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SUMMARY: INTRODUCTION; THE IMPORTANCE OF THE VICTIM; PSYCHOLOGICAL AUTOPSY; METHODOLOGICAL PROBLEMS; FINAL REFLECTIONS; REFERENCES.

ABSTRACT: After years of confusion and debate, the concept of 'profiling' has begun to fall into disuse and has been replaced by the more accurate term 'behaviour analysis'. In reality, and in the face of decades of errors in the interpretation of his work, the behavioural analyst does not determine the 'who', but rather tries to unravel motivations in search of the 'how', the 'why' and the 'what for'. From this technical-technological perspective, behaviour analysis procedures acquire an important criminalistic value as hypothesis-generating machinery to guide the work of field investigators, always fundamental and irreplaceable, in contexts of uncertainty. As the importance of understanding the role of the victim in criminal actions has become increasingly evident, the so-called psychological autopsy has re-emerged from among these analysis techniques-technologies. This article attempts to show its importance and value of use, as well as to provide keys to help advance and consolidate it within the framework of behaviour analysis and criminal investigation techniques.

KEYWORDS: Behaviour Analysis, Psychological Autopsy, Criminal Investigation, Police Methodology.

ABSTRACT: The concept of criminal Profiling has fallen into disuse after decades of confusion and controversy. Instead, it has been replaced by another denomination more adjusted to reality, such as "behavior analysis." Actually, and in the face of errors in the interpretation of their work, it has been understood that the behavior analyst does not determine the "who" but tries to unravel motivations in search of "how", "why" and "for what". From this technical-technological perspective, behavioral analysis procedures

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acquire significant value as hypothesis generating machinery in the field of criminal investigation that guide the work of field investigators, always fundamental and irreplaceable, in uncertainty contexts. Since the importance of understanding the victim's role in criminal actions has become more and more clear, the so-called psychological autopsy has resurfaced from these techniques. This article tries to show its relevance and use value, while providing keys to help the progress and consolidation of the same within the framework of behavior analysis and criminal investigation techniques.

Introduction

The concept of 'profiling', as it is popularly known in its original meaning, is nowadays a term that is gradually falling into disuse. This has been prompted by recent methodological and epistemological revisions that have even affected the validity of profiling as a policing technology. The debate, in summary and without going into nuances, has mainly affected its lack of empirical verification and its value as an expert technique. Collaterally, the long-delayed question of the necessary training for profilers has arisen (Pérez-Fernández & Soto-Castro, 2022). The truth is that the controversy that has been affecting this field of work has led to denominations such as 'behaviour analysis' being perceived as more 'respectable', concrete and in line with what profiling understood in a broad sense means in concrete practice (Doan & Snook, 2008; Chifflet, 2015).

It should be understood, in fact, that this change of nomenclature has to do with the never fully resolved epistemological and methodological problem of whether behaviour analysis is a science in the strict sense (basic knowledge) or a technology (applied knowledge). It is no coincidence that when profiling was considered to be, in some way, an activity fundamentally linked to 'psychology' and/or 'psychiatry', it tended to generate a series of scientific, police and even legal expectations that have never been fulfilled and which, retroactively, have caused it to be considered in many cases as a mere dilettante with no empirical basis. In fact, with the questioning of profiling activity as properly linked in its foundations to psychology, sociology or anthropology, beyond shared jargon and sporadic similarities, profiling as a police-criminal investigation technique has been called into question on the epistemological level (Pérez-Fernández & Soto-Castro, 2022). Not surprisingly, and despite sustained efforts to validate them, the available models—based on inductive and/or deductive procedures—have made practically no progress in the last thirty years. Nor have reliable methodologies been developed for conducting the process of abduction as a hypothesis-generating procedure (Peirce, 2012).

The exception to this rule is possibly to be found in the development of computerised applications in the context of 'geographical profiling', built from more or less complex algorithms and which, moreover, do not require specific professional specialisation or qualifications, as it would be sufficient to know how to handle a software package. Moreover, the efficiency of such software applications would depend not so much on the analyst's judgement as on the quantity and quality of the data fed into the program, as well as on the potential effectiveness of the algorithms on which the program's architecture is built. On the other hand, despite the widespread enthusiasm that Artificial Intelligence—in reality 'machine learning' or 'computational statistics'—currently arouses, as an analytical tool, it has two controversial difficulties that are difficult to subvert: the ease with which it induces illusory correlations, as well as the difficulties it experiences when dealing with the handling of random-chaos with low volumes of data (Pasquinelli, 2019). It should

always be kept in mind that the statistical tool, however correctly applied, will never turn 'bad' science into 'good' science.

Similarly, and to a large extent encouraged by the entertainment industry, all kinds of subjectivities, prejudices, clichés and stereotypes generated in extra-scientific contexts have been installed in this field which, over the years, have transformed profiling into a suggestive—and usually fictitious—curiosity rather than an investigative methodology in the strict sense of the word. This has significantly affected its general consideration in police and legal bodies, whose components often turn to the profiler-analyst more as a consultant—or advisor—with whom to corroborate their own general impressions, than as a specialist trained in a reliable criminalistic technique (Godwin, 2002; Snook, Taylor & Benell, 2007). It is of little use, in this sense, to argue that behaviour analysis is an 'art', has little to do with 'intuition' and is not the result of mere 'inspiration'. Distorting ideas that tend to spread with exasperating ease. In fact, it works in a very different way, which could be considered parallel to the technical procedure of medical diagnosis (Figure 1).
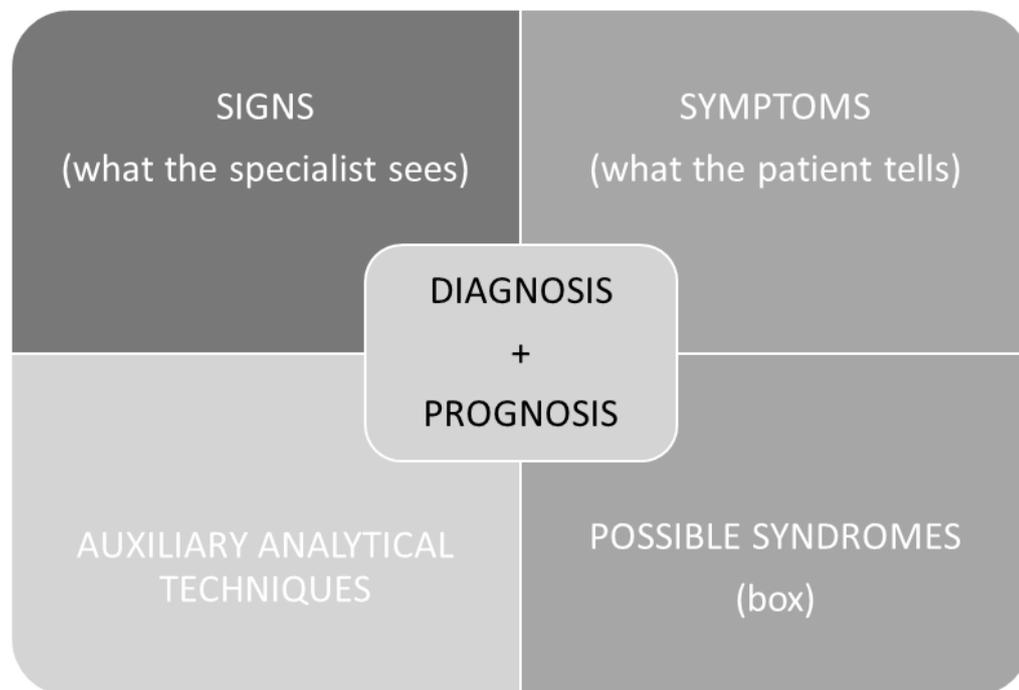

Figure 1. Basic diagnostic model.

It follows, then, that behaviour analysis is in fact a technology of reverse analysis that seeks to generate tentative and never closed investigative hypotheses from the fragmentary information provided by a given problem: the particular crime committed as it is presented. Thus, the profiler-analyst is not, and this misunderstanding should be dispelled as soon as possible, someone who 'identifies' criminals, or 'solves' complex cases without leaving the office, using mere intellect or some sort of innate and mysterious 'ability'. Police investigation in the field—let it be clear—is an inescapable activity that can hardly be replaced by any criminalistic practice, which in any case supports, informs and consolidates it (Pérez-Fernández & Soto-Castro, 2022). To be honest, it must be acknowledged that the criticisms that are systematically levelled at behaviour analysis technology could, strictly speaking, be applied to any other forensic science that is taken as closed or conclusive: if we think carefully, for example, about the contribution of DNA

analysis—despite its low error rate—fingerprinting, graphistics, ballistics, forensic medicine or document microscopy, it will be noticed that most of the time they do not 'solve' any case on their own. They help—sometimes not decisively—to dismiss or corroborate evidence, to underpin working hypotheses, or simply contribute to some extent to the final success of an arduous investigative task that is strictly police and judicial. These stereotypes, which may well be seductive for scriptwriters, writers and the general public, only generate scepticism in the medium term in police practice and in legal contexts, as well as giving rise to a misleading—fantasy—vision of the real possibilities of the activity of police forces.

What is certain is that the behaviour analyst is a professional who, based on a proactive, systematic and conscientious study of the information available in the different stages of the criminal investigation process, develops useful orientations and strategies for the agent in the field. Nothing more, but also nothing less. In this sense, a very healthy step for the future of behaviour analysis should be, before thinking about what kind of 'personal skills' a good analyst should have (Turvey, 2012), to specify what knowledge will provide them with adequate training and specialisation, as well as to establish standardised criteria, beyond dysfunctional types and 'ready-made' arguments, for the technical and technological growth of behaviour analysis. In fact, a comprehensive training in victimology and criminology, as well as a thorough knowledge of the standards of police and scientific investigation, should be basic conditions for the efficient performance of this activity.

The importance of the victim

The victim is the ultimate target of the criminal act and is of great importance for the police investigation, although, unfortunately, their current role in criminal proceedings is very often marginal. In the case of behaviour analysis, it is a fundamental element that can help significantly in the capture of the perpetrator of the criminal acts—or in the discernment of what happened—as it can provide information in three different contexts, depending on the degree of access we have to it, or the context of analysis that we can establish depending on the circumstances (Tamarit, 2006):

- Identification of the possible perpetrator of the events under investigation, if this is the case, which would include the potential presence of self-harming dynamics and even suicides.
- Statement/testimony of what happened, if the victim survived the event, which gives shape and context to the ongoing case, as well as its type and scope.
- Personal. In any case, as a person of interest, the victim can always provide the analyst with valuable information from the 'who' and from their *modus vivendi*: Why this person and not someone else? What is it about the victim that could motivate the criminal? How did the victim's decisions and actions influence what happened? How could the victim's lifestyle be related to the course of events, and so on and so forth.

All this implies that understanding the victim can be a decisive element in the clarification of a criminal case, whatever form it takes, and even to determine whether the events that culminated in their victimisation are properly criminal, or whether they were motivated by accidental causes or constitute some form of simulation, fraud, self-harm and/or suicide. Thus, if we think about the analysis of a potentially criminal act, the analyst

must bear in mind that there are two models that must be studied independently: the role of the victim and the acts of the perpetrator. In relation to the role of the victim, this is related to the behaviours that the aggressor expects from the victim during their interaction. Thus, the victim could be viewed according to three 'themes' (Janosch-Gonzalez, 2020a):

- As an object (that the perpetrator pursues in itself, given its peculiar characteristics).
- As a means (that satisfies some need generated in the perpetrator that is initially unknown).
- As a person (or possessing some special personal characteristic that interests and motivates the offender's actions).

The fact is that the more time has passed since the commission of a crime, the longer a criminal act has remained unsolved, or the less evidence is available to the investigators, the more important the figure of the victim, their role, their relationships, their personality and their habitual or circumstantial behaviour will be for them. It is a matter of answering, through a meticulous analysis of these elements, elementary questions such as what could have made the person 'interesting' for the criminal. A good answer to these kinds of questions can ensure the establishment of an adequate investigative hypothesis, or at least help to generate one. It must be understood, from this point of view, that crime is not only the act of the criminal and its peculiar circumstances, but a process of relationships between the victim and the perpetrator. Links that are not always clear, nor are they always circumstantially easy to 'read'.

It is not uncommon to come across complex and controversial cases in which forensic and criminalistic information as well as investigative data collide: while the available indications and evidence point in one direction, the facts suggested by the enquiries on the ground seem to point in a different direction. This should lead the investigator-analyst, when confronted with a particularly complex case, to adopt the simple precaution that the people involved in the different phases of an investigation-instruction sometimes, as human beings, make mistakes in countless ways and forms. Precisely for this reason, the first precaution that the behaviour analyst must take is not to simply accept the processed information as it is given to them without further analysis. This could introduce biases in their study of the case by inadvertently incorporating hypotheses that they have not made themselves, or induce them to assume other people's conclusions as their own (Pérez-Fernández & Soto-Castro, 2022).

Typically, it is these kinds of cases whose data are restricted, random or contradictory that remain 'unresolved', or find tortuous and/or problematic resolutions that never satisfy all parties involved in the process. In these borderline situations all the information we can obtain about the victim may, in fact, be of capital importance. This brings us to a first axiom that the researcher-analyst must bear in mind when focusing on the figure of the victim: people, whoever they are, always keep secrets. Thus, the analyst must begin by deconstructing the case and reorganising it in order to clarify whether at some point there may have been errors of appreciation or the always undesirable 'tunnel effect' (Rodríguez-Ferreiro & Barbaría, 2018). It is in this context that it should be understood that the victim and his or her role are issues that are often overlooked or not considered with the relevant rigour.

Victimisation risk

Victimological research, in general, has reached two general conclusions that are worth recalling at this point. The first is that there are factors that determine people's vulnerability, such as exposure to criminogenic situations, qualities and deficits of individuals, lifestyles, prejudices and/or stereotypes, and so on. The second is that victimisation rates are not evenly distributed in a population (Shaffer & Ruback, 2002). Some groups are particularly prone to victimisation, either because they take higher risks than others, as is often the case among certain occupational groups, or because they have personal characteristics that make them particularly vulnerable. Similarly, the risk of victimisation is inevitably associated with variables and contexts. Thus, the prognosis of victimisation depends, usually and to different degrees, on different types of factors, among which we will highlight three (Critchfield, Myhill & Ludwig, 2021):

1. Personal: biological (age, sex, physical and mental health), and psychological (aggressiveness, alienation, carelessness, addictions, psychopathologies).
2. Social: derived from basic social victimisation. Thus, immigration, social marginalisation and exclusion, and so on, appear.
3. Situational: conditioned by the urban and ecological infrastructure in which the person carries out their activities.

In view of the above, in order to establish a good behaviour analysis, it seems obvious to assume the fact that, beyond general crime statistics and raw data, not everyone is exposed to the same dangers, nor to the same degree. Therefore, it should be emphasised that people's 'lifestyle' is related to the proximity and exposure to risk that will determine their eventual victimisation. Thus, the individual's routine and everyday activities, such as professional, family, or leisure activities, will offer direct and indirect opportunities for the offender. The former occur when potential victims 'facilitate' the process. Indirect opportunities are related to stereotypes, images, and socio-cultural symbols which, when appropriate, can work as 'calls' for the offender. It is these ideological elements that the criminal themselves will use as an element to justify their actions, by providing them with a good assortment of cognitive distortions and *post-hoc* justifications (Peña Fernández & Andreu Rodríguez, 2012).

Psychological autopsy

As a procedure, it appeared in the United States in the 1930s, when the Crash of 1929 and the subsequent crisis prompted a terrible wave of suicides that needed some sort of operational explanation. However, it was not until the 1950s that it began to be used systematically in the course of police suicide investigations, especially at the Los Angeles (California) Suicide Prevention Center. It was there that suicide psychologists and thanatologists Edwin Shneidman (1918-2009) and Norman Farberow (1918-2015) organised the procedure in relation to suicide prevention (Chávez-Hernández & Leenars, 2010). It is difficult to determine who was "the first person" to develop the procedure *sensu stricto*. Some attribute its 'invention' to the forensic doctor Theodore J. Curphey (1897-1986), reserving the idea of its use as a systematised forensic and police technique to Robert Litman (1921-2010), who had already used a tentative version of the procedure at the Los Angeles centre in 1958 (Constanza Cañón, *et al.*, 2016), but the data is controversial insofar as there was, as we can see, a group of researchers working together on the same problem.

In general, and to be pragmatic, psychological autopsy is a process of data collection to reconstruct the psychological profile of a person and their mental state before their death from a dubious cause—be it suicide, homicide, accidental death or natural causes—occurred. It therefore involves a tentative psychobiographical exploration of the behaviour and emotional life of the person in question, aimed at clarifying the causes of their death, or possible disappearance. Of course, the procedure is carried out through a series of retrospective, indirect and, if necessary, *post-mortem* investigations. In any case, the interest of psychological autopsy is not limited to the clarification of police cases and/or controversial deaths. It could also be useful in other areas of application related to law, institutions and economics, such as compensation claims, insurance payments, accidents at work, access to military and special police forces, membership in secret services and so on. In any case, as a procedural tool, the psychological autopsy does not claim infallibility, it does not aim for a 'quantifying' desire, nor does it try to generate the—false—expectation of being an entirely 'objective' procedure:

> "Under the criminological premise that 'one death is never the same as another', we believe that neither the intrapsychic realities of living or dead persons could claim to be homologous, just as no indirect psychological assessment procedure could ever aspire to be as truly objective as some would wish. Under this maxim, we are convinced that in order to understand the psychodynamic aspects at play when studying the death of a person, without trying to generalise and focusing exclusively on the individual experience, the best tools come from qualitative approaches to social research" (Torres Vicent, 2007, p. 118).

In order to clarify the matter, let us imagine that the psychological autopsy of a mortal victim who died in unclear circumstances had to be dealt with. Bearing in mind that the causes of a person's death can be natural, accidental, self-inflicted—suicide, caused by others—either homicide or murder, or 'undetermined' or 'doubtful' - when the physician is unable to determine whether the death was caused by one of the first four reasons, the basic guiding principle will be to accept that, in some way, the victim has left 'psychological evidence' at the scene of their death, in the places they lived, in their possessions, and in their behaviour prior to death. Thus, it implies an effort to search for the psychological traces that the psyche and behaviour of such a person has left in the last days or hours of their life. Extending the procedure to cases of disturbing disappearances, the procedure would seek to analyse the state of mind of the individual on the dates prior to the disappearance, as well as the conglomeration of relationships and contexts that may have contributed to the disappearance. This implies that a psychological autopsy can help the analyst-investigator to describe and understand a probable profile of the individual's personality; to detect suicide risk factors, or to rule them out; to evaluate the mental state of the person at the time of death and/or disappearance; to establish vital areas of conflict and crisis; to know whether they consciously exposed themselves to risks; and to determine the kind of relationship they might have had with their aggressor, or to establish a map of material and human links prior to their disappearance. In short, it is a process of reverse qualitative analysis constructed from as many objective reports as can be gathered at any given time.

Here is an example: A skydiving enthusiast climbs into a plane of their own free will and, fully equipped, jumps out of the plane. But the parachute does not open, so they hit the ground and, logically, die of the impact. In such a scenario, the investigators in charge of the case are presented with a bouquet of four possible options:

A. Accident: The person, by chance, has fallen from the plane without being properly prepared, which has led to the parachute not working as it should, or not being in a position to activate it.
B. Suicide: The person voluntarily jumped out of the plane, but during the fall chose not to open the parachute.
C. Homicide or murder: The person has either been pushed out of the plane without being ready, or their parachute was mishandled in such a way that it does not work properly.
D. Natural death: It may be possible that the person jumps of their own free will, wants to open their parachute, and that it works, but before activating it they suffer an indisposition, lose consciousness, or suffer some kind of disorientation, so that they are unable to open it, with fatal consequences.

This may seem an extreme and extravagant situation, but in fact it happened in real life when the Belgian police had to deal with the bizarre death of parachutist Els Van Doren in 2006. A case that a priori, and once evidence and circumstances were analysed, seemed to be an unfortunate accident (Waterfield, 2010). However, a thorough analysis of the victim's life circumstances and those of all those involved in the event in the weeks prior to her death, carried out by the relevant analysts, determined that it could not have been a suicide, a fortuitous event or an event attributable to natural causes. Thus, the paratrooper had been murdered. Indeed, the subsequent investigation by the Belgian police determined that Van Doren's parachute failed to open due to an extremely subtle mishandling by a fellow jumper, Els Clottemans, who had tried to fabricate an elaborate 'accident' and almost managed to evade police action. The motive ultimately turned out to be the love triangle that both women had with their jumping instructor. It was precisely the psychological autopsy procedure that enabled the officers to establish what they were actually investigating and thus set them on the path to a correct resolution of the case.

The truth is that every psychological autopsy relies on four central aspects. The first of these, which imposes certain limitations, is the qualitative and retrospective nature of the information, since any data relevant to determining the causes of what happened to the victim is prior to or simultaneous with the events. The second is that it is an indirect and inverse method, which implies that, even if the victim survived, the collection of information involves sources outside the victim herself - family, friends, scenarios and/or documents. The third element is the specific objective of the procedure, which the analyst must bear in mind, and which is none other than to determine the psychic state, in the broadest possible sense, of the subject at the time of death, accident or disappearance. Finally, the fourth pillar of the psychological autopsy is multidisciplinarity, since, in principle, all the resources available to the profiler-analyst are equally valid insofar as one never knows where there may be relevant information waiting to be rescued.

Methodological problems

As a qualitative and retrospective working methodology, psychological autopsy intrinsically carries with it all the epistemological problems that affect this kind of procedure. This obviously imposes certain unavoidable scientific limitations that must be taken into account in order to avoid excesses and interpretative errors. For this reason, and although it is accepted that it could be interesting and valuable for behavioural research-analysis, it is also subject to serious criticisms (Torres Vicent, 2007). The first of these, and possibly the main one, is that there is no homogeneous and standardised procedure for its

implementation and analysis, so it lacks a clear empirical validation and still remains within the technical-procedural. Therefore, it should be stressed that it 'guides' and 'leads', but never 'resolves' or 'certifies'.

Be that as it may, there are different instruments, it could be said that the main formats proposed to date for their implementation are the following:

- Edwin Shneidman, linking his instrument to suicide research, proposed a pioneering instrument consisting of 14 indicators (Shneidman, 1969).
- Forensic psychiatrist and behaviour analyst Bruce W. Ebert (n.d.), in the interest of developing a practical guide for professionals, generated an instrument containing 24 indicators (Ebert, 1987).
- Building on the model proposed by Ebert, and homogenising the opinion of different specialists, Thomas J. Young (n.d.) increased the categories of actionable information to 26 to ensure the success of the procedure. However, he recognised that the mechanics intrinsic to psychological autopsy could hardly overcome the problem of variability of the available data, as well as the bias of subjectivity inherent in the interpretation of some data (Young, 1992).
- During the 1990s, and after a long period of case studies and refinement of the tool, the Cuban psychiatrist Teresita García Pérez (n.d.) designed what is possibly the most publicised and popular retrospective investigation procedure of the victim's personality in the Latin American context, known as the *MAPI Protocol* (García Pérez, 2007).

The epistemological limits referred to above were openly revealed, for example, during the controversial investigation of the explosion of an artillery turret on board the US Navy ship USS Iowa in April 1989. The incident cost the lives of 47 sailors. Finally, the psychological autopsy carried out by FBI analysts concluded that the perpetrator was gunnery officer Clayton Hartwig, who had sabotaged the turret with the aim of taking his own life, influenced by his conflicting homosexual tendencies. However, subsequent technical examinations of the artillery piece led to the conclusion that there was no such manipulation and that it was therefore the result of an unfortunate concatenation of fortuitous circumstances (Diehl, 2003). In reality, this controversy was fundamentally due to a problem of malpractice, as the psychological autopsy presented by the FBI had been based on prejudicial, *ad hoc* considerations, designed solely to justify the hypothesis that the investigators themselves had already had in mind from the outset. The study of the procedure, carried out by a committee of twelve experts of the American Psychiatric Association (APA) was very harsh in its evaluation of the case, severely criticising the psychological autopsy report drawn up on the person of officer Hartwig, especially with regard to its validity and reliability (Poythress, Otto, Darkes & Starr, 1993). An event that underlines another of the fundamental axioms of behaviour analysis and which, in the case of the psychological autopsy, must be respected with particular zeal: one must be wary of 'imaginative' and prejudiced hypotheses that try to go beyond what the available evidence points to.

Circumstances such as those described, and which result from the misuse—excessive and self-interested—of the procedure, imply that during the psychological autopsy a conscientious, critical, objective and systematic examination of the different elements available should be carried out, bearing in mind that they are not there to confirm other

pre-established hypotheses, but to induce them from the hermeneutic work on the data carried out by the professional. Thus, the following will be carefully evaluated:

- Interviews with relatives, friends, work colleagues, acquaintances and so on, insofar as they provide elements of judgement that allow the analyst to make an external approximation to the circumstance of the person under investigation.
- Forensic autopsy, if any, or other forensic reports such as psychological experts, medical records and so on. They provide relevant details about the physical and/or mental state.
- Crime scene recordings and photographic reports. Scene evidence must be evaluated in its own right and in relation to the specific case being investigated. It would make no sense to filter such information from generic approaches or types insofar as, assuming the individuality of the persons, they could generate interferences in the analysis of the specific situation being faced.
- Toxicological reports, if any.
- Reports relating to marital, couple or family history.
- Reports that may be collected in relation to work, leisure activities, contracting of services, etc.
- Data related to possible life stressors that may be acting on the individual in question.

A significant event of the psychological autopsy, very relevant in terms of its methodological functionality, has to do with the 'when' it should be performed, which has generated a great deal of controversy (García Pérez, 2007). Possibly, and as is to be expected, too long a delay could lead to an excessive cooling of the information, but too close to the facts could lead to the establishment of premature conclusions. In this sense, and understanding that the task of the expert witness always has a discretionary aspect, it must be understood that there are investigations that are more complex than others and that much potentially valuable information could take some time to appear, or that the case could be clarified by conventional means and without the need for the analyst to intervene. In general, and given these vicissitudes, it is estimated that the reasonable period of time to start the procedure is between 1 and 6 months after the event under investigation, with the time span determining the course of the investigation. If the case goes cold too quickly, it is therefore advisable to start the investigation early. In fact, if 6 months after the occurrence of the events, it has not been possible to determine the exact potential causes, the probability that they will be determined in the future by conventional means will already be very low.

Final reflections

Given that the psychological autopsy is a procedure that attempts to determine the mental state of a deceased or disappeared person from the information left behind shortly before the death or disappearance, but retrospectively and indirectly, through other people and evidence, it must be understood as a reverse, qualitative and tentative procedure. A methodology which, moreover, only provides a non-generalisable case study as a final product. Its results can only be estimated within the range of hypotheses to be tested, and nothing more. Its purpose would be to orient the investigation towards the possible cause of that which is being investigated (suicide, homicide or kidnapping, accident or natural death), in order to try to obtain the relevant evidence, in the shortest possible time, and using the least possible amount of resources. Therefore, the psychological autopsy enters

into the context of forensic technology by functioning as an a priori whose a posteriori success will only be certified by the final result of the investigation that is carried out. Consequence: as with all other behaviour analysis technologies, the investigation will be 'well guided' by it if the hypothesis generated from the psychological autopsy is correct. Otherwise the research may be hindered, misguided or confused by such a hypothesis. There is also the possibility that the erroneous hypothesis will induce a confirmatory bias in the investigators, who will focus their search on circumstantial evidence that confirms it. It is precisely for this reason that extreme care must be taken in its preparation, as well as in the assessment of its scope. Nor should it be understood as a closed, finished process, as its conclusions should ideally be subject to constant re-evaluation by the professional as the agents involved in the investigation gather more evidence. Only an updated, up-to-date report has real value (Pérez-Fernández & Soto-Castro, 2022).

The question, of course, then takes the following form: How do we know if the hypothesis of a psychological autopsy is correct? The only way is, as already expressed, by finding solid evidence in the research that either supports it or disproves it. These will not be easy to find for researchers who, precisely when they resort to this kind of 'alternative' working methodologies, they do so in desperation, in order to get out of the disorientation in which they find themselves, which is why they tend to propose virtually impossible scenarios to the specialist. In fact, one of the problems that generally affect this kind of technology—and this brings us full circle—is that it is usually nothing more than the lack of traceable clues that determines, in time, to resort to them. Indeed, this leads to the strange paradox that it is precisely the very thing that calls behaviour analysis into question that makes it necessary. Every police investigator with a minimum of experience is aware that the expression of a suicidal tendency on the part of the victim—verifiable, for example, in a psychological report—is not necessarily evidence that the victim committed suicide. A person may express suicidal tendencies and yet never commit suicide for various personal, social and/or cultural reasons. The same person who has overt suicidal ideations could suffer an accident, die of natural causes, or be the victim of a murder-murder committed by an enemy, whether hidden, declared or anonymous. Thus, the scene and circumstances of their death should not be automatically or uncritically interpreted as unequivocal indications of suicide.

The major disadvantage inherent in these inferential techniques, such as psychological autopsy, is that we currently do not know their scientifically calculated error rate, and therefore they cannot, and should not, be used in judicial contexts as evidence *sensu stricto* (Mohanty et al., 2021). The analyst will cooperate with the investigator, but will have problems of reliability in the expert field until a way is found to resolve this issue - if that is possible. In any case, this does not detract from its value in generating hypotheses to be confirmed and, therefore, to operate as an auxiliary technique in police investigation. This statistical gap simply means that, just as it cannot be said that the technique will always be useful, neither can it be rigorously established that it is not useful at all. In this sense, it is important not to confuse or misuse the real usefulness of the hypothesis generated by the psychological autopsy, which is to guide the officers' investigation, with other unrealistic expectations. One should not make the mistake of considering such a hypothesis, without empirically testing it, as a material explanation of the event under study, as only this will protect the behaviour analyst from confusion and false inferences (Soto-Castro, 2017).

Certainly, there is still much to be done to achieve the goal of evolving this admittedly useful tool from what is no more than a simple technique into a true technology. Firstly, progress must be made in terms of its scientific foundations by deepening the analysis of inverse problems, a common tool in other fields of knowledge such as mathematics, physics and engineering (Janosch González, 2020b). Secondly, the protocols for their application should be unified and systematised, so that they are applied in the same way by all practitioners, at least within a limited geographical, social, cultural and temporal scope - a change of setting should always impose relevant changes in the model used for the analysis. Thirdly, once a sufficient number of these practices have been collected and documented, their results should be systematically analysed. How many of the hypotheses have been tested? Of those that have been tested, how many have been proven correct? In other words, their success rate should be statistically determined and thus their final use value. This, in short, and beyond dilemmas, should be the way forward.

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