

Failure-to-identify hunting incidents – a Plain English Version.

This document attempts to provide a “plain English” interpretation of some of the early research findings of my PhD.

The research has been accepted and awaiting publication by the Human Factors Journal of the Human Factors and Ergonomics Society (United States). The full reference of this document will be provided as soon as the journal containing this research is published.

The Pristine Hunt by Karl Bridges

The objective was to develop an initial understanding of what causes a deer hunter to misidentify their intended target.

The activities from initiating a hunt to taking a shot are rich in variability, no two hunts are the same. Hunters must consider many factors as they stalk their quarry, such as initial identification of their target, environment, terrain and other considerations to make a safe and conclusive shot.

A series of workshops with highly experienced and active hunters led to the development of a model detailing the functions of a “pristine hunt”. The approach focusing on understanding what happens in a hunt when everything goes right – from this approach it becomes easy to understand the bigger challenges in hunting that may lead to something going wrong. The model (presented on the next page suggested three stages to hunting – the sensing, comprehending and committing stages.

This model may not apply to all hunting circumstances, nor is it a final iteration. There is a plan to revisit the model towards the end of the research. However, your feedback is encouraged so feel free to contact Karl directly via kbri542@aucklanduni.ac.nz

The model stages

STAGE 1 - The *Sensing Stage* is an early stage of a hunt and begins the moment the hunter decides that they are actually hunting. Whilst slowly traversing the terrain, the hunter starts to receive initial indications that deer are in the area – including sight, sound, smell, footprints, faecal matter etc. If they have a dog, the dog might indicate the deer is nearby. Many experienced hunters talk of an intuitive sense of deer in the area. All these initial signs conclude and converge on the need to visually confirm the deer without being detected, and usually calls for some stealthy behaviour and astute decision making based on the hunter's experience. It is not expected that the hunter will receive all these initial cues, but it goes without saying that the more cues they receive the better. This leads to the second stage.

STAGE 2 - The *Comprehending Stage* - the hunter has got the initial signs that there are deer in the area, and have confirmed the target is indeed a deer; now they must assess the weather, terrain, light, location and their target to ensure a safe and conclusive shot can be taken. In this stage, the hunt can finish prematurely if the deer detects the hunter's presence (as often occurs) and flees the area, or if the hunter makes the decision not to shoot because the target is unsuitable (pregnant), or if other factors (such as weather, time of day) makes retrieving the animal very difficult or dangerous. In some cases, the hunter can reinitiate the hunt for another animal (if the one they targeted flees) or simply return to base to hunt another day. If everything in this stage works in the hunter's favour they then enter the terminal stage of the hunt, which is usually marked by the introduction of the projectile fully into the rifle chamber, the safety is off, and the hunter is lining up to fire.

STAGE 3 - The *Committing Stage* - the hunter has only a few final checks to make before discharging the firearm. These are usually rechecking some of the steps highlighted in the previous stage. Again, this can prematurely end if the hunter detects they are targeting the wrong animal. However, if nothing has changed, the hunter will discharge the firearm with the intention of quickly killing the target.

The analysis

Using the personal testimony obtained during the model development workshops, and data obtained from the confidential near miss survey, a small number of the activities presented in the model can create or contribute towards a higher rate of variability and thus set up the hunter to make a mistake are presented below:

Visually confirm target – This step exists in stage 1.

The action of initially confirming a target is driven by a series of initial cues that there are deer in the area. It is vital that accurate appraisal takes place after activities such as those identified in the model *Catch glimpse of game, Spot bushes moving, Hunting Party indicates signs of game, etc.* The act of visually confirming a target is a human activity, in that there are no protections other than the judgment and experience of the hunter. Thus, if this early step is incorrect, the subsequent steps of hunting are at risk of resulting in a negative outcome.

To use an analogy, many cars are set up with warning lights on their dashboard that illuminate if their tyres are deflated. Imagine the light malfunctioning and now the auditory, tactile and mobility cues of a vehicle with a flat tyre are the only ways the driver will discover the problem. Some drivers will know immediately what the problem is and correct it (replace the tyre), others may be oblivious to the problem and proceed to continue driving, increasing the risk of severe damage to the wheel or a road traffic accident, and finally there are those that will knowingly ignore or put off the problem and will proceed regardless of the risk.

For the Pristine Hunt model, if the initial visual information is incorrect the next stage, which is heavily reliant on the hunter's quality and quantity of experience becomes the next opportunity to save the hunter from making a mistaken when identifying their target.

Assess proximity of other hunters, buildings or people – This step exists in stage 2.

Some reported failure-to-identify hunting incidents occur due to a lack of awareness of one's proximity to buildings and other people. Whilst hunting, many laws advocate the need to check the firing zone for chances of ricochet, impact with buildings and proximity to people. This is often challenged if the hunter decides they have only a split second to take the shot. This decision relates to the activity of snap shooting identified by Green (2003) as a risk factor associated with hunting accidents, and is not looked upon favourably by many hunting organisations. The risks of injuring the animal resulting in a slow and painful death, the risks of missing completely resulting in an uncontrolled bullet projectile and the risks of the

Failure-to-identify hunting incidents – a Plain English Version.

bullet shell impacting something other than the intended target are just too great.

This activity is especially challenged during “Spotlighting” – hunting at night usually with the use of a vehicle-mounted spotlight. The variability of this step and the decisions associated with it may impact other activities particularly concerning any need of the hunter to assess their shooting position, and they are likely to start loading the chamber of their firearm when it may not be safe to do so.

Confirm correct target – this step exists in stage 3.

The activity associated with this would be for the hunter to confirm they are targeting a deer (not a human – or some other animal or object) and that the deer is an appropriate target (not pregnant or nursing, for example). Some hunting organisations advocate for the hunter to assume their target is human until proven otherwise, in the hope that this mindset will add additional protection to correct identification.

Regardless of the effectiveness of this approach the final action of confirming the correct target is easily challenged by previous activities including the ones highlighted above. If the output of this function is inaccurate the outcome could be anything from successful shot placement (through sheer luck) to a fatal shooting of another individual. Thus, the importance of this final step cannot be underestimated, and in some respects, maybe the assumption that the target is human until proven otherwise is not necessarily a bad approach to take.

Based on the Pristine Hunt model, the *Confirm correct target* and all the other steps of this final stage should have assumed that everything prior to it has been incorrect – even if the hunter has done a sterling job to identify their target. Thus, requiring the need to spend a little more time and deliberation on this stage which typically takes place over a very short period. Even if it means that the deer gets away.

What does this information mean?

A lot of the findings of this research may come of no surprise to the reader. The steps of the Pristine Hunt model, after all, were created by hunters. However, this model shows how one small mistake at the beginning of a hunt can cascade to much bigger issues later.

The Pristine Hunt model contains 40+ steps and it is impossible to expect anyone to remember everything. That is why I broke them up into stages when I created the model, and each stage has a single point at which the stage ends, which I believe is significant.

For stage 1 – the hunter is picking up initial signs that deer are in the vicinity - the end point is Visually Confirm the Target.

For stage 2 – the hunter is using this the initial information, their skills, experience and knowledge to line up to take the shot - the end is Load chamber of firearm.

For stage 3 – the hunter is committing – the end is when the hunter pulls the trigger or withdraws.

Failure-to-identify hunting incidents – a Plain English Version.

How can we use this information?

The hunter will likely build up to making the mistake, so it is important that they are constantly checking and evaluating what they are doing. It does not take much for the best laid plans to fall apart – e.g. when I went out hunting with a colleague, we found out how easy it was to split up simply because I misplaced some gear I had left on the floor. It is easily done and hunting parties should make sure they have plans in place for things like this happening – AND THEN STICK TO THEM.

So, for the working party, consider the messages you are giving to your members, clients, customers or whatever. I do not believe you are doing anything wrong – what I suggest here, if you are not covering it already, hopefully will bolster the messages you put out there.

I hope this helps!

What are the shortcomings of this research?

It is all theoretical and based purely on behaviour albeit a reasonably accurate interpretation of how hunting takes place. Whilst theoretical, the pristine hunt model provides a good foundation for future research into the is phenomenon.

The research does not account for physiological arousal and how this may affect behaviour, nor are their any indications of any individual differences that may apply.

Thankfully, this is the focus for the next piece of research so please watch this space as new findings emerge.