughout this article we have presented how behaviour analysis has entered the field of civil aviation and the adaptation undergone by the Guardia Civil. We have also detailed the steps taken to scientifically validate predictive behaviours of illicit activities in a context such as airports, as well as its significant international impact. Finally, we have mentioned some of the difficulties along the way and their possible solutions.

Such a huge project has required a great investment of time and effort. But nothing would have been possible without the drive of all the members of the Guardia Civil who have collaborated in the development of each and every phase. It is obvious that we can carry out any project from scratch and that we know how to overcome difficulties. Let's not limit ourselves and let's innovate.

At the beginning of this article we explained the reasons why we look for new tools in the fight against terrorism. We can now conclude that we have developed a proactive, flexible, unpredictable and, most importantly, effective technique. These characteristics make it transversal and, therefore, applicable to many of the services rendered by the Guardia Civil.

Perhaps the future of this technique lies in its combination with artificial intelligence, at which point we will take a great step forward for the benefit of security. However, in the meantime, we can already state that we have developed a highly effective tool.

LITERATURE

Aamodt, M. G., & Custer, H. (2006). Who can best catch a liar?: A meta-analysis of individual differences in detecting deception. *Forensic Examiner*, *15*(1), 6.

Akca, D., Larivière, C. D., & Eastwood, J. (2021). Assessing the efficacy of investigative interviewing training courses: A systematic review. *International Journal of Police Science & Management*, 23(1), 73-84. https://doi.org/10.1177/14613557211008470

Blair, P., Levine, T. R., Reimer, T. O., & McCluskey, J. D. (2012). The gap between reality and research: Another look at detecting deception in field settings. *Policing: An International Journal of Police Strategies & Management*, *35*(4), 723-740.

Blake, R., & Shiffrar, M. (2007). Perception of human motion. *Annual Review of Psychology, 58*, 47-73. http://doi.org/10.1146/annurev.psych.57.102904.190152

Blanco-Hermo, P. (2016). Atentados multifocales y lecciones aprendidas. *Actualidad Médica, 101(799)*, 183-187. http://doi.org/10.15568/am.2016.799.re02

Bond, C. F., & DePaulo, B. M. (2006). Accuracy of deception judgments. *Personality and Social Psychology Review*, 10(3), 214-234. http://doi.org/10.1207/s15327957pspr1003_2

Brewer, N., Wei Ying, A. B., Young, R. L., & Nah, Y. (2018). Theory of mind and the detection of suspicious behavior. *Journal of Applied Research in Memory and Cognition*, 7(1), 123-131. http://doi.org/10.1016/j.jarmac.2017.09.006

Bull, R. (2013). What is 'believed'or actually 'known'about characteristics that may contribute to being a good/effective interviewer. *Investigative Interviewing: Research*

and Practice, 5, 128-143.

Denault, V., Plusquellec, P., Jupe, L. M., St-Yves, M., Dunbar, N. E., Hartwig, M., . . Walsh, D. (2020). The analysis of nonverbal communication: The dangers of pseudoscience in security and justice contexts. *Anuario De Psicología Jurídica, 30*(1 - 12) https://doi.org/10.5093/apj2019a9

DePaulo, B. M., Lindsay, J. J., Malone, B. E., Muhlenbruck, L., Charlton, K., & Cooper, H. (2003). Cues to deception. *Psychological Bulletin*, 129(1), 74. http://psycnet.apa.org/doi/10.1037/0033-2909.129.1.74

El Mundo. (2006). Reino unido frustra un plan para hacer explotar aviones en pleno vuelo. Retrieved from http://www.elmundo.es/elmundo/2006/08/10/internacional/1155187933.html

Feijoo, M. C. (2018). El análisis de la conducta delictiva y la detección del engaño en el contexto aeroportuario. Retrieved from http://hdl.handle.net/11531/25939

Feijoo-Fernández, M. C. (2020). Estrategias del mentiroso. *Manual de detección de la mentira y el engaño: Una aproximación académico-aplicada* (pp. 43-56). Fundación Universitaria Behavior & Law.

Feijoo-Fernández, M. C., Halty, L., & Sotoca-Plaza, A. (2020). Like a cat on hot bricks: The detection of anomalous behavior in airports. *Journal of Police and Criminal Psychology*, , 1-11. https://doi.org/10.1007/s11896-020-09371-5

Gigerenzer, G., & Gaissmaier, W. (2011). Heuristic decision making. *Annual Review of Psychology*, 62, 451-482. https://doi.org/10.1146/annurev-psych-120709-145346

Hartwig, M., Granhag, P. A., Strömwall, L. A., & Vrij, A. (2005). Detecting deception via strategic disclosure of evidence. *Law and Human Behavior*, *29*(4), 469. http://doi:10.1007/s10979-005-5521-x

International Civil Aviation Organization. (2017). Annex 17th. Safeguarding international civil aviation against acts of unlawful interference. Retrieved from https://www.icao.int/Security/SFP/Pages/Annex17.aspx

Koller, C. I., Wetter, O. E., & Hofer, F. (2015a). What is suspicious when trying to be inconspicuous? criminal intentions inferred from nonverbal behavioral cues. *Perception*, *44*(6), 679-708. http://doi.org/10.1177/0301006615594271

Koller, C. I., Wetter, O. E., & Hofer, F. (2015b). 'Who's the thief?'The influence of knowledge and experience on early detection of criminal intentions. *Applied Cognitive Psychology*, *30*(2), 178-187. http://doi.org/10.1002/acp.3175

Molotch, H. (2014). Against security: How we go wrong at airports, subways, and other sites of ambiguous danger. Princeton University Press.

Nahari, G. (2018). The applicability of the verifiability approach to the real world. *Detecting concealed information and deception* (pp. 329-349). Academic Press. https://doi.org/10.1016/B978-0-12-812729-2.00014-8

Nahari, G., & Vrij, A. (2019). The verifiability approach: Advances, challenges, and future prospects. *The routledge international handbook of legal and investigative psychology* (pp. 212-223) Routledge.

- Ormerod, T. C., & Dando, C. J. (2015). Finding a needle in a haystack: Toward a psychologically informed method for aviation security screening. *Journal of Experimental Psychology: General, 144*(1), 76-84. http://doi.org/10.1037/xge0000030
- Park, H. S., Levine, T., McCornack, S., Morrison, K., & Ferrara, M. (2002). How people really detect lies. *Communication Monographs*, 69(2), 144-157. http://dx.doi.org/10.1080/714041710
- Piquer, I. (2001). Los pasajeros de un avión detienen a un terrorista con una bomba en el zapato. Retrieved from http://elpais.com/diario/2001/12/24/internacion-al/1009148413_850215.html
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68. http://doi.org/10.1037/0003-066X.55.1.68
- Tan, C., Lau, X., Kung, Y., & Kailsan, R. A. (2019). Openness to experience enhances creativity: The mediating role of intrinsic motivation and the creative process engagement. *The Journal of Creative Behavior*, *53*(1), 109-119. https://doi.org/10.1002/jocb.170
- Tomás-Rubio, S. (2009). El secuestro aéreo. Cockpit Studio Editorial S.L.
- Trapp, S., Blömeke, S., & Ziegler, M. (2019). The openness-fluid-crystallized-intelligence (OFCI) model and the environmental enrichment hypothesis. *Intelligence*, 73, 30-40. https://doi.org/10.1016/j.intell.2019.01.009
- Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*(4157), 1124-1131. http://doi.org/10.1126/science.185.4157.1124
- Vernham, Z., Vrij, A., Mann, S., Leal, S., & Hillman, J. (2014). Collective interviewing: Eliciting cues to deceit using a turn-taking approach. *Psychology, Public Policy, and Law, 20*(3), 309.
- von Stumm, S. (2018). Better open than intellectual: The benefits of investment personality traits for learning. *Personality and Social Psychology Bulletin, 44*(4), 562-573. https://doi.org/10.1177/0146167217744526
- Vrij, A., Granhag, P. A., Mann, S., & Leal, S. (2011). Lying about flying: The first experiment to detect false intent. *Psychology, Crime & Law, 17*(7), 611-620. http://dx.doi.org/10.1080/10683160903418213
- Vrij, A., Leal, S., Granhag, P. A., Mann, S., Fisher, R. P., Hillman, J., & Sperry, K. (2009). Outsmarting the liars: The benefit of asking unanticipated questions. *Law and Human Behavior*, 33(2), 159-166. http://doi.org/10.1007/s10979-008-9143-y
- Vrij, A., Mann, S. A., Fisher, R. P., Leal, S., Milne, R., & Bull, R. (2008). Increasing cognitive load to facilitate lie detection: The benefit of recalling an event in reverse order. *Law and Human Behavior*, *32*(3), 253-265. http://doi.org/10.1007/s10979-007-9103-y
- Vrij, A., Mann, S., Leal, S., & Fisher, R. (2010). 'Look into my eyes': Can an instruction to maintain eye contact facilitate lie detection?. *Psychology, Crime & Law, 16*(4), 327-348. http://doi.org/10.1080/10683160902740633

Walczyk, J. J., Harris, L. L., Duck, T. K., & Mulay, D. (2014). A social-cognitive framework for understanding serious lies: Activation-decision-construction-action theory. *New Ideas in Psychology*, *34*, 22-36. http://dx.doi.org/10.1016/j.newideapsych.2014.03.001

Walczyk, J. J., Schwartz, J. P., Clifton, R., Adams, B., Wei, M., & Zha, P. (2005). Lying person-to-person about life events: A cognitive framework for lie detection. *Personnel Psychology*, *58*(1), 141-170. http://doi.org/10.1111/j.1744-6570.2005.00484.x

Warmelink, L., Vrij, A., Mann, S., Leal, S., & Poletiek, F. H. (2013). The effects of unexpected questions on detecting familiar and unfamiliar lies. *Psychiatry, Psychology and Law, 20*(1), 29-35. http://dx.doi.org/10.1080/13218719.2011.619058