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A Hopeful Rubicon: The Logic within Criminal Profiling

By

Dakota J. Ward

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Under the supervision of:
Chair: Arthur L. Greil

Committee:
Michele Lowry
Danielle Gagne

Introduction

The term "criminal profiling" is tricky to define. Typically, it has been defined as "the process of predicting the likely socio-demographic characteristics of an offender based on the information available at the crime scene" (Villejoubert, Almond, & Alison, 2009), although it has recently expanded to include the studies of geographical profiling, techniques for criminal interviews, and DNA analysis. For the purposes of this paper, however, "criminal profiling" will speak to the *typical* interpretation/ definition.

It is unclear at what time the specialty and vocation of criminal profiling arose; yet, regardless of the exact *when*, it seems throughout the subject's muddled history a schism has consistently existed between the hands-on law enforcement officers and the paper-combing criminal profilers/ behavioral investigative scientists. While law enforcement officials, with their gunslinger-mentality, would prefer to a style of profiling akin to practiced hipshots, behavioral investigators favor a more sniper-like approach, considering minute details, calculations, and proven methods before taking fire. It is these differences in method and ability which has led to the unfortunate cavity between field-tested artisans and knowledgeable academics.

Within the last sixteen years, however, some profilers/ investigative psychologists have started to bridge this gap. In 1999 Dr. Robert Keppel and Richard Walter published a journal article titled *Profiling Killers: A revised classification model for understanding sexual murder*, which, in my opinion, is the closest publication law enforcement and researchers have to a happy medium. Yet, even this publication failed to appeal to law enforcement, with its scholarly presentation and psychological overtones; and to academics, due to the numerous suppositions in the article.

The research which grew out of this article, however, has been immense and continues to push the world of criminal profiling forward by many leaps. Today, most of the claims in Keppel's and Walter's joint paper are statistically verified and accepted by further research.

Throughout the last few years in which I have studied criminal profiling and psychology, I have been looking for an idea and/or paper which would present a method of profiling, compatible with Keppel's and Walter's paper. Within the last year, I believe I have finally found such a theory which (although held in high regard by its creators) is rather underdeveloped and not fully understood/appreciated (even within their eyes).

In this paper, I will discuss the meaning behind Dr. David Canter's and Dr. Donna Young's new purposed "mathematical" way of profiling a crime scene with "A→C" equations (Canter and Youngs, 2012, pp 82-88), how I believe this method can be expanded and improved for both law enforcement and academics alike, and in what ways this mathematical way of profiling can be incorporated into Keppel and Walter's abovementioned paper to create a method of profiling which is both quick and easy and which will also open a new research-inviting area of study.

A→C equations

In 2004 Dr. David Canter theorized the principle of what he called A→C equations. As outlined in Dr. Canter and Dr. Young's 2012 book: *Investigative Psychology: Offender profiling and the analysis of criminal action*, the theory behind A→C equations is fairly straight forward and not sternly math-oriented (as it may first appear). In fact, in the aforementioned book, Canter and Youngs write "Although the

relationship is not an 'equation' in a strict mathematical sense it is helpful to keep the looser meaning implied by this simple formulation."(Canter and Youngs,2012, pp 83).

In short, the equation can be understood in the following abridgment of the theory: **A** represents the "*where, when, and why a crime is committed.*" thereby encapsulating all the "*actions*" which factor into a crime. **C** refers to all the "characteristics" of the unknown offender which can be deduced and/or induced by a profiler, and the arrow in between ($\rightarrow$) merely represents the steps taken to by profilers to figure out these characteristics (Canter and Youngs, 2012, pp 83).

Right away, it's evident that there are problems with this vague concept: what steps are taken to go from "actions"/ evidence to "characteristics"; doesn't this method simply show the commonsensical process taken by profilers and no more; and, won't this method of profiling open doors for people to incorrectly assume one piece of evidence begets one characteristic of an offender? In truth, yes, this process does/can do all those damaging things because of its imprecision. Yet, Canter and Youngs realize this and thus created a laundry list of reasons why one action/ piece of evidence does not correctly lead to *a specific* characteristic; discussed the reality of how some evidence (plural) correlates better to some characteristics ("tight couplings" (Canter and Youngs, 2012, pp86); wrote about how other evidence ("loose couplings") do not (Canter and Youngs, 2012, pp86) correlate well with characteristic; introduced the idea of "connonical relationships"(Canter & Youngs, 83), and purposed another equation-$F_1A_1+…+F_nA_n= F_1C_1+…+F_mC_m$- to better explain the process/ function of the arrow ($\rightarrow$).

Here's what that means: "canonical equations" are defined in Canter's and Youngs' text as "A mathematical way of thinking about A$\rightarrow$C equations. They have a

number of 'predictor' **A** variables in a number of 'criterion' **C** variables and thus have a variety of solutions to the equations based on variations in the weightings of the **A** and **C** variables."(Canter and Youngs, 2012, pp429). Which, simply put, means that by looking at previous evidence-to-offender's psychology patterns (as outlined in research) a profiler can determine what evidence is significant to understanding the psychology of an offender, what is not, and still work with the fact that pieces of evidence can mean various things depending on other factors of the crime (i.e. A missing wallet of a rape/murder victim may mean the offender took a trophy, is trying to conceal the victim's identity, set out to rob the victim's and raped/ killed as an afterthought, and/or all three.) To determine the motive (or motives) one would need other evidence.

The $F_1A_1+...+F_nA_n= F_1C_1+...+F_mC_m$ equation is merely a rudimentary guideline as to how one can sort through facts ($A_{1...n}$ (i.e. time and location of crime and/ or victim selection)) to derive characteristics of the unidentified subject ($C_{1...m}$) by simultaneously addressing the "weightings" of these actions and characteristics ($F_{1...n}$ and $F_{1...m}$) to determine what is pertinent to police investigations, and what aspects of a profile are more reliable than others(Canter and Youngs, 2012, pp85).

Yet, this sort of ability takes years of education (whether it come from a classroom or from working active investigations) and is an intimidating, lengthy, and somewhat subjective method. As "mathematical" as it may seem, the process of and the content involved in the equation(s) deal with subjective terms (i.e. overkill and ritual), and more often than not seems utilize evidence at a crime scene which falls under the category of an individual's *intuition* of the offenders psyche (i.e. evidence of sadism and/or rage) rather than relying on physical/ forensic evidence. Canter and Youngs are

not naïve to this fact and go to state "By examining closely the nature of these arguments we can see even more directly how challenging it really is to put offender profiling and the understanding of criminal actions on a scientific footing."(Canter and Youngs, pp86).

In a final piece of insight, however, Canter and Youngs make a quick remark about their A→C equations following the basic nature of philosophic logic, and therein lies Canter's and Youngs' true stroke of genius (although I believe even they failed to fully recognize it). For, in that comparison rests unexplored possibilities in profiling when combined with an article like Keppel and Walter's.

Logic

Sentential and/ or propositional logic is the area within logic which studies "ways of joining and/or modifying entire propositions, statements or sentences to form more complicated propositions, statements or sentences, as well as the logical relationships and properties that are derived from these methods of combining or altering statements" (Klement) What this means is, sentential logic is a way of connecting statements and facts to prove or disprove something's validity and/or a way to show connections between thoughts, sentences, and concepts which lead to a truthful *argument* ("a set of two or more sentences, one of which is designated as the conclusion and the others as a premise")(Bermann, Moor, & Nelson, 2004, pp27). Often such arguments use *if…then* statements (*material conditionals:* common sentential connective where there is an antecedent and consequent statement) (Bermann, Moor, & Nelson, 2004, pp42) to make their case. A simple *syllogism* (a deductive argument containing two premises

and a conclusion) (Bermann, Moor, & Nelson, 2004, pp2) using sentential logic would

be:

> Billy was in Paris on Thursday
> Billy's wife was killed on Thursday
> Therefore, *if* Billy was in Paris on Thursday,
> *then* Billy did not kill his wife.

One can begin to see now how Canter's and Youngs's equations relate to the

function of logic, although this example did not deduce a characteristic of out offender.

Regardless, we can see how the basic principle works.

Symbolic logic:

Symbolic logic is when *premise* and *conclusion* statements in a logic problem

are represented with letters, with or without subscripts, (i.e. Alice is a girl= **A**, or, Alice is

a girl= **A₁**) and are connected by various symbols which represent words which connect

the concepts, sentences, and/or statements (i.e. in logic the word "*and*" is represented

as **&**) (Bermann, Moor, & Nelson, 2004, pp30-31).

In the following logic problem, **P** will represent "Billy was in Paris on Thursday", **K**

will represent "Billy's wife was killed on Thursday", an ampersand (**&**) will represent the

binary connective / sentence connecting word "and", a horseshoe (⊃) will represent

"if…then", and **N** will represent our conclusion that "Billy did not kill did wife". So, using

these symbols we will go through almost the same problem as written above, yet this

time using symbolic logic.

Billy was in Paris on Thursday (**P**)
Billy's wife was killed on Thursday (**K)**
Therefore, *if* Billy was in Paris on
Thursday (**P**) and (**&**) *if* Billy's wife was
killed on Thursday (**K**), *then* Billy did not
kill his wife (**N**).

➔

P
K
‾‾‾‾‾‾‾‾‾
P & K ⊃ N

The concept and process is simple enough, in theory, yet life does not stick to such simple deductions (throwing in one important fact after the other, sometimes conflicting with other facts) and often gets quite complicated quite fast. Especially when dealing with crime.

> Billy was in Paris on Thursday
> Billy's wife was murdered on Thursday
> Billy's wife was shot
> Billy does not own a gun
> Billy's bank account recently had $5,000 withdrawn
> Billy has a "mystery number" in his phone's list of calls made which he won't explain
> Billy began calling the "mystery number" one week before his wife died
> Billy claims the $5,000 was for his trip to Paris
> ect.
> _____
> Conclusion ?

The abovementioned logic problem is *logically consistent* (which occurs "if and only if it is possible for all the members of that set to be true) (Bermann, Moor, & Nelson, 2004, pp19) and, as one can see, offers the same conclusion of "Billy did not kill his wife" (assuming all statements are true). Yet, with other suspicious information we are left to wonder, did Billy hire a hit on his wife? *Billy did not murder* is not the same as *Billy is innocent.* In this problem, more accurate to life's complexity, we can see the need for Canter's and Youngs's formula- $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$- which would weigh the severity of each piece on information in relation to the other.

All of a sudden, however, after introducing logic and equations, even a veteran detective, who may have no problem solving this case without the *aid* of such equations, would have their head spinning using this method. And one can only imagine

that with more complex crimes, law enforcement officers are swamped with a mountain of confusing information.

To account for life's complexity, logic introduces concepts of *disjunctions* ("or" statements), *negations* ("it is not the case that" statements), *material conditionals* ("if and only if" statements), and other concepts (Bermann, Moor, & Nelson, 2004, pp33-35, pp42). This, however, fails to make logic simpler to use (although it makes it more efficient) but, in fact, does just the opposite.

People, on average are not mentally suited for doing logic problems as sentential and symbolic logic would have people do, and thus makes using $A \rightarrow C$ equations (and $F_1A_1 + \ldots + F_nA_n = F_1C_1 + \ldots + F_mC_m$ equations) difficult for even educated individuals. Yet, what if someone did the logic involved with these equations, using contemporary research on the correlations between the "actions" and "consequences"? In theory, then, with the logic completed, one could develop equations of profiles, equations which could be organized and simplified (and therefore applied) to serve guidelines for non-profilers and profilers alike to help psychologically map an offender.

Goals of this paper

The goals of this paper are three fold. Firstly, to explore correlations of evidence-to-profile characteristics in Dr. Keppel's and Mr. Walter's previously mentioned article to determine their (and the resultant rapist/killer archetypes) validity when compared to more contemporary research. Secondly, to apply Dr. Canter's and Dr. Youngs' $A \rightarrow C$ and $F_1A_1 + \ldots + F_nA_n = F_1C_1 + \ldots + F_mC_m$ equations to all contemporarily supported significant evidence-to-profile deductions and inductions within Keppel's and Walter's article to logically determine accurate, standard profiles for the outlined types of sex offenders.

Then, thirdly -using the resulting logically arrived at evidence-to-profile formulas- create an easily applicable method/tool for law enforcement which could be used in the field to profile, thereby bridging the gap between law enforcement's hipshot estimations of an offender's character and profilers'/ behavioral investigators' sniper like desire for calculated accuracy.

Method

As a starting point, once my end goals were determined, I began to reread various texts on logic (*The Logic Book 4th Edition* by Bermann, Moor, and Nelson being my primary source) to determine what principles within logic are needed to accurately arrive at usable equations (in the *logical* sense, as represented in the example with Billy and his wife: **P& K⊃ N)** which, when applied to forensic evidence, could determine an accurate offender profile. I then carefully re-examined Keppel's and Walter's paper (*Profiling Killers: A revised classification model for understanding sexual murder*) for three reasons. First, to determine the validity of the evidence-to-profile claims listed throughout the paper. Secondly, to determine the accuracy of the outlined profile archetypes ("Power Assertive", "Power Reassurance", "Anger Retaliatory", and "Anger Excitation") whose complete "profiles" from Keppel and Walter can be found in Appendixes M-P. And, thirdly, to create logical equations (with Canter's and Youngs' equations in mind) using the valid evidence-to-profile relationships to accomplish the end goal of this paper.

Logic Materials

After reviewing the study of sentential and symbolic logic, and determining what depth of logic (minimally) could accomplish the goal at hand, I determined the following

principles were needed: the *conjunctive* statement "and" (**&**), the *disjunctive* statements "or"/ "Either…or" (**∨**), the *negative* statement "it is not the case" (**~**), the *material conditional* "if…then" (**⊃**), and the *material biconditional* "if and only if" (**≡**). With these phrases (following the rules of logic) it is possible to arrive at correct and replicable evidence-to-profile formulas which can serve as a template for offender analysis.

Essential Forensic Evidence

Upon reading through Keppel's and Walter's paper my initial step was to remove all evidence (regardless of its potential relevance in contemporary profiling teachings) which involve subjective psychological inferences, such as "Regardless of whether the victim is alive or dead, the assault continues until the subject [offender] is emotionally satisfied."(Keppel and Walter, 199, pp428), as these pieces of *evidence* are nonmaterial in nature and require too much individualistic estimation.

On similar principle, I also removed all *potential* evidence which seemed to apply a sort of backward (and frankly contradictory) method of analysis. By this, I mean to say at points Keppel and Walter tend to use a profile to determine evidence, rather than evidence to determine a profile. Such as "To activate the assault process, the subject [offender] will use a con or ruse to dupe the victim from the time of contact until the victim is isolated."(Keppel and Walter, 1999, pp431). While this sort of deduction may be arrived at in someone's eyes, due to the lack of brute force upon a body, it would be a lofty assumption to deduce such a theory. In my opinion, such a method of analysis is also a bit irresponsible, since you are first assuming your profile is correct then working backwards.

After this process, I isolated pieces of evidence which were consistently addressed (indicating whether or not that evidence was present or absent at a crime scene) in each of the four rapist-murderer analyses/ profiles. In doing so I arrived at nine pieces of essential *broad evidence* (generalized terms), five pieces of *narrow evidence* (more specified and remained examples within *broad evidence* definitions), and many pieces of *precise evidence* (exact examples of certain actions). The exact classification system of which can be found on Appendix C. in this text for clarification. In regards to Canter's and Youngs's $F_1A_1+...+F_nA_n= F_1C_1+...+F_mC_m$, this process dealt with selecting what information is most pertinent to the investigative process (the F variables). In accordance to this, throughout this paper I shall refer to what I have dubbed "*negative space evidence*" which, for my purposes, shall refer to: *times in which an absent/missing piece of evidence at the crime scene* (such as a lack of rape) *is, in itself, a clue which can hint towards one offender type over another in relation to other offender-types' typical actions.*

Once each piece of evidence was categorized I set about defining any term which could be (and often is) interpreted in various ways depending on individual discretion. The point: to remove as much subjectivity and vagueness as possible from the process of analyzing crimes scenes and to create a stable concept/ understanding of a term which could be applied, in as consistent of a manner as possible, to logical equations. To arrive at these definitions required studying how various articles and texts defined these concepts, a bit of analysis on how Keppel and Walter use the terms in their article, and a bit of hybridizing, on my end, of the various definitions I studied.

Here in lies, what appears to be, a potentially large issue. Looking at my process of defining these pieces of evidence (i.e. what is *overkill*) one may say I have been unscientific. While this criticism is a fair one, I will argue, it is rather moot. For, so long as my definitions work in my logic problems, so long that my logic is correct, and so long that my logic equations work to yield a correct profile of an offender by using these definitions, it matters not that one may question my exact wording because the definitions work for their intended purpose. The exact terms and/or definitions can be found on Appendixes A,B, H, and M of this paper.

Once all of the above processes were complete, I went about outlining much of Keppel's and Walter's contemporarily supported theories in the form of sentential and symbolic logic. (The exact logical formulas being found on pages 16-35) In relation to Canter and Youngs, these equations can be thought of as pretty much simulating the hypothesized A$\rightarrow$C equation, with one-to-one A (action) variables to C (characteristic) forming the evidence-to-profile connections.   By that, I mean if X (a piece of evidence) in my paper is associated with a certain type of rapist/ killer (Y) and not another offender-type (Z) then my logic here goes something like this: X is associated with Y; it is *not* the case that X is associated with Z; therefore, if there is X at a crime scene, then it is evidence of Y. In logic, the equation to my example would look something like this:

  X (X is associated with Y)
~X (It is not the case that X is associated with Z)
 X$_2$ (There is evidence of X at the crime scene)
  X$_2$ $\supset$ Y (If there is X at the crime scene, then is it indicative of Y)

In many instances, however, these simple A→C equations needed to be expressed in slightly more complicated forms because this paper, like Keppel's and Walter's, deals with four types of offenders (not just two), and because sometimes it is not the presence of evidence with indicates a certain type of offender, but the absence of evidence:

E_2 (Evidence of "erection" is associated of killer type Y)
N (It is the case that evidence of no erection is associated with killer type Z)
~E_2 (The crime scene lacks any evidence of an erection)
~$E_2 \supset Y$ (If there is no evidence of an erection than it is indicative of Z)

After this initial step of logic application to the crime this step, I began to turn my attention to creating more complex logic problems to deal with the reality of evidence being associated with one another (tight couplings and loose couplings). I did this to figure out how these patterned associations led to a profile and what minimalistic patterns of evidence can consistently lead to accurate profiles. In this regard, my logic switched from completing simple formulas as shown above (following the A→C equation hypothesis) to complex ones (following the $F_1A_1+…+F_nA_n= F_1C_1+…+F_mC_m$, equation hypothesis). For these exact equations please see Appendix D.

$F_1A_1+…+F_nA_n= F_1C_1+…+F_mC_m$ equations:

As stated previously, $F_1A_1+…+F_nA_n= F_1C_1+…+F_mC_m$ equations are longer, more complex equations which serve to weigh specific information's importance in relations to other information, and thus lead to a weighted conclusion of what profile is more likely. Basically, this means that if one combines A→C equations into a long string of "if", "and", "if, then", and/or "if and only if" statements, one could theoretically find combinations of A→C equations capable of producing a larger formula which could logically deduce a strong indication of a certain offender- profile.

Think of it like a game of poker, where each card is a piece of evidence. The dream hand of any poker player is a *royal flush*, having *no pair* basically means you're out of the game (unless you get lucky by bluffing). Think of each A→C equation as a card, and just like poker, there could (if this system works well) be a certain pattern which one looks for to narrow down on a suspect (a r*oyal flush* being tantamount to a perfect match to an offender-profile equation). One or two cards missing from a *royal flush* is not good news, but regardless of this upset (and here is where the analogy gets a little skewed) one still is capable of seeing the pattern of a *royal flush*/ offender-profile. Unlike a game of poker then (where missing one card in a *royal flush* gives you nothing) almost matching a $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$-like equation still gives someone a pretty good indication of an offender's profile. So, while one may not have a perfect match to an offender-profile (in $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$ form), one can think of a nearly matching equations as something like a *straight flush* in the sense that it is close to the best thing one can get (a perfect match).

With that said, in order to complete a task like this I began to look, not so much on articles or journals (as they helped me with securing if certain evidence-to-offender associations are correct, but not so much in creating logical formula), but on cases of real crimes to deduce a pattern capable of profiling with logic.

As one can imagine, not one piece of evidence is always going to appear in certain offenders' crimes. For example, an Anger-Retaliatory killer will not always put their victims into a "submissive body position", and/or a Power-Reassurance killer will not always "overkill" their victims, and Anger-Excitation offenders will not always torture (just think about Ted Bundy (Newton, 2000, pp24-27)). There are no absolutes in crime.

Despite this, however, after reviewing as many crime cases as possible in my allotted time, it seems one is capable of finding patterns of evidence, in which, one can say: *if a certain pattern of evidence appears, then you must have this type of offender*. Please note the important distinction here. One cannot say: "you must have all this evidence for this type of offender"; but, one can say: "if you have all this specific evidence, then you must have this type of offender." It's the difference between saying "you must add 4+1+5 to get 10" and "if you add 4+1+5, then you must get 10."

In order, then, to create a series of $F_1A_1+…+F_nA_n= F_1C_1+…+F_mC_m$ equations with my A→C equations above, I began researching sexual homicides and simply documented what evidence (from my list on pages 6 and 7) appeared in the crimes and then documented what type of profile from Keppel and Walter's paper the offender tended to fit, thus classifying the crimes and criminals. (Please note not all offenders neatly fit into one profile and that this is a discussion I address in my *future research implications* section).

 From there, I simply created a list of what evidence is most commonly found, strung them together with logic and created "if, then" equations. Beyond that, I also documented what patterns of evidence only go with certain offender types and thereby created a list of "if and only if" equations which can drastically help deduce a profile.

Along with that, I created a number of equations which address common pieces of evidence which do not logically hold without explanation as to why, in regards to their associations with other pieces of exciting evidence (i.e. if an offender only removes the head of a victim, but leaves the hands for fingerprints, are they really "disfiguring them?). With this list of "aiding-explanatory formulas", it was my goal to be able to back

up my "if, then" and "if and only if" equations by deciding which pieces of evidence truly belong in offender-profile $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$ equations with these "aiding-explanatory formulas" to help account for exceptions in evidence.

"If, then" $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$ equations:

Aiding-Explanatory Formulas:

Because no one has attempted to use sentential and symbolic logic for criminal profiling before, there are not research articles (to my knowledge) which could have assisted my in finding exceptions to my "if, then" and "if and only if" formulas. For that reason, I looked to actual criminals and sexual homicides to gauge whether my formulas would/ could work. In doing so I ran into a few issues. Such as: what happens if a killer takes the head of a victims, but does not bother to does dismember them anymore; does the age of the victim have any significance towards a type of profile, and so on. Please understand that the trends here are my assumptions, research on such trends do not (to my knowledge) exist. The goal of these "aiding-explanatory formulas" is to remove ambiguity wherever there is any; point out assisting patterns I believe exist and will help explain and add on to the formulas I have listed before; and address why there appears to be exceptions on the surface of a crime, yet (once logically explained) make sense with my previously listed equations.

Application and Practicality:

At the beginning of this paper I discussed the issue of the chasm between professional criminal profiler's and the typical law enforcement officer's way of interpreting a crime. The issue, I stated, is that law enforcement want a quick method of analysis which can be easily applied (the hipshot), while investigative psychologists

want a more logical, scientific, and testable style of profiling, academic in nature (a sniper shot).

What you have just read is, what I believe is, the first step to creating such a comfortable medium. The logic equations above are not meant to be used for law enforcement officials, most of whom, would struggle to do such problems (as would most society). People and logic don't generally mix well. No, the logic above is for the academic side of profiling, those investigative psychologists with masters or Ph.D.'s in the field. What I like, as a student going for his masters in investigative psychology, is that this process can be appealing to academics because it presents a testable method based on contemporary research which can be challenged and altered easily as more research develops our understanding of the criminal mind and of profiling. The logic equations are not set in stone, just what I was able to arrive at which seems to work at creating accurate profiles.

However, what is also nice about the equations above is that, once made by one person, they do not have to be figured out again and again. Once one person figures out a formula, such as $a^2 + b^2 = c^2$, no one else has to figure it out, they just need to plug in the right information. In theory, then, the logic above should be able to be organized into a list of simple instructions which, when followed by police officers, should produce similar results as actually doing the logic. Think of it like a set of instructions to build a shelf. The designer had to figure out how tall to make the shelf, decide for or against having a bevel, what type of material to make it with, where the screws go, and so on. The consumer, once buying the shelf, need only read the manual to put the shelf

together. It may not be easy, but, the better the instructions, the easier the process of construction.

The same principle is in play here. Above (the logic) is the design of this newish profiling system based on Canter's and Youngs' equations, as well as Keppel's and Walter's (still supported) offender type trends. The logic is the design, the behind-the-scene engineering, what's left, then, is writing simple instructions of use for the non-designers, something to make the logic less of an issue (or eliminate it all together).
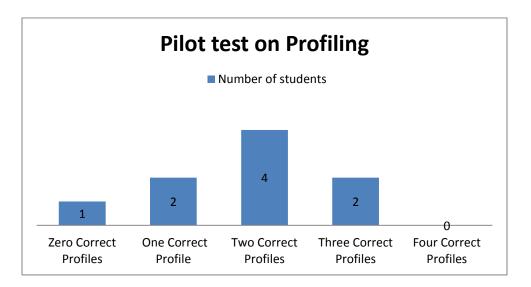
My first step in attempting to make this possible was to think: what is something simple (in theory) which most everyone is capable of doing? The answer which came to me was simply: basic pattern recognition. As I wrote before, I thought that because the "if, then" and "if and only if" equations were written, and people need not understand the logic behind those equations in order to do them, then I could have people look at my definitions (with the symbols beside each term), write the symbols as the spotted evidence at a crime scene, and then match up their symbol patter with the nearest equations. For instance, if a detective and/or police officer was working a sexual homicide and found evidence of "blitz" attack, no "rape", "clothing torn", "overkill", and a "submissive body position", and not "ritual" or "exploitations" then they would write out: **B & ~E_2 & C_1 & O & S & ~(E_1 &/V R)**. Once that is written out, they compare their equation to my premade "if, then" and "if and only if" equations to find a close match.

Upon looking at our "if and only if" formulas, we can see right away that **B & S & E_1 ≡ A_1** gives us an answer right away. Our killer must be Anger-Retaliatory. Royal Flush. But, wanting to be careful, we can also look at our "if, then" formulas to see which one our formula most closely resembles. Here we see **B & S & D_1 & O & (R &**

~E_1) & $C_3 \supset A_1$ and can note that the only evidence missing from our equation to get a perfect match to this equation is "disfiguration" and "rituals", thus, it's by far the closest matching. Simple sounding enough in my head, but was it truly applicable was the real question.

In order to test this I was given permission by a professor of Alfred University, Dr. Michelle Lowry, to test this process on her Concepts of Penology class of nine participating students and the instructor herself (making ten participants).

For this pilot test of my new profiling technique I chose four real-life sexual homicide cases which embody the four offender-types outlined in Keppel and Walters' paper, with the murder of Lorean Quincy Weaver (murdered by Ronald Patnode) serving as the Power-Assertive offender case (Capuzzo, pp351,pp353-55, pp377); the murder of Rachelle Nickell (murdered by Colin Stagg) serving as the Power-Reassurance offender case (Ressler, pp171-89); the murder of Terry Lee Brooks (murdered by Alfred Scott Keefe) serving as the Anger-Retaliatory offender case (Capuzzo, pp332-40); and, the murder of Karen Sprinker (murdered by Jerome Brudos) serving as the Anger-Excitation offender case (Blanco). After reading over these cases to gather all the information I could, I wrote abridged descriptions of each crime scene, leaving in both necessary and unnecessary details. The reason for leaving in unnecessary details was to see whether or not the participant could use my definitions of terms to distinguish the useful evidence (the pieces which make up the A→C-type and $F_1A_1 + \ldots + F_nA_n = F_1C_1 + \ldots + F_mC_m$-type equations above. Appendixes B,F,G, and J are exactly what my participants received to complete the task at hand.

As one can see the instructions are complex (overly so in many ways) and the logic, while not needing to be worked through as I have done so in this paper, is still evident. Before giving Dr. Lowy's class this exercise, the instructor informed me that simple directions and definitions would be best suited for the typical criminal justice student (and perhaps people in general). Yet, thinking of the logic's complexity, I couldn't bring myself to not explain, elaborate, and give examples in the directions, as I feared not doing so would lead to even more confusion. I realize now, however, this was probably not the best decision on my part. The following results were obtained from this first sample group.

*It should be noted that the instructor of the course, Dr. Lowry, correctly profiled three out of the four cases (her results are not included in the graph).

The average time to complete these profiles took 56.12 minutes (to do all four cases). This is not exceedingly long, a little more than fourteen minutes a profile. Dr. Lowry, herself, took 48 minutes to complete the task.

There are a few important interpretations to take away from this chart, but do not rush judgment. Upon first glance, it is evident that something worked, and something did not. The fact that three-quarters of the got at least half of the profiles correct is something. Yet, one might say that even a broken clock is right twice a day, and that getting two out of four profiles correct may just be luck. This, of course, is a possible explanation, but unlikely in my opinion. Had the students merely written down P_1, P_2, A_1, A_2 next to their profiles (to indicate which offender type they thought was correct) I'd be inclined to say that luck was involved in some cases. But, the students did not simply do that, but instead were asked to underline what evidence they found (which also appeared in their symbols and definitions lists) and write out the symbols of these pieces of evidence and then match up with the given "if, then" and "if and only if" equations. This means I not only got to see their answers, but also their thought processes, and what I saw was a basic understanding of the task at hand.

After talking to Dr. Lowry and speaking to her students during and after they worked on the task I was left with one largely unanimous consensus on the profiling process: it was difficult. Looking at their thought-processes (their writing on the sheets given to them) I was surprised to see that most of the logic equations written by the participants-even the two who got only one profile right- were decent to nearly perfect. There were a few discrepancies between their results and mine, which I think had more to deal with the issue of having to remember so much information for the definitions more than anything else, but, on the whole, they correctly identified most of the evidence and wrote out correct equations. The main issue for them, then, seemed to be the matching. This confused me.

Despite the only slightly notable performance from the participants and the evident struggle which the process caused them, however, I'm pleased by the results. Why? Because both Dr. Lowry and her students had the same criticism: the "*logic* was difficult" to work with. At first, this critique seems to deal a striking blow to my profiling process (which I'm trying to make as easy as possible). Yet, upon looking at the participant's results and critiques with one of my committee chairs, Dr. Daniel Gagne, we realized that, in fact, this criticism was not all it appeared to be. The logic, even the little I had (which really involves no "logic" on their end, just matching equations) was not the problem in-and-of –itself, so much as the confusing way in which the process was set and the confusing appearance of the equations. "Why,"- Dr. Gagne asked- "do there need to be any logic equations?"

From this point on, the way I approached creating a system for profiling changed. My logic- that which is documented in this paper- stayed in play with whatever tool I created to help people profile, but was something now only I would know about. My profiling tool would consist of no logic symbols or equations (the definitions would have to stay) but would instead be comprised of simple "yes- no" lists.

In order to do this, I needed to create a series of lists which encompassed all the equations of my $A \rightarrow C$-type equations and my $F_1A_1+\ldots+F_nA_n = F_1C_1+\ldots+F_mC_m$ –type equations. The first step to complete this was simple enough: take all the necessary pieces of evidence and list them for people to check whether or not that evidence appears in a crime.

Next, I created separate lists for each offender type (Power-Assertive, Power-Reassurance, Anger-Retaliatory, and Anger-Excitation), each with every piece of

potential evidence within my equations listed (just like the list I mentioned above). From there I proceeded to check and highlight each offender-type's list with their unique "if and only if" evidence, What this means is that, for Anger-Excitation offenders list for instance, I would check and highlight the "yes" for "rituals", "exploitations", "penile penetration/ rape", and "methodical murder" because the combinations of having "yeses" for all of these pieces of evidence means the killer must be an Anger-Excitation offender (although, I placed a footnote on "rituals" next with the instructions that having either "rituals" and/or "exploitations" and the other checked and highlighted evidence amounted to the offender being an Anger-Excitation offender). This process of specification I did for all offender-types.

After this, I went through each offender-type list and selected "yes" for all the evidence most heavily associated as that type of offender's common practices when committing their crimes and "no" for their common *negative space evidence*. Those actions which offenders do not commit were also marked "no". Evidence which the logic does not hint towards as being significant in anyway (that which is logically "false" or *logically indeterminate)* was not checked at all.

The principle behind this process relates to what investigative psychologists call "uncertainty qualifiers", which can be thought of as "…probability qualifiers, such as probably, possibly, or unlikely." (Villejoubert, Almond, & Alison, 2009) This is similar, in theory to Dr. Canter's and Youngs's terms "tight couplings" and "loose couplings" which I mentioned earlier. (Canter and Youngs, 2012, pp86)What this means for me is, by using various articles describing criminal practices and by practicing my technique on various cases I attempted to figure out what evidence would "probably" show up in

cases and what evidence would be "unlikely" to show up. I then check off "yes" or "no" correspondingly to these pieces of evidence. Evidence I considered falling in the "possibly" category (evidence which has no pattern of consistently or showing up or not) was not checked "yes" or "no". Footnotes were also added wherever I needed to explain something which the logic took care of, but a check list did not, although, I did not state these footnotes in the form of logical problems.

The theory behind this process is this: having a check list allows a person to go through and determine what evidence is there and not there without using any intimidating and/or confusing symbols. By doing this, people could then compare their checklists filled out to a crime to those check lists of offender-types and compare their results this way rather than with an equation. This would hopefully make identification easier, the process quicker, and more accessible to the average person. By doing this, my hope was to also eliminate the need for complex instructions.

After completing the following task, Dr. Gagne agreed to let me ask for volunteers in her Death and Dying class to test out this new method. The participants (all students) received the following pages (see Appendixes B,G, J, K, and L) for their use.

As of now, I am awaiting the results of this new profiling technique because of too few participants (two in total) have turned in their results for me to offer any analysis. I will say, however, before I let my participants attempt to profile cases on their own I allowed them to work in groups of three to four students to profile the "sample case" of Jack the Ripper's first victim, Mary Ann Nichols, (Newton, 2000).

Out of the four groups in the class and fifteen minutes of work allotted, three groups arrived at the (what is believed to be) correct answer of Power-Reassurance killer. This result bodes well, but should not be taken as a sure-thing that my new method is a success. I should mention with this that, despite these promising results, there was still a lot of confusion when it came to utilizing my definitions due to the shear amount of information being processed in such a short time. I think, then, that if a person (such as a cop) had time to really familiarize themselves with my definitions, then the process might flow more smoothly. Yet this is simply speculation.

Implications for further research:

The implications of further research regarding my logic are enormous for reasons of both necessity and simple curiosity. I believe that for my system to even have a chance of working proper statistical analysis must be applied to all $A \rightarrow C$ and $F_1A_1 + \ldots + F_nA_n = F_1C_1 + \ldots + F_mC_m$ equations. Without proper analysis my logic cannot be fully trusted. The equations I have written are based on general trends in articles and texts and on any and all sexual homicide cases I have studied. The principle of this paper then- the process I've created- is more important in this than what my logic says. If logic dictates answers different than my own when statistics are applied then so be it. The goal of this paper was never to create a perfectly accurate tool, but to create a well-functioning system of profiling which cops or even computer programs could use. If one manages to achieve a workable procedure for profiling which cops can utilize (like my check-list method) or with the logic I have for computers to use with basic algebraic logis, than it can be done again if new information and/or logical analysis goes against

my current conclusions. This, however, can and should only happen when proper statics are involved.

Another area of future research I believe to be quite important for the future of sentential logic in profiling is to expand the number of potential offender-profile types beyond the four within Keppel's and Walter's paper. As I was writing this paper I struggled placing some killers into one clear offender type. Serial killers like Joachim Kroll (as mentioned on page 46), Henry Lee Lucas, Ottis Toole, Andrei Chikatilo, Richard Ramirez, Robert Pickton, Peter Kurtain and many others seem to jig back and forth during analysis between being a Power-Reassurance and/or an Anger-Excitation killer. The evidence these killer types leave often points to one or the other when using my analysis, and the results from that are arriving at semi-correct profile, but hardly something to be proud of.

In Michaele Capuzzo's book *The Murder* Room, in which many of Richard Walter's thoughts on this topic are documented, and in the personal conversation I had with Mr. Walter four years previous, I noticed that Mr. Walter fails to make a distinction between the extreme Power-Reassurance offender (one who may fit the Power-Reassurance profile, but commits extreme "exploitations" (such as necrophilia, vampirism, and/or cannibalism)) and the stereotypical the hedonistic and sadistic predators (the Anger-Excitation offender) who are commonly associated with these acts. This to me seems rather ignorant on Mr. Walter's part.

Let's take the case of one of America's most famous serial killers, Henry Lee Lucas, who at one point confessed (ludicrously) to over 1,000 murders. Lucas commonly drove across country, picking up female hitchhikers or prostitutes

(sometimes forcing his way into houses), only to beat and strangle them and then rape their dead bodies. (Newton, 2000, pp142-146).

So, what do we have here? Is there evidence of a "blitz" attack? Yes, a little methodical in the sense that he picked them up with his car, but once they refused his advances he lost his temper. What about "rituals"? No. "Exploitations", yes (necrophilia); Rape/ erection, clearly yes. So now we have evidence of "blitz" attacks (or something in-between 'blitz' and "methodical"), yet also rape, partially clothed women (as some of the few victim's found were), and necrophilia.

Clearly, we have something going on here which does not match up to Richard Walter's views. Walter, being a good profiler, would probably arrive at a correct profile in terms of characteristics for what to look for in the offender, but in labeling the killer (using his line of reasoning) he would almost undoubtedly label Lucas an Anger-Excitation offender

Lucas, being a mentally handicapped and nomadic individual (Newton, 2000) hardly fits Keppel's and Walter's established profile of an Anger-Excitation killer who is "often a well-appearing person who is bright and socially facile with others" (Keppel & Walter, pp 432), someone who can "cunningly deceive others "(Keppel & Walter, pp432), and someone who "may enjoy a good marriage."(Keppel & Walter, pp432)

Lucas was none of these things (although he was married for very brief periods of time), (Newton, 2000) so labeling him as an Anger-Excitation killer would be wrong in my eyes. But, unlike many Power-Reassurance killers, Lucas put effort into concealing his crime and was far more mobile than that offender type usually is. So, labeling him a

Power-Reassurance killer, while more accurate in my opinion, is not entirely correct also. He's something in-between; which, is something I think many sexual murders are.

For future research, I believe it's imperative to recognize these hybrid killers as being their own distinct groups. Groups which can and do toe-the-line in-between two killer types. In this instance (as with Kroll, Lucas, Toole, Chikatilo, Ramirez, Pickton, Kurtain and others) that hybridization deals with Power-Reassurance and Anger-Excitation profiles. In this instance, I have already made attempts at determining what evidence patterns go along with these offender types and have dubbed this potential new classification of killer "Power-Exulting". As of now, the following equations are my works in progress as to how one can successfully profile this type of killer using logic like above ($B\&(E_1\&/V\ R)\ \&E_1(O)\&{\sim}S\&W\&{\sim}K \supset P_3$ and

$(E_1\&/V\ R)\ \&\ E_2\ \&\ B \equiv P_3$). All symbols are kept to mean the same things as those within my other "if, then" and "if and only if" equations.

I chose this term because I think it conveys the general attitude I have noticed amongst these crossbreed offender-types. They are offenders with a clear sense of what power is (to them) and experience a glee at practicing an act which they believe celebrates their understanding of power because it is the only form through which they can express and experience this clout. A little stereotypical and generic, but it doesn't matter what I call them at the moment, merely that I think such types of offenders exist and should be recognized.

But, it's not just a crossing of Power-Reassurance and Anger-Excitation which I think exists. I believe there are offenders which embody the crossing of other offender types as well. Such as Edmund Kemper who crosses in between a Power-Reassurance

offender and an Anger-Retaliatory offender (Newton, 200, pp124-126), (although Walter would likely classify him as an Anger-Excitation killer), or someone like the Donald Gaskins who seems to be some odd combination of Power-Assertive and Anger-Excitation (Newton, 2000, pp75-76). Clearly, I think, there is more work to do, more offender types to identify, before this system of profiling can be utilized.

Beyond this, as I researched various crimes throughout history, I recognized that, despite an action's clear definition, there lies a lot of ambiguity. Take "decapitation" for example. Its definition is simple enough, there is almost no confusion as to what that means. But, at the same time, there are cases in which I cannot help but think there are different types of "decapitation" because I cannot help but blur the intent of the action with its definition.

If a body is found missing its head, but it has its hands and feet still attached cane we assume that action holds similar meaning to a body with its head, hands, and feet cut off? No, I don't think we can. Or, what if a victim has their head cut off, but the head is left at the crime scene? Can we say that that action bears similar significance, logic-wise, as an offender who takes the head with them? Again, I don't think so.

In an attempt to deal with this confusion I created what I call The Kemper Principle which states that *if* an offender "decapitates" their victim (Δ), but does not "dismember" the victim in any other way($\sim D_2$), *then* it is likely the case that the killer is Power-Reassurance or and Anger-Excitation **(Δ & $\sim D_2 \supset P_2$ V A_2)**. For this reason, if you look back at my list of example "exploitations" you will see that I put "exclusive decapitation" (meaning there is no other "dismemberment" at work). This is because it seems (and once again I caution that this principle has no statistics to back it up, just

my knowledge of crime) offenders who just "decapitate" victims are often doing it for some perverse pleasure rather than to avoid having their victim's identified. Because of this assumption, I determined that "exclusive decapitation" would hold the same weight and connotation as sole "decapitation".

For future research, I believe it will also be important extend the list of potentially important evidence. Some evidence which Keppel and Walter wrote about as being significant was left out of this paper due to my inability to find research backing up their claims. Yet, neither were some of these claims refuted by current research. Instead it seems that some of Keppel and Walter's observations were simply left in limbo; such as their claim that gang-rape is evidence of Power-Assertive offenders (Keppel and Walter,1999, pp421).

Because of my inability to be swayed into believing of disbelieving this claim with modern research I omitted this piece of evidence from my logic. However, if there is research out there, or if future research studies this claim, then perhaps another piece to the logic (and another bullet to the "yes-no" list) can be added to help achieve a profile. As of now, I weary of Keppel and Walter's claim only because I'm unsure what the word "gang" means to them.

The authors write "If the perpetrator has conspirators, there is often evidence of multiple sexual assaults. That evidence is or around the victim's body can be found in the recovery of ejaculate that is later analyzed and determined to come from several persons." (Keppel and Walter, 1999 pp421) This to me is ambiguous, and because it's written only in the Power-Assertive offender section, potentially wrong. There are a number of killers who worked in pairs-Lawrence Bittaker and Roy Norris, Henry Lucas

and Ottis Toole, Dean Corll and Elmer Henely, Kenneth Bianchi and Angelo Buono, and more- (Newton, 2000) who don't fit Keppel and Walter's vision of gang-rape offender, yet would leave evidence of multiple male offenders. Do we then need to say (or can we even say) a gang must be at least three offenders? Is there a trend there or not? Further research could expose such a pattern, or tell us that this type of evidence has no place in the realm of logical-algebra profiling.

Lastly, I think it is important to mention (although I alluded to it earlier) that with sentential logic, the potential to create a computer program which could, in fact, profile using logic like what I have written is enormous. Making this software would not take much (as software for performing logic already exists). The main issue, then, is to finally arrive at logical equation truly backed up by statistics, and the unavoidable issue of defining concepts in crime, since people would still need to enter in the data. Still, if profiling can finally become something computers can do, then the potential for profiling offenders fast and easy would increase dramatically, and hopefully save many lives.

Discussion

The gap between law enforcement official's tactics for reading a crime scene and the tactics used by investigative psychologists/ criminal profilers is a extensive one. Looking at the two comingling fields now, one can see that, despite many people's best efforts, this gap is widening as the research and findings of trained profilers becomes more technical and academic and less practical for law enforcements use and understanding. Yet, this does not mean that either party is uninterested in bridging this schism. Far from it.

This paper takes a look at two great publications which, separately, are great tools for profiling, but could, when merged, form something even better. In Robert Keppel and Richard Walter's 1999 publication, *Profiling Killers: A revised classification model for understanding sexual murder,* the authors wrote an what seemed, to me, to be a major step in organizing the workings and methods of criminal profilers into a simplified format which law enforcement could follow. Yet, the article contained a lot of psychological-guesswork; telling readers to watch for evidence of sadism, anger, and confusion. Thus, with the vast amounts of subjective and/or non-physical evidence required in their methods, it would be difficult for non-trained psychologists and/or profilers to fully grasp and understand the, somewhat risky, profiling process.

In Dr. Canters' and Dr. Youngs's 2012 publication, *Investigative psychology: Offender profiling and the analysis of criminal action,* a new concept of profiling was introduced which suggests methods of applying logical algebra to the profiling process. The idea is simple enough in theory, yet complex in practice, and did not, therefore, create a method of profiling which non-profilers could use.

What you have just read has been my attempt at finding a profiling system valuable to academics and non-academics alike, by combining Keppel's and Walter's article and information with Canter's and Youngs's profiling equations. It was a difficult road to take, but in the end, I believe I have been largely successful. I have proven that sentential logic can be applied to criminal profiling (and therefore shown how a computer program can now profile) and have demonstrated *how not to*, and hopefully, *how to* go about creating a tool which law enforcement officials can use to profile offenders whenever an expert (or computer) cannot be of assistance.

Although I have just said that I believe my attempts at my goal have been largely successful, that does not mean to say that they are anywhere near complete. Like any new first attempt there are always rough edges to be smoothed. My method can and should be altered as information on offender statistics reveal new insights into patterns of crimes, and can, of course, be changed if new ideas as to how to make my tools for law enforcement simpler and more effective are designed. It is my hope that within the next few years a method like mine can be utilized in police departments so that killers can be understood, and therefore identified and caught, quicker so that lives and innocence can be saved.

Appendix A

Broad Evidence, Narrow Evidence, and Precise Evidence Classification

❖ = *Broad evidence;* ■ *= Narrow Evidence;* ○ *= Precise Evidence*

❖ Blitz Attacks
❖ Clothing/ State of Dress
  ▪ Torn
  ▪ Stripped
  ▪ Cut
  ▪ Nude
  ▪ Fully Clothed
  ▪ Undressed/ exposed/ clothing removed
❖ Disfiguration
❖ Dismemberment
  ▪ Postmortem Decapitation (exclusively) under "Exploitations"
❖ Exploitations
  ▪ Necrophilia
  ▪ Regressive necrophilia
  ▪ Insertion of objects into body (excluding mouth/ throat)
  ▪ Mutilation
  ▪ Decapitation (without other dismemberment)
  ▪ Vampirism
  ▪ Cannibalism
  ▪ Torture
  ▪ Exclusive decapitation
  ▪ Grouped/ localized and deliberate stab wounds to non-lethal areas to body
❖ Methodical Murder and/or Rape
  ▪ Rape/ Murder kit and/or Lab
  ▪ Externally brought weapon
❖ Overkill
❖ Rituals
  ▪ *Oral cavity and/or airway blockage
  ▪ *Biting
  ▪ Bondage
  ▪ Urination
  ▪ Defecation
  ▪ 'Eclectic/ random objects' placed at scene
  ▪ Re-dressing the victim
❖ Submissive Body Position

<u>Precise evidence</u>:

○ Cuts
○ Bludgeoning
○ Piercing
○ Stabs
○ Hacks

○ Punctures
○ Impalement
○ Elderly victims
○ Young victims

Appendix B

Terms and Definitions of Evidence

Blitz Attack: a *single*, sudden, chaotic, overwhelming, and *debilitating* episode of bombardment (blows, strikes, and other injuries) which incapacitated and/or killed the victim.

Clothing/ State of dress: the varying degrees of which a person can be clothed, the manner in which cloths were removed (if at all), and the state of the victim's clothing at the scene.

- Clothing is torn: when articles of clothing are forcefully *removed* so that it is stretched or ripped, but not off the body.
- Clothing is stripped: when articles of clothing are forcefully *removed* so that it is stretched or ripped totally off the body.
- Clothing is cut: when clothing is apparently cut to take off the article of clothing (i.e. not cuts resulting from wound infliction)
- Nude: when the victim is totally nude.
- Fully Clothed: when no attempt was made to remove any of the victim's clothes and/or when a victim is redressed (*all* articles of clothing are on proper parts of body).
- Undressed/exposed/ clothing was removed: When articles of clothing are taken off with care or when clothing is partially (not completely) taken off, shifted, or pulled down to reveal a certain part of the body.

Disfiguration: Platonic, cuts, facial bludgeoning, and/or burning which appear to *destroy* the victim's identifying, *physical attributes/ distinctiveness* without removing body parts (except teeth).

Excluding:	Examples:
1. All acts classified as mutilation	1. Smashing/hitting the victim's face
2. All acts classified as torture	2. The removal of the victim's teeth through extraction and/or excessive mouth strikes
	3. Damaging and/or removing tattoos
	4. Burning the face and/or whole body, (postmortem) with *fire.*

Dismemberment: the deliberate *postmortem* dismantlement (severing/ segmentation) of an individual's *fingers, hands, feet, limbs, and/ or head* for any reason

Excluding:
1. Digits lost in acts of apparent self-defense
2. Having only feet removed, which is mutilation
3. Having one hand removed, which is mutilation
4. Segmentation of the torso, which is mutilation

 ** If the victim is decapitated (postmortem) with no other signs of "dismemberment" please list the action as solely decapitation.

Exploitations: evidence of perimotem or postmortem explorative, experimental, and/or invasive actions (often gravitated/ concentrated around primary and/or secondary sexual organs) which indicate the killer spent more time touching the body for reasons other than to relocate, reposition, or clean.

1. Necrophilia
2. Regressive necrophilia (inserting foreign objects into the vagina and/or anus)
3. Insertion of objects into body (excluding mouth/ throat)
4. *Mutilation
5. * Exclusive decapitation (without other dismemberment)
6. Vampirism (if suspected)
7. Cannibalism (if suspected)
8. *Torture
9. Grouped/ localized and deliberate stab wounds to non-lethal areas to body
   Excluding:
1. Relocation of the body
2. Repositioning of a body
3. Cleaning off forensic evidence
4. Dismemberment
5. All disfiguration

Decapitation: The complete severing of a person's head from their body; total removal/ detachment.

Methodical Murder: when *calculated* (premeditated) arrangements and methods of *capture and execution* were prepared for by the killer.

Mutilation: any *postmortem* (often sexual) *expressively* violent cuts, slices, stabs, and/or hacks inflicted on a body.

Excluding:
1. lethally/ mortally wounding cuts, stabs, slices, and/or hacks
2. Acts of dismemberment
3. Acts of disfiguration.
4. Wounds of apparent self-defense

Overkill: an *excessive* number of attempted *lethal injuries* sustained during *an single/ initial episode* of attack in which injuries required to kill the victim exceeds reasonably predictable degrees necessary to do so (taking into account the victim's build, health, killer's weapons, and degree of self-defense).

Excluding:
1. Serious head injuries found in "blitz" style attacks
2. Disfiguration of the face

Rape and/ or Murder Kit/Lab: characterized *externally brought and/or stored* (if the victim's body was relocated)pre-selected equipment, materials, tools, and/or weapons for the flowing purposes: binding, gagging, execution, torture, and/or breaking or forcing entry into a domicile.

Excluding:
1. Singular, externally brought murder weapon

Ritual: *non-abusive or invasive* (*with two exceptions) expressive, detail oriented action(s) taken by the offender which serve no instrumental purpose. (postmortem and/ or perimortem)

Examples:
1. *Oral cavity and/or airway blockage (abusive act included)
2. *Biting (abusive act included)

3. Bondage
4. Urination
5. Defecation
6. 'Eclectic/ random objects' placed at scene (money, flowers,…)
7. Re-dressing the victim
   Excluding:
1. Submissive Body Positions

Submissive Body Position: when a body is *maneuvered postmortem* and is *positioned* in a highly improbable, unnatural, or peculiar posture and/or location suggesting a victim's feebleness, sheepishness, disgrace/ shame, or is covered fully or partially with cloth <u>at the scene of death</u>.

<u>Example</u>s:
1. Covering the victim's face
2. Turned away from a room's entrance
3. placed in a closet (often with the door closed)
   Excluding:
1. Being placed face down
2. Being wrapped or covered with cloth after body was relocated

Torture: *methodical* antemortem or perimortem *physically harmful* actions performed to cause victim *extended periods* (i.e. anything beyond initial abduction and/or assault and murder) *physical* suffering.

   <u>Excluding</u>:
   1. Rape
   2. Injuries sustained in blitz style attack and/or overkill

➢ <u>Precise Evidence</u>:
o Bludgeoning: using a blunt instrument (including fists and feet) to strike with force
o Cuts: any rendering of the skin with a sharp object (damage is wide not deep)
o Hacks: deep cuts and or slices which were delivered with a fast, arching, and swinging motion
o Stabs: the thrusting of a sharp object into the body, so as to damage deep tissue (damage is deep, not wide)
o Slices: using a sharp instrument to cut horizontally through skin, fat, and/or possibly deep tissue (damage is wide and deep)
o Impaled: the thrusting of a dull object into the body, so as to damage deep tissue
o Puncture: the thrusting of a dull object into the body without damaging deep tissue
o Piercing: puncturing the skin (and no deeper) with a sharp object
o Young Victims: ≤ 16 years old
o Elderly Victims: ≥ 60 years old

Appendix C

Logic Equations

For the sake of ease I shall structure my series of logical deductions/ equations with the following patter of organization: Firstly, I shall discuss each piece of evidence in the same order as the order they are defined (with some exceptions). With that said, please know that not every piece of evidence (such as some of the *narrow* pieces of evidence and the *precise* pieces of evidence) gets and/or needs logical equations, but are merely defined/ outlined for the sake of clarification for other definitions. In the cases were evidence discussed is not in the same order as above on pages 7 and 8 it will most likely be instances in which I am addressing opposite types of evidence such as "blitz attack" and "methodical murder/ rape" (and narrow evidence within that definition) which are opposites, and will thus be discussed at the same time.

Secondly, in order to compare and contrast the four types of offenders within Keppel's and Walter's article (Power-Assertive, Power-Reassurance, Anger-Retaliatory, and Anger-Excitation) I shall discuss each offender type piecemeal, speaking only of each offender profile's relation to the specific piece of evidence at that time (i.e. when I discuss "blitz attack" I will speak of this evidence's significance (of lack thereof) to all offenders' profiles and will do that with all pieces of evidence).

From there, I shall, after describing and outlining all A$\rightarrow$C equations, go on to list and explain my longer logic equations (similar to the $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$

equation) and, by doing so, explain how this logic is functionally applicable to deduce

profiles from real-life sexual homicide cases.

Then, lastly, I shall show and describe how I planned and modified my equations

so that they could be used by law enforcement to logically arrive at a profile without

actually needing to use logic to arrive at a correct profile. I will also discuss how test

subjects did in utilizing my system of profiling, the changes I made to improve and

simplify my system, and present the (as of now) final product.

A➔C equations

**Blitz Attack, Methodical Murder (Externally Brought Weapon, and Rape/ Murder Kit

and/or Lab) Logic and Significance:**

 ➢ Power-Assertive offender:
 1. "…a direct and overpowering assault is necessary…"(Keppel and Walter, 1999, pp 420)
 2. "…the perpetrator may choose one [a victim] by opportunity and surprise." (Keppel and Walter,1999, pp 421)
 3. "…may show evidence of beating and pummeling at the death scene." (Keppel and Walter, 1999, pp 420)
 4. " Here, extreme forms of violence will occur…" (Keppel and Walter, 1999, pp 421)
 5. "Generally, his [the offender's] preferred weapon is part of his normal image. The weapon may be a knife or rope or something else easily concealed." (Keppel and Walter,1999, pp 421)
 6. "…will bring them [weapons] to the crime scene and take them with him after the murder." (Keppel and Walter,1999, pp 421)

U	(It is the case that Power-Assertive offenders utilize a "blitz" style attack)
B	(A "blitz" style attack was used on the victim)
B ⊃ P$_1$	(If a "blitz" attack was used, then the killer may be a Power-Assertive killer)

~M	(It is not the case that Power-Assertive offenders utilize "methodical murder")
M	(A "methodical murder" was committed)
M ⊃ ~ P$_1$	(If a "methodical murder" was committed, then it is likely not the case that the killer was a Power- Assertive offender)

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007) (Beauregard & Proulx, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004), (Trojan & Krull, 2012), and (Turvey)), whose research is much more scientifically based and established.

---**Weapons**--

X	(It is the case that Power-Assertive offenders often bring an "external weapon")
W	(It is the case that an "external weapon was brought)
W⊃ P₁	(If an external weapon was brought, then the offender may be Power-Assertive)

~~**X**~~	~~(It is the case that Power-Assertive offenders often bring an "external weapon")~~
~~**~ W**~~	~~(It is not the case that an "external weapon was brought)~~
~~**~W⊃ ~P₁**~~	~~(If an external weapon was not brought, then it is not likely the case that the offender may is Power-Assertive)~~

This logical equation does not work because; while some killers are known to bring weapons to a crime, this piece of evidence is hardly a *must*. Therefore, if a killer-type known to bring "external weapons" does not do so, yet leaves other evidence indicating that killer-type, we cannot say the absence of an "external weapon" rules out that type of offender. By this reasoning a logician may say this above-mentioned claim is *logically indeterminate* (meaning it is neither *true* nor *false*) (Bermann, Moor, & Nelson, 2004, pp27)

~L	(It is not the case that Power-Assertive offenders use a rape/murder kit/lab)
K	(It is the case that a "rape/murder kit/lab" was used)
K⊃~P₁	(If a "rape/murder kit/lab" was used then it may not be the case that the offender is Power-Assertive)

~~**~L**~~	~~(It is not the case that Power-Assertive offenders use a rape/murder kit/lab)~~
~~**K**~~	~~(It is not the case that a "rape/murder kit/lab" was used)~~
~~**~K⊃ P₄**~~	~~(If it is not the case that a "rape/murder kit/lab was used, then it may be the case that the offender is Power-Assertive)~~

A "rape/murder kit/lab" is something generally only used by Anger-Excitation

killers. Because of this it is a separate category of evidence than simply "externally

brought weapons. So, because rape/murder kits/labs" are things used by (generally)

one type of offender, the presence of such evidence hints away from all other offender

types. But, because no other offender-types really use "rape/murder kits/labs" and

because Anger-Excitation offenders do not always use "rape/murder kits/labs" we

cannot say that their absence is *negative space* evidence towards any conclusion. It is

therefore *logically indeterminate*.

This general trend has been supported by a number of scholarly works ((Canter,

Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000),

(Schlesinger, 2004), and (Turvey)).

> ➢ Power-Reassurance offender:
>> 1. "When the victim does not yield to the killer's planned seduction scenario, a sense of failure and panic thrust him into a murder/ assault." (Keppel and Walter, 1999, pp 424)
>> 2. "…he loses control of the situation and kills the victim through pummeling and manual strangulation." (Keppel and Walter, 1999, pp 425)
>> 3. "…sometimes enters the crime scene with a weapon. But, usually the first time the he [the offender] attacks a weapon is not preselected and brought to the scene. The second time, he may bring a gun and display it but will not fire it due to the noise. The third time, the weapon may be a knife." (Keppel and Walter,1999, pp 424)

U	(It is the case that Power-Reassurance offenders utilize a "blitz" style attack)
B	(A "blitz" style attack was used on the victim)
B ⊃ P₂	(If a "blitz" attack was used, then the killer may be a Power-Reassurance killer)

~M   (It is not the case that Power-Reassurance offenders utilize
               "methodical murder")

__**M**__   (A "methodical murder" was committed)

M ⊃ ~ P₂   (If a "methodical murder" was committed, then it is likely not the case
               that the killer was a Power- Reassurance offender)

       This general trend has been supported by a number of scholarly works ((Almond, &

Canter, 2007) (Beauregard & Proulx, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter &

Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger,

2004), (Trojan & Krull, 2012), and (Turvey)).

---**Weapons**--

~ X   (It is not the case that Power-Reassurance offenders often bring an "external
              weapon")

__**W**__   (It is the case that an "external weapon was brought)

W⊃ ~P₂   (If an external weapon was brought, then it is likely not the case that
            the offender is Power-Reassurance)

~~**~X**   (It is not the case that Power-Reassurance offenders often bring an "external~~
             ~~weapon")~~

~~__**~ W**__   (It is not the case that an "external weapon was brought)~~

~~**~W⊃ ~P₂**   (If an external weapon was not brought, then the offender may be~~
             ~~Power-Reassurance)~~
       Technically, this crossed-out equation is logically fine. This may be confusing

because its equivalent equation in the Power-Assertive category is not. Here, however,

evidence indicates that Power-Reassurance almost always used improvised weapons.

Therefore, the presence of "externally brought weapons" hints away from this offender

type. However, because this evidence changes as Power-Reassurance offenders rape

and/or kill multiple people (as indicated in the Keppel and Walter quote above), I elected

to remove this equation from use.

~L   (It is not the case that Power-Reassurance offenders use a
              rape/murder kit/lab)

__**K**__   (It is the case that a "rape/murder kit/lab" was used)

K⊃~P₂   (If a "rape/murder kit/lab" was used, then it may not be the case that the offender is Power Reassurance)

~~**~L**   (It is not the case that Power-Reassurance offenders use a rape/murder kit/lab)~~
~~**K**   (It is not the case that a "rape/murder kit/lab" was used)~~
~~**~K⊃P₂**   (If it is not the case that a "rape/murder kit/lab" was used, then it may be the case that the offender is Power-Reassurance)~~

Logically indeterminate for the same reason as the Power-Assertive offender's equivalent formula.

Presently supported by a number of scholarly works ((Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

> Anger- Retaliatory offender:
>   1. "explosive" (Keppel and Walter, 1999, pp 427)
>   2. "Dynamically, the rape-homicide is committed in a stylized violent burst of attack…"(Keppel and Walter, 1999, pp 427)
>   3. "The homicide patter is characterized by a violent assault…" (Keppel and Walter, 1999, pp 428)
>   4. "He responds….by hitting [the victim] in the mouth and about the face." (Keppel and Walter, 1999, pp 428)
>   5. "…the subject is intent on sating his anger through percussive acts with fists, blunt objects, or a knife." (Keppel and Walter,1999, pp.428)
>   6. "As the assault becomes more combative, the aggressor may use weapons of opportunity (knives, statutory, etc.)..." (Keppel and Walter,1999, pp 428)
>   7. "…the improvised murder weapon may be found within fifteen feet of the body." (Keppel and Walter,1999, pp 428)

U   (It is the case that Anger-Retaliatory offenders utilize a "blitz" style attack)
B   (A "blitz" style attack was used on the victim)
B ⊃ A₁   (If a "blitz" attack was used, then the killer may be an Anger-Retaliatory killer)

~M   (It is not the case that Anger-Retaliatory offenders utilize "methodical murder")
M   (A "methodical murder" was committed)
M ⊃ ~ A₁   (If a "methodical murder" was committed, then it is likely not the case that the killer was a Anger-Retaliatory offender)

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Beauregard & Proulx, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004), (Sheridan & Nash, 2007), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)).

---**Weapons**---

~X	(It is not the case that Anger-Retaliatory offenders often bring an "external weapon")
W	(It is the case that an "external weapon was brought)
W⊃ ~A$_1$	(If an external weapon was brought, then it is likely not the case that the offender is Anger-Retaliatory)

~~X~~	~~(It is not the case that Anger-Retaliatory offenders often bring an "external weapon")~~
~~ W~~	~~(It is not the case that an "external weapon was brought)~~
~~W⊃~A$_1$~~	~~(If an external weapon was not brought, then the offender may be Anger-Retaliatory)~~

Technically, this crossed-out equation is logically fine since evidence indicates

that Anger-Retaliatory offenders often used improvised weapons. Therefore, the

presence of "externally brought weapons" hints away from this offender type. However, I

elected to remove this equation from use because there is not strong evidence to

determine if this assumption of a trend is true.

~L	(It is not the case that Anger-Retaliatory offenders use a rape/murder kit/lab)
K	(It is the case that a "rape/murder kit/lab" was used)
K⊃~A$_1$	(If a "rape/murder kit/lab" was used, then it may not be the case that the offender is Anger-Retaliatory)

~~L~~	~~(It is not the case that Anger-Retaliatory offenders use a rape/murder kit/lab)~~
~~K~~	~~(It is not the case that a "rape/murder kit/lab" was used)~~
~~K⊃A$_1$~~	~~(If it is not the case that a "rape/murder kit/lab" was used, then it may be the case that the offender is Anger-Retaliatory)~~

Logically indeterminate for the same reason as the Power-Assertive and Power-

Reassurance offender's equivalent formula.

Contemporarily, this general trend has been supported by a number of scholarly

works ((Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy,

2000), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull,

2012), and (Turvey)), whose research is much more scientifically based and

established.

> Anger- Excitation offender:
>   1. "…the subject will use a con or ruse to dupe the victim." (Keppel and Walter, 1999, pp 431)
>   2. "…a methodical love of torture is demonstrated…"(Keppel and Walter, 1999, pp 431-432)
>   3. "Generally this type of perpetrator divides the murder into phases…"(Keppel and Walter, 1999, pp 432)
>   4. "…he [offender] will carefully repack his ropes, knives, and specialized tools of torture into his murder kit for safe keeping" (Keppel and Walter, 1999, pp 432)
>   5. "…the assault is put into action with an equipment kit." (Keppel and Walter,1999, pp 431)
>   6. "[the offender] will carefully repack his ropes, knives, and specialized tools of torture into his murder kit for safe keeping." (Keppel and Walter,1999, pp 432)

$\sim U$ (It is not the case that Anger-Excitation offenders utilize a "blitz" style attack)

B (A "blitz" style attack was used on the victim)

$B \supset \sim A_2$ (If a "blitz" attack was utilized, then it is likely not the case that the killer was a Anger-Excitation offender)

M (It is the case that Anger-Excitation offenders utilize "methodical murder")

M_2 (A "methodical murder" was committed)

$M_2 \supset A_2$ (If a "methodical murder" was committed, then the killer may be an Anger-Excitation offender)

Today, this trend has been supported by a number of scholarly works ((Almond,

& Canter, 2007) (Beauregard & Proulx, 2007), (Canter, Bennell, Alison, & Reddy, 2003),

(Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001),

(Schlesinger, 2004), (Trojan & Krull, 2012), and (Turvey)), whose research is much

more scientifically based and established.

---**Weapons**---

    X   (It is the case that Anger-Excitation offenders often bring an "external
                weapon")
  W   (It is the case that an "external weapon" was brought)
$W \supset A_2$ (If an external weapon was brought, then it may be the case that the
           offender is Anger-Retaliatory)

    X   (It is the case that Anger-Excitation offenders often bring an "external
                weapon")
 ~ W   (It is not the case that an "external weapon was brought)
$\sim W \supset \sim A_1$ (If an external weapon was not brought, then it may not be the case
           that the offender is Anger-Excitation)

It appears as though most Anger-Excitation offenders bring external weapons.

While I do not have the exact statistics (which, as far as I know do not exist), I feel

confident saying, in purely a logical sense (nothing as a concrete "must"), that because

Anger-Excitation killers commit methodical murders (that being their very nature) and

that they most likely and often bring external weapons. Therefore it is <u>not</u> *logically

indeterminate*. But, remember these A→C equations are just logically arrived at general

trends, not things which must be true in every case.

   L   (It is the case that Anger-Excitation offenders use a rape/murder
             kit/lab)
  K   (It is the case that a "rape/murder kit/lab" was used)
$K \supset A_2$ (If a "rape/murder kit/lab" was used, then it is likely the case that the
            offender is Anger-Excitation)

~~   **L**   (It is the case that Anger Excitation offenders use a rape/murder~~
~~   kit/lab)~~
~~ **~K**   (It is not the case that a "rape/murder kit/lab" was used)~~
~~$\sim K \supset \sim A_2$ (If it is not the case that a "rape/murder kit/lab" was used, then it is~~
~~   likely not the case that the offender is Anger-Excitation)~~

Logically indeterminate because, while rape/murder kits/labs are often used with Anger-Excitation offenders, it is hardly a must.

Presently, this general trend has been supported by a number of scholarly works ((Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)).

Clothing/ State of Dress Logic and Significance:

- ➢ Power-Assertive offender:
  1. "…detectives with find that clothing is torn off the victim." (Keppel and Walter,1999, pp 421)

T (Power-Assertive offenders tend to tear the clothing off their victim)
C_1 (The clothing was torn off the victim)
$C_1 \supset P_1$ (If the clothing was torn off the victim, then it is likely the case the killer may be a Power-Assertive offender)

~~T (Power-Assertive offenders tend to tear the clothing off their victim)~~
~~$\sim C_1$ (It is not the case that the clothing was torn off the victim)~~
~~$C_1 \supset \sim P_1$ (If it is not the case that the clothing was torn off the victim, then it is likely the not case the killer may be a Power-Assertive offender)~~

This logical equation does not work because; even though some killers are known to tear the clothing off their victims, this piece of evidence is hardly a *must*. Therefore, if a killer-type known to tear does not do so, yet leaves other evidence indicating that killer-type, we cannot say the absence of torn clothing rules out that type of offender. Therefore, this statement is *logically indeterminate*.

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter & Youngs, 2012), (Turvey)), whose research is much more scientifically based and established.

- ➢ Power-Reassurance offender:
  1. "…may ask the victim to remove her clothing…"(Keppel and Walter,1999, pp 424)

R   (Power-Reassurance offenders tend to remove the clothing of their victim (undressed/ exposed))

$\underline{C_2}$ (The clothing was removed off the victim)

$C_2 \supset P_2$ (If the clothing was removed off the victim, then it is likely the case the killer may be a Power-Reassurance offender)

~~**R** (Power-Reassurance offenders tend to remove the clothing of their victim(undress/ expose))~~

~~**~ C_2** (It is not the case that the clothing was removed off the victim)~~

~~$C_2 \supset P_2$ (If it is not the case that the clothing was removed off the victim, then it is likely the not case the killer may be a Power-Reassurance offender)~~

Logically indeterminate for the same reasons as its Power-Assertive counterpart.

In Investigative psychology today, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter & Youngs, 2012), (Turvey)), whose research is much more scientifically based and established

➢ Anger-Retaliatory offender:

In Keppel's and Walter's 1999, paper, there is no direct stament as to what state of dress Anger-Retaliatory offenders tend to leave their victims in. However, current research has suggested that Anger-Retaliatory offenders tend to leave the cloths on their victims. Research published by Canter and Youngs (2012), Louis Schlesinger (2004), and Brent Turvey (2010) have all indicated that such a pattern exists.

F   (It is the case that Anger-Retaliatory offenders tend to leave their victims full clothed)

$\underline{C_3}$ (It is the case that the victim is fully clothed)

$C_3 \supset A_1$ (If the victim is fully clothed, then it may be the case that the killer was Anger- Retaliatory)

~~**F** (It is the case that Anger-Retaliatory offenders tend to leave their victims full clothed)~~

~~**~ C_3** (It is not the case that the victim is fully clothed)~~

~~**~$C_3 \supset$~A_1** (If the victim is not fully clothed, then it is not likely the case that the killer was Anger Retaliatory)~~

Logically indeterminate

➢ Anger-Excitation offender:

1. "In addition, he [offender] may leave the body in a bizarre state of undress after possibly cutting off the clothing. In some cases, the perpetrators will leave the clothing neatly folded alongside the body." (Keppel and Walter,1999, pp 432)

C_3 (Anger-Excitation offenders sometimes cut the clothing off their victim)
$\sim C_4$ (The clothing was cut off the victim)
$C_4 \supset A_2$ (If the clothing was cut off the victim, then it is likely the case the killer may be an Anger-Excitation offender)

~~C_3 (Anger-Excitation offenders sometimes cut the clothing off their victim)~~
~~C_4 (The clothing was cut off the victim)~~
~~$\sim C_4 \supset \sim A_2$ (If it is not the case that the clothing was cut off the victim, then it is likely the case the killer may be an Anger-Excitation offender)~~

Logically indeterminate

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter & Youngs, 2012), (Turvey)), whose research is much more scientifically based and established.

Disfiguration Logic and Significance:

➢ Power-Assertive offender:
1. "…a direct and overpowering assault is necessary…"(Keppel and Walter, 1999, pp 420)
2. "…may show evidence of beating and pummeling at the death scene." (Keppel and Walter, 1999, pp 420)
3. " Here, extreme forms of violence will occur…"(Keppel and Walter, 1999, pp 421)

F (Due to Power-Assertive offenders' "blitz" style attack there is often "disfiguration")
D_1 (It is the case that there is evidence of disfiguration)
$D_1 \supset P_1$ (If there is evidence of "disfiguration", then the killer may be a Power-Assertive offender)

~~F (Due to Power-Assertive offenders' "blitz" style attack there is often "disfiguration")~~
~~$\sim D_1$ (It is not the case that there is evidence of disfiguration)~~
~~$\sim D_1 \supset \sim P_1$ (If there is evidence of "disfiguration", then it is not likely the case that the offender was Power-Assertive)~~

Simply due to the sheer chance of where the offender strikes (since they often strike around a victim's head and/or face (Canter & Youngs, 2012) (Schlesinger, 2004), we cannot say that a lack of disfiguration is evidence against a Power-Assertive offender since they may only strike at the back of the head. Therefore this equation is *logically indeterminate*.

This general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), , and (Turvey)).

➢ Power-Reassurance offender:
There is not any conclusive evidence out there (which I know of) to show whether or not disfiguration is a trend with this offender-type. Therefore, a statement cannot be made either way.

➢ Anger-Retaliatory offender:
  1. "responds…by hitting her [the victim] in the mouth and about the face." (Keppel and Walter, 1999, pp 428)

F   (Due to Anger-Retaliatory offenders' "blitz" style attack there is often "disfiguration")
$\underline{\quad D_1 \quad}$ (It is the case that there is evidence of disfiguration)
$D_1 \supset A_1$ (If there is evidence of "disfiguration", then the killer may be an Anger-Retaliatory offender)

F   (Due to Anger-Retaliatory offenders' "blitz" style attack there is often "disfiguration")
$\underline{\quad D_1 \quad}$ (It is not the case that there is evidence of disfiguration)
$D_1 \supset A_1$ (If there is evidence of "disfiguration", then the killer may be an Anger-Retaliatory offender)

Contemporarily, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Schlesinger, 2004), (Sheridan & Nash, 2007), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)), whose research is much more scientifically based and established. From my findings, I believe

it is safe to say that an absence of "disfiguration" is *negative space evidence* hinting toward an Anger-Retaliatory offender because of their overwhelming tendency to strike at the face.

 ➢ <u>Anger-Excitation offender</u>:

No evidence to determine if "disfiguration" is significant as either regular evidence or negative space evidence. Therefore, no logical conclusions are drawn.

Dismemberment and Mutilation Logic and Significance:

Here, "dismemberment" and "mutilation" are discussed at the same time because, while Keppel's and Walter's paper may not distinguish between the two, I do, and thus must address this issue now. (Please remember that mutilation is a *narrow* piece of sub-evidence within the *broad* evidence category of "exploitations") In this section of logic equations then, please understand that, though "dismemberment" and "mutilation" in this body of work are not the same, I shall address them within this same section of my work, yet as separate pieces of evidence.

 While researching the validity of Keppel and Walter's claims, I noticed other sources document similar patterns between either the absence or presence of "dismemberment" and "mutilation" in regards to certain offender types. Judging from this research (and my own interpretation) I shall clarify when, in Keppel and Walter's paper, the authors use the term mutilation and dismemberment interchangeably (in accordance to my interpretation) within their statements by inserting an asterisk * and the words [and/or dismemberment] to clarify but will, for my equations, distinguish between the two actions.

 ➢ <u>Power-Assertive offender</u>:

1. "…there is generally no mutilation [*and/or dismemberment]…" (Keppel and Walter, 1999, pp 421)

~~**N**   (Power-Assertive offenders are not known to "dismember" victims)~~
~~**~ D₂**   (It is not the case that the victims is "dismembered")~~
~~**~ D₂ ⊃ P₁**   (If the victims is not "dismembered", then it may be the case that the killer a Power-Assertive offender)~~

This logical equation does not work because; while some killers are known to dismember victims, this piece of evidence is hardly a *must*. Therefore, if a killer-type known to dismember does not do so, yet leaves other evidence indicating that killer-type, we cannot say the absence of dismemberment rules out that type of offender. Therefore the claim is *logically indeterminate*.

N   (Power-Assertive offenders are not known to "dismember" victims)
D₂   (It is the case that the victims is "dismembered")
D₂ ⊃ ~P₁   (If the victims is "dismembered", then it is likely not the case that the killer was a Power-Assertive offender)

This general trend has been supported by a number of contemporary scholarly works ((Canter & Youngs, 2012), (Beauregard & Field, 2008), (Turvey)), whose research is much more scientifically based and established.

---Mutilation---
~~**N**   (Power-Assertive offenders are not known to "mutilate")~~
~~**~ μ**   (It is not the case that the victims is "mutilated")~~
~~**~μ ⊃ P₁**   (If the victims is not "mutilated", then it is may be the case that the killer was a Power-Assertive offender)~~

Logically indeterminate because of the same reasoning within its Power-Assertive counterpart. "Mutilating" someone, while common with this type of killer is not something a majority (to my knowledge) of them do.

N   (Power-Assertive offenders are not known to "mutilate" victims)
μ   (It is the case that the victims is "mutilated")
μ ⊃ ~P₁   (If the victims is "mutilated", then it is likely not the case that the killer was a Power-Assertive offender)

At the moment supported this trend is supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

> Power-Reassurance offender:
>   1. "…there is sometimes mutilation [*and/ or dismemberment]…" (Keppel and Walter, 1999, pp 425)

K (Power-Reassurance offenders are known to "dismember" victims)
$\underline{D_2}$ (It is the case that the victim is "dismembered")
$D_2 \supset P_2$ (If the victims is "dismembered", then it may be the case that the killer was a Power-Reassurance offender)

~~K (Power-Reassurance offenders are known to "dismember" victims)~~
~~$\sim D_2$ (It is not the case that the victims is "dismembered")~~
~~$\sim D_2 \supset \sim P_2$ (If the victims is not "dismembered", then it is not likely the case that the killer is a Power-Reassurance offender)~~
* Logically Indeterminate.

Contemporarily, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Beauregard & Field, 2008), (Sorochinski, Salfati, 2010), (Turvey)), whose research is much more scientifically based and established.

---Mutilation---

K (Power-Reassurance offenders are known to "mutilate" victims)
$\underline{\mu}$ (The victims is "mutilated")
$\mu \supset P_2$ (If the victims is "mutilated", then it may be the case that the killer was a Power-Assertive offender)

~~K (Power-Reassurance offenders are known to "mutilate" victims)~~
~~$\sim \mu$ (It is not the case that the victims is "mutilated")~~
~~$\sim \mu \supset P_2$ (If the victims is not "mutilated", then it is likely not the case that the killer was a Power-Reassurance offender)~~

*Logically indeterminate

Presently, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

➢ Anger-Retaliatory offender:

No evidence to determine if "mutilation" is significant as either regular evidence or *negative space evidence.* Therefore, no logical conclusions are drawn.

➢ Anger-Excitation offender:
   1. "evidence of….[postmortem] skin tears…" (Keppel and Walter, 1999, pp 432)
   2. "…they may harvest the body of parts." (Keppel and Walter, 1999, pp 432)
   3. "There is also evidence of…*picquerism*[1]." (Keppel and Walter, 1999, pp 434)

$\quad$ **K** $\qquad$ (Anger-Excitation offenders are known to "dismember" victims)
$\quad$ **D$_2$** $\qquad$ (the victim is "dismembered")
D$_2$ ⊃ A$_2$ $\qquad$ (If the victims is "dismembered", then it may be the case that the killer was a Anger-Excitation offender)

~~K~~ (Anger Excitation offenders are known to "dismember" victims)
~~~ D$_2$~~ (It is not the case that the victims is "dismembered")
~~~ D$_2$ ⊃ ~A$_2$~~ (If the victims is not "dismembered", then it is not likely the case that the killer is a Anger-Excitation offender)
* Logically Indeterminate.

Contemporarily, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)), whose research is much more scientifically based and established.

-------------------------------------**Mutilation**--

$\quad$ **K** $\qquad$ (Anger-Excitation offenders are known to "mutilate" victims)
$\quad$ **μ** $\qquad$ (The victims is "mutilated")
μ⊃ A$_2$ $\qquad$ (If the victims is "mutilated", then it may be the case that the killer was a Anger-Excitation offender)

---

[1] Picquerism being: cutting, slicing, and tearing of the body parts, akin to an act of torture and/or mutilation. (Turvey, 2010)

~~**K** (Anger Excitation offenders are known to "mutilate")~~
~~**~ μ** (It is not the case that the victims is "mutilated")~~
~~**~μ⊃ A₂** (If the victims is not "mutilated", then it is likely not the case that the killer was a Anger-Excitation offender)~~

*Logically indeterminate

Currently, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

Erections, Sperm/Orgasm, and Penetration Logic and Significance:

> Power-Assertive offender:
>> 1. "often…multiple antemortem rapes…"(Keppel and Walter, 1999, pp.420)

R (Power-Assertive offenders tend to rape their victims)
E₂ (The victim was raped)
E₂⊃ P₁ (If the victims was raped, then it may be the case that the killer was Power-Assertive)

R (Power-Assertive offenders tend to rape their victims)
~E₂ (It is not the case that the victim was raped)
~E₂⊃ ~P₁ (If the victims was not raped, then it is not likely the case that the killer was Power-Assertive)

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Beauregard & Proulx, 2007 (Canter, 2004), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004) (Turvey), and (Worling, 2001)) whose research is much more scientifically based and established.

> Power-Reassurance offender:
>> 1. "…there is often not any evidence of sperm at the murder crime scene." (Keppel and Walter, 1999, pp.425)

N (Power-Reassurance offenders tend not to rape their victims)
E₂ (The victim was raped)

E$_2$⊃ ~P$_2$ (If the victims was raped, then it is likely not the case that the
            killer was Power- Reassurance)

   N   (Power-Reassurance offenders tend to rape their victims)
  ~E$_2$ (It is not the case that the victim was not raped)
~E$_2$⊃ P$_2$ (If the victims was not raped, then it may be the case that the killer
            was Power-Reassurance)

This general trend has been supported by a number of scholarly works ((Almond,

& Canter, 2007), (Beauregard & Proulx, 2007 (Canter, 2004), (Canter, Bennell, Alison,

& Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, &

Siegert, 2001), (Schlesinger, 2004) (Turvey), and (Worling, 2001)) whose research is

much more scientifically based and established.

   ➢ Anger-Retaliatory offender:
      1. "…the rape-assault may be incomplete because of an inability to get an
         erection." (Keppel and Walter, 1999, pp.428)

~~**N**   (Anger-Retaliatory offenders tend not to rape their victims)~~
~~**E$_2$**   (The victim was raped)~~
~~**E$_2$⊃ ~A$_1$**   (If the victims was raped, then it is likely not case that the killer
            was Anger- Retaliatory)~~

*CONTEMPORARY RESEARCH DOES NOT SUPPORT THIS CLAIM!

   N   (Anger-Retaliatory offenders tend not to rape their victims)
  ~E$_2$ (It is not the case that the victim was not raped)
~E$_2$⊃ A$_1$ (If the victims was not raped, then it may be the case that the killer
            was Anger-Retaliatory)
      Currently, this general trend has been supported by a number of scholarly works

((Almond, & Canter, 2007), (Beauregard & Proulx, 2007 (Canter, 2004), (Canter,

Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek,

Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004), (Thomas, Dichter, &

Matejkowski,2011), (Trojan & Krull, 2012), (Turvey), and (Worling, 2001)) whose

research is much more scientifically based and established.

➢ Anger-Excitation offender:
  1. "Although some offenders may attempt perimortem sex, the evidence of ejaculate in the body is not likely at this stage." (Keppel and Walter, 1999, pp.428)

Current, research, however, supports the claim that sadistic, Anger-Excitation offenders often do rape their victims at some point during the murder((Canter, 2004), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004),and (Turvey).

R	(Anger-Excitation offenders tend to rape their victims)
E$_2$	(The victim was raped)
E$_2 \supset$ A$_2$	(If the victims was raped, then it may be the case that the killer was Anger-Excitation)

R	(Anger-Excitation offenders tend to rape their victims)
~E$_2$	(It is not the case that the victim was raped)
~E$_2 \supset$ ~A$_1$	(If the victims was not raped, then it is not likely the case that the killer was Anger-Excitation)

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Beauregard & Proulx, 2007 (Canter, 2004), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000) (Polaschek, Hudson, Ward, & Siegert, 2001), (Schlesinger, 2004) (Turvey), and (Worling, 2001)) whose research is much more scientifically based and established..
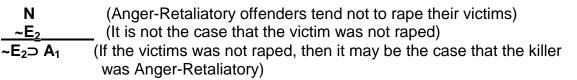
Exploitations Logic and Significance:

Please note here that "mutilation' (but not "dismemberment") is sub-piece (a *narrow* piece of evidence) of the *broad* evidence "exploitations" category. That being said, even though it may be repetitive, I shall be discussing the logic and significance of "mutilation" once again. This time, however, "mutilation" shall refer strictly to the above listed definition and referred to as a subcategory of "exploitations", completely free or
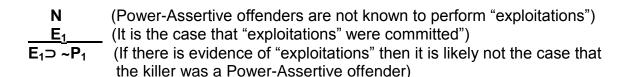
the "dismemberment" category (with "exclusive decapitation being an exception I

discuss within my "Implications for further research" section.

> Power-Assertive offender:
>> 1."…there is generally no mutilation [and/or dismemberment]…" (Keppel and Walter, 1999, pp 421)
>> 2. "After the killing has occurred, the perpetrator does not maintain contact with the victim." (Keppel and Walter, 1999, pp 421)

$\begin{array}{ll} \mathbf{N} & \text{(Power-Assertive offenders are not known to perform "exploitations")} \\ \underline{\sim \mathbf{E_1}} & \text{(It is not the case that "exploitations" were committed")} \\ \sim \mathbf{E_1} \supset \mathbf{P_1} & \text{(If there is no evidence of "exploitations" then it is may be the case} \\ & \text{that the killer was a Power-Assertive offender)} \end{array}$

Here, one may rightfully point out that this equation should, following the pattern

of "mutilation" being *logically indeterminate*, also be logically indeterminate. But, that is

not the case. Power-Reassurance killers and Anger Excitation killers are the offenders

who most commonly perform "exploitations" on a body (performing them almost without

fail), yet there is a long list as to what constitutes "exploitations". Because Power-

Reassurance offenders and Anger-Excitation offenders perform "exploitations" so

frequently, we can say the absence of "exploitations" hints away from their profile and,

thus, towards Power-Assertive and Anger-Retaliatory offenders. But, because one does

not need to "mutilate" a victim to have evidence of "exploitations" we cannot say the

absence of "mutilation" in-and-of-itself hints away from Power-Retaliatory of Anger-

Excitation offenders. The absence of "exploitations", however, does. Due to

"mutilations" similarity to "disfiguration" and "dismemberment" I deemed it important

enough to address and define separately from its *broad* evidence category.

$\begin{array}{ll} \mathbf{N} & \text{(Power-Assertive offenders are not known to perform "exploitations")} \\ \underline{\mathbf{E_1}} & \text{(It is the case that "exploitations" were committed")} \\ \mathbf{E_1} \supset \sim \mathbf{P_1} & \text{(If there is evidence of "exploitations" then it is likely not the case that} \\ & \text{the killer was a Power-Assertive offender)} \end{array}$

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004),(Sorochinski & Salfati 2010), (Thomas, Dichter, & Matejkowski,2011), and (Turvey)), whose research is much more scientifically based and established.

> Power-Reassurance offender:
>   1. "…he [the offender] will often explore the mysteries and curiosities if sex on the postmortem body. Consequently, there is sometimes mutilation…" (Keppel and Walter, 1999, pp 425)
>   2. "Nevertheless, the postmortem activities…can satisfy and reinforce him." (Keppel and Walter, 1999, pp 425)

$$\frac{K \qquad (\text{Power-Reassurance offenders are known to perform ``exploitations''})}{\sim E_1 \qquad (\text{It is not the case that exploitations were committed''})}$$
$\sim E \supset \sim P_2$ (If there is no evidence of exploitations then it is likely not the case that the killer was a Power-Reassurance offender)

$$\frac{K \qquad (\text{Power-Reassurance offenders are known to ``mutilate'' victims})}{E_1 \qquad (\text{There is evidence that ``exploitations'' were committed})}$$
$E_1 \supset P_2$ (If there is evidence of "exploitations" then it may be the case that the killer was a Power-Reassurance offender)

Today, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004),(Sorochinski & Salfati 2010), (Thomas, Dichter, & Matejkowski,2011), and (Turvey)), whose research is much more scientifically based and established.

> Anger-Retaliatory offender:

While not directly addressed in Keppel's and Walter's 1999 study, Anger-Retaliatory type offenders, according to wound patter analysis, do not tend to do

regularly do actions I classify as "exploitations'. As one can imagine, there are always

exceptions, yet the general consensus is in favor of this view.

    N   (Anger-Retaliatory offenders are not known to perform "exploitations")
  ~ E$_1$ (It is not the case that "exploitations" were committed")
~E$_1$⊃ A$_1$ (If there is no evidence of "exploitations" then it is may be the case
          that the killer was an Anger-Retaliatory offender)

    N   (Anger-Retaliatory offenders are not known to perform "exploitations")
   E$_1$ (It is the case that "exploitations" were committed")
E$_1$⊃ ~P$_1$ (If there is evidence of "exploitations" then it is likely not the case that
          the killer was an Anger-Retaliatory offender)

> Anger-Excitation offender:
>> 1. "When he [the offender] sees the victim becoming terrorized, he goes into a fantasy, and a methodical love for torture is demonstrated through acts of…experimentation." (Keppel and Walter, 1999, pp 431-432)
>> 2. "In addition, there may be evidence of antemortem cuttings, bruises, and various forms of incomplete strangulation, body washing, shaving, and burns." (Keppel and Walter, 1999, pp 432)
>> 3. "The evidence of sexual exploration is revealed by localized brutalization, skin tears, and inserted objects into the body." (Keppel and Walter, 1999, pp 432)

    K   (Anger-Excitation offenders are known to perform "exploitations")
  ~ E$_1$ (It is not the case that "exploitations" were committed")
~E⊃ ~A$_2$ (If there is no evidence of "exploitations" then it is likely not the case
          that the killer was a Anger- Excitation offender)

    K   (Anger-Excitation offenders are known to perform "exploitations")
   E$_1$ (There is evidence that "exploitations" were committed)
  E$_1$⊃ A$_2$ (If there is evidence of "exploitations" then it may be the case that the
          killer was a Anger-Excitation offender)

       The general trend here has been supported by a number of scholarly works

((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter &

Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004),(Sorochinski & Salfati 2010),
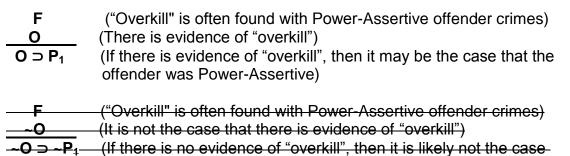
(Thomas, Dichter, & Matejkowski,2011), and (Turvey)), whose research is much more

scientifically based and established.

Overkill Logic and Significance:

➢ <u>Power-Assertive offender:</u>

My research into Keppel and Walter's claims led me to various sources which documented murderers' actions. Within these articles, killers with a Power-Assertive like profile. Research done by Almond and Canter (2007), Thomas, Dichter, & Matejkowski (2011), and Trojan and Krull (2012) have all indicated that Power-Assertive like offenders often "overkill" their victims, in accordance to my definition, because of the severity of their "blitz" attack. Unlike some offenders, who may stab their victims a few dozen time, these killers are known to cause major damage to the victim's head (Thomas, Dichter, & Matejkowski, 2011). I therefore decided to include this evidence within this offender category.

$$
\begin{array}{ll}
\mathbf{F} & \text{("Overkill" is often found with Power-Assertive offender crimes)} \\
\underline{\mathbf{O}} & \text{(There is evidence of "overkill")} \\
\mathbf{O \supset P_1} & \text{(If there is evidence of "overkill", then it may be the case that the} \\
& \text{offender was Power-Assertive)}
\end{array}
$$

$$
\begin{array}{ll}
\cancel{\mathbf{F}} & \text{(\sout{"Overkill" is often found with Power-Assertive offender crimes})} \\
\cancel{\mathbf{\sim O}} & \text{(\sout{It is not the case that there is evidence of "overkill"})} \\
\cancel{\mathbf{\sim O \supset \sim P_1}} & \text{(\sout{If there is no evidence of "overkill", then it is likely not the case}} \\
& \text{\sout{that the offender was Power-Assertive})}
\end{array}
$$

The crossed out equation above is one deemed *logically indeterminate* because, while "overkill" is common with these types of offenders, the absence of such evidence does not tend to rule out that suspect-type very strongly, unlike other killer-types, in which, the absence of "overkill" is indeed indicative of hinting away from their profile(s).

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), (Thomas, Dichter, &

Matejkowski,2011), and (Turvey)), whose research is much more scientifically based

and established.

> Power-Reassurance offender:
> 1. "When the victim does not yield to the killer's planned seduction scenario, a sense of failure and panic thrust him into a murder/ assault." (Keppel and Walter, 1999, pp 424)
> 2. "…he loses control of the situation and kills the victim through pummeling and manual strangulation." (Keppel and Walter, 1999, pp 425)

$$\frac{\begin{array}{l}\mathbf{F} \\ \mathbf{O}\end{array}}{\mathbf{O} \supset \mathbf{P_2}}$$

$\mathbf{F}$ ("Overkill" is often found with Power-Reassurance offender crimes)
$\mathbf{O}$ (There is evidence of "overkill")
$\mathbf{O} \supset \mathbf{P_2}$ (If there is evidence of "overkill", then it may be the case that the offender was Power-Reassurance)

$\mathbf{F}$ ("Overkill" is often found with Power-Reassurance offender crimes)
$\mathbf{\sim O}$ (It is not the case that there is evidence of "overkill")
$\mathbf{\sim O} \supset \mathbf{\sim P_2}$ (If there is no evidence of "overkill", then it is likely not the case that the offender was Power-Reassurance)

Unlike the *logically indeterminate* equation regarding "overkill" in the Power-

Assertive offender category, Power-Reassurance killers are quite often seen to commit

"overkill". Power-Assertive killers may do so with frequency, yet it, unlike Power-

Reassurance offenders, this piece of evidence does not seem to be considered

consistent or important enough in criminological and/or profiling literature to say the

absence of "overkill" points away from Power-Assertive offenders. The absence of

"overkill" does, however, point away from Power-Reassurance offenders.

Contemporarily, this general trend has been supported by a number of scholarly

works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter &

Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), (Thomas, Dichter, &

Matejkowski,2011), and (Turvey)), whose research is much more scientifically based

and established.

> Anger-Retaliatory offender:
>> 1. "…violent outbursts of attack…"(Keppel and Walter, 1999, pp 427)
>> 2. "The homicidal pattern is characterized by a violent sexual assault and overkill…" (Keppel and Walter, 1999, pp 428)

$$\frac{\begin{array}{l}\mathbf{F}\\ \mathbf{O}\end{array}}{\mathbf{O \supset A_1}}$$

F   ("Overkill" is often found with Anger-Retaliatory offender crimes)
O   (There is evidence of "overkill")
O ⊃ A$_1$ (If there is evidence of "overkill", then it may be the case that the offender Anger-Retaliatory)

F   ("Overkill" is often found with Anger-Retaliatory offender crimes)
~O   (It is not the case that there is evidence of "overkill")
~O ⊃ ~A$_2$ (If there is no evidence of "overkill", then it is likely not the case that the offender was Anger-Retaliatory)

This set of equations regarding "overkill" is especially important because the evidence of "overkill" is a hallmark piece of evidence when dealing with Anger-Retaliatory killers. Keppel and Walter even make a point of directly expressing that "overkill" is found with Anger-Retaliatory murders. Because of this, the absence of "overkill" evidence does, in fact, point away from Anger-Retaliatory criminals. Thus the second equation is not *logically indiscriminate.*

Presently, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)), whose research is much more scientifically based and established.

> Anger-Excitation offender:

M   (If one commits "methodical murders" there is rarely evidence "overkill')
C   (Anger-Excitation offenders tend to commit "methodical murders')
M& ~A ⊃ R   (If Anger-Excitation offender tend to commit "methodical murders"(M) and if it is not the case that "methodical murders" are associated with "overkill"(A),then Anger-Excitation killers rarely commit "overkill" (R))

$$\begin{array}{ll} \textbf{F} & \text{(``Overkill" is not often found with Anger-Excitation offender crimes)} \\ \underline{\textbf{O}} & \text{(There is evidence of ``overkill")} \\ \textbf{O} \supset \textbf{A}_2 & \text{(If there is evidence of ``overkill", then it is likely not the case that the} \\ & \text{offender was Anger-Excitation)} \end{array}$$

$$\begin{array}{ll} \textbf{F} & \text{(``Overkill" is often found with Anger-Excitation offender crimes)} \\ \underline{\sim\textbf{O}} & \text{(It is not the case that there is evidence of ``overkill")} \\ \sim\textbf{O} \supset \sim\textbf{A}_2 & \text{(If there is no evidence of ``overkill", then it may be the case that the} \\ & \text{offender was Anger-Excitation)} \end{array}$$

Contemporarily, this general trend has been supported by a number of scholarly works ((Almond, & Canter, 2007), (Canter, Bennell, Alison, & Reddy, 2003), (Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), and (Turvey)), whose research is much more scientifically based and established.

Rituals Logic and Significance:

➤ Power-Assertive offender:

Keppel and Walter make no statement directly addressing the idea that Power-Assertive offenders do not perform rituals, but offer phrases such as "Here, extreme forms of violence will occur short of what he, in his own mind, considers to be deviant, perverse, and atypical of his self-image."(421) Within more modern research, similar observation have been commented on to the effect that offenders who fit the bill of a Power-Assertive offender will also stop short of bizarre acts which go beyond rape and quick murder ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)). Because this trend seems to be accepted (and for the most past "proven" I have decided to include it in my logical equations.

$$\begin{array}{ll} \textbf{N} & \text{(Power-Assertive offenders tend to not perform ``rituals")} \\ \underline{\sim\textbf{R}} & \text{(It is not the case that there is evidence of ``rituals")} \end{array}$$

~R ⊃ P₁   (If there is no evidence of "rituals", then it may be the case that the offender was Power-Assertive)

N   (Power-Assertive offenders tend to not perform "rituals")
R   (It is the case that evidence of "rituals" is found)
R⊃ ~P₁   (If there is evidence of "rituals", then it is likely the case that the offender was not Power-Assertive)

> Power-Reassurance offender:
>> 1. "…[the offender] will often explore the mysteries and curiosities f his sexual competency, he will often explore the mysteries and curiosities of sex on the postmortem body." (Keppel and Walter,1999, pp.425)
>> 2. "…there is sometimes….evidence of ritualism." (Keppel and Walter,1999, pp 425)

~~**T**   (Power-Reassurance offenders tend to perform "rituals")~~
~~**~R**   (It is not the case that there is evidence of "rituals")~~
~~**~R ⊃ P₂**   (If there is no evidence of "rituals", then it is likely not the case that the offender was not Power-Reassurance)~~

Power-Reassurance offenders tend to commit both "rituals" and "exploitations" or simply one of the two. But, because they may only commit an act outlined as a "ritual" or "exploitation"-but not both- it is *logically indeterminate* to say the absence of "rituals" hints away from their offender profile, if there is evidence of "exploitations". This, however, is something I will discuss in further detail later in this paper.

T   (Power-Reassurance offenders tend to perform "rituals")
R   (It is the case that evidence of "rituals" is found)
R⊃ P₂   (If there is evidence of "rituals", then it may be the case that the offender was Power-Reassurance)

Today, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger,2004), and (Turvey)), whose research is much more scientifically based and established.

> Anger-Retaliatory offender:

The notion that Anger-Retaliatory offenders often perform "rituals" is not uncommon, although Keppel and Walter never specifically address such an idea in their paper (providing case examples rather than a general claim). In fact, in many more up-to-date research articles such an idea that Anger-Retaliatory type offenders perform some action which would fit within my definition of a "ritual" is something supported((Almond, & Canter, 2007), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)). Commonly, for various psychological reasons unimportant to this particular paper, Anger- Retaliatory offenders feel the need to perform some sort of ritual on a body.

~~T~~   ~~(Anger-Retaliatory offenders tend to perform "rituals")~~
~~~R~~   ~~(It is not the case that there is evidence of "rituals")~~
~~$\sim R \supset A_1$~~   ~~(If there is no evidence of "rituals", then it is likely not the case that the offender was not Anger-Retaliatory)~~

Logically indeterminate for the same reasons as its Power-Reassurance equivalent

T   (Anger-Retaliatory offenders tend to perform "rituals")
R   (It is the case that evidence of "rituals" is found)
$R \supset A_1$ (If there is evidence of "rituals", then it may be the case that the offender was Anger-Retaliatory)

➢ Anger-Excitation offender:
1. "In the anger-excitation rape-homicide, the homicidal pattern is characterized by a prolonged, bizarre, ritualistic assault on the victim." (Keppel and Walter,1999, pp 431)
2. "…love for torture [in this case including mental and psychological] is demonstrated through acts of sexual ritual and experimentation." (Keppel and Walter, 1999, pp 432)
3. "In addition, there may be evidence of antemortem cuttings, bruises, and various forms of incomplete strangulation, body washing, shaving, and burns." (Keppel and Walter, 1999, pp 432)

~~T~~   ~~(Anger-Excitation offenders tend to perform "rituals")~~
~~~R~~   ~~(It is not the case that there is evidence of "rituals")~~
~~$\sim R \supset \sim A_2$~~   ~~(If there is no evidence of "rituals", then it is likely not the case that the offender was Anger- Excitation)~~

The same reasoning that was applied above as to why absence of "rituals" does not logically lead to the conclusion of hinting away from a Power-Retaliatory profile can be applied here. The equation is *logically indeterminate*.

T   (Anger-Retaliatory offenders tend to not perform "rituals")
$\underline{\textbf{R}}$ (It is the case that evidence of "rituals" is found)
R⊃ A₂   (If there is evidence of "rituals", then it may be the case that the
              offender was Anger-Excitation)

. Contemporarily, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Melroy, 2000), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

Submissive Body Position Logic and Significance:

*Please note that, for a long time, I debated whether or not to include "submissive body positioning" within the "ritual" category as a piece of *narrow* evidence, rather than its own *broad* evidence category. Because this specific piece of evidence is so important, however, in narrowing down one type of offender, as done with my more complex logic equations, I chose to have this piece of evidence be its own category.

➤ Power-Assertive offender:
  1. "Where the victim is assaulted on his/her own territory, the body is left undisturbed. Alternately, when the victim has been abducted from an outside location, the killing and disposal sites vary. That is, when the killing was perpetrated elsewhere, the body was generally dumped." (Keppel and Walter, 1999, pp 421)

~~**N**   (Power-Assertive offenders do not tend to put victims in "submissive body positions")~~
~~**~S**   (It is not the case that there is evidence of a "submissive body position")~~
~~**~S ⊃ P₁**   (If there is no evidence of a "submissive body position", then it may be the case that the offender was Power-Assertive)~~

The absence of a "submissive body position" does not point to one type of offender or the other. The real significance is the presence of a "submissive body

positioning" Because of this, the presence of such evidence can help better determine a

profile, but the absence of such evidence does not heavily indicate any one profile.

Therefore, the abovementioned logic equation is *logically indeterminate*.

N (Power-Assertive offenders do not tend to put victims in "submissive body positions")

$\underline{\text{S}}$ (It is the case that there is evidence of a "submissive body position")

$\text{S} \supset \sim \text{P}_1$ (If there is evidence of a submissive body position, then it is not likely the case that the offender was Power-Assertive)

Contemporarily, this general trend has been supported by a number of scholarly

works ((Canter & Youngs, 2012), (Schlesinger, 2004), and (Turvey)), whose research is

much more scientifically based and established

➢ Power-Reassurance offender:

• No comment on relocation or repositioning with this type of offender. While it

seems to me that this offender merely leaves the body wherever he killed the

person I do not feel comfortable making a logical claim in this regard either

way.

➢ Anger-Retaliatory offender:
1. "…[the offender] places the body into a submissive position by placing it on its side away from the down, face down, putting an artifact or cloth across the eyes, or placement in a closet with the door closed." (Keppel and Walter, 1999, pp 428)

P (Anger-Retaliatory offenders tend to put victims in "submissive body positions")

$\underline{\text{S}}$ (It is the case that there is evidence of a "submissive body position")

$\text{S} \supset \text{A}_1$ (If there is evidence of a "submissive body position", then it *is likely* the case that the offender was Anger-Retaliatory)

P (Anger-Retaliatory offenders tend to put victims in "submissive body positions")

$\underline{\sim \text{S}}$ (It is the not case that there is evidence of a "submissive body position")

$\sim \text{S} \supset \sim \text{A}_1$ (If there is no evidence of a "submissive body position", then it is not likely the case that the offender was Anger-Retaliatory)

Evidence of "submissive body positioning" is the main identifying attribute of these types of criminals and because of such, both "evidence of" and "lacking the evidence of" are both important pieces of information when assessing whether or not an offender with this profile di commit the murder.

Contemporarily, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Schlesinger, 2004), (Thomas, Dichter, & Matejkowski,2011), (Trojan & Krull, 2012), and (Turvey)), whose research is much more scientifically based and established.

➢ Anger-Excitation offender:
    1. "…[the offender] may move the body to a second location to conceal it. Again, to distance himself from detection, he may bury the body in a shallow grave or dump it in a location familiar to him where [the offender] is comfortable." (Keppel and Walter, 1999, pp 432)

N   (Anger-Excitation offenders tend not to put victims in "submissive body positions")
S   (It is the case that there is evidence of a "submissive body position")
$S \supset \sim A_2$ (If there is evidence of a "submissive body position", then it is likely not the case that the offender was Anger-Excitation)

~~**N**   (Anger-Excitation offenders tend not to put victims in "submissive body positions")~~
~~**~ S**   (It is the not case that there is evidence of a "submissive body position")~~
~~$\sim S \supset A_2$ (If there is no evidence of a "submissive body position", then it may be the case that the offender was Anger-Excitation)~~
Logically indeterminate because of the same reasoning the found in the *logically indeterminate* equation on "submissive body positioning" found in the Power-Assertive section.

Presently, this general trend has been supported by a number of scholarly works ((Canter & Youngs, 2012), (Schlesinger, 2004), and (Turvey)), whose research is much more scientifically based and established.

Appendix D

> Power-Assertive offenders:

B   (It is the case that Power-Assertive offenders often utilize a "blitz" attack)

C_4 (It is the case that Power-Assertive offenders often tear their victim's clothing)

E_2 (It is the case that Power-Assertive offenders often rape their victims)

~B & ~C_1   (It is not the case that Anger-Excitation killers often utilize "blitz" attacks and often tear their victim's clothing)

<u>**~C_1 & ~E_2**</u>   (It is not the case that Anger-Retaliatory and Power-Reassurance killers often tear their victim's clothing and/or rape their victims)

B & C_4 & E_2 ⊃P_1   (Therefore, if Anger-Excitation killers do not often utilize "blitz" attacks and do often not tear their victims clothing, and if Anger-Retaliatory and Power-Reassurance killers do not often tear their victim's clothing and/or rape their victims, but Power-Assertive killers do, one can deduce *if* there is evidence of "blitz" attack and torn clothing and rape/ erection , *then* the evidence hint towards Power-Assertive offenders)

> Power-Reassurance offenders:

B   (It is the case that Power-Reassurance offenders often utilize "blitz" attack)

R &/V E_1   (It is the case that Power-Reassurance offenders often perform "rituals" and/or "exploitations")

~S   (It is the not the case that Power-Reassurance offenders put victim(s) into a "submissive body position")

C_2 (It is the case that Power-Reassurance offenders "remove" clothing/ "undress/expose" victim)

~R &/V E_1 & ~ C_2   (It is not the case that Power-Assertive offenders perform "rituals" and/or "exploitations", or "remove" clothing, "undress/ expose" victim)

~E_1 & ~C_2 & S   (It is not the case that Anger-Retaliatory offenders often perform "exploitations" and "remove" clothing/ "undress/expose clothing". And it is often the case that victims as placed into "submissive body positions")

<u>**~B & ~ C_2**</u>   (It is not the case that Anger-Excitation killers often utilize "blitz" attacks and often "remove" the victim's clothing/ "undress/ expose" victim)

B & (E₁ &/V R) & ~S & C₂ ⊃ P₂$\quad$**B & (E$_1$ &/V R) & ~S & C$_2$ ⊃ P$_2$**

B & (E$_1$ &/V R) & ~S & C$_2$ ⊃ P$_2$ (Therefore, if Power-Assertive offenders do not perform "rituals" and/or "exploitations" and do not often "remove clothing from/undress/ expose their victims, and if Anger-Retaliatory offenders do not often perform "exploitations" or "remove clothing from/undress/ expose" their victims, and do often put their victims into a "submissive body position", and if Anger-Excitation offenders do not utilize "blitz" attacks or "remove clothing from/ undress/ expose their victims, but Power-Reassurance offenders do then one can deduce that if there is evidence of "blitz" attack, and "rituals" and/or "exploitations", and no "submissive body positioning", and that victim was exposed/, then the evidence hints at a Power-Reassurance offender)

  ➢ Anger-Retaliatory offender:

B$\quad$(It is the case that Anger-Retaliatory offenders often utilize "blitz" attacks)

S$\quad$(It is the case that Anger-Retaliatory offenders often place victim(s) into [a] "submissive body position(s))

D$_1$ $\quad$(It is the case that Anger-Retaliatory offenders often "disfigure" their victim(s))

O$\quad$(It is the case that Anger-Retaliatory offenders often "overkill" victim(s))

R$\quad$(It is the case that Anger-Retaliatory offenders often perform "rituals")

~ E$_1$ $\quad$(It is not the case that Anger-Retaliatory offenders often perform "exploitations")

C$_3$ $\quad$(It is the case that Anger-Retaliatory offenders may leave their victims fully clothed)

~R & ~ S & ~C$_3$ $\quad$(It is not the case that Power-Assertive offenders perform "rituals", leave victims in "submissive positions", and leave victims fully clothed)

~D$_1$ & ~S & ~C$_3$ $\quad$(It is not the case that Power-Reassurance offenders often "disfigure" their victims, place then in "submissive positions", or leave them fully clothed)

~B & ~S & O & ~C$_3$ $\quad$(It is not the case that Anger-Excitation offenders utilize "blitz" attacks, place victims in "submissive positions", or "overkill" victims, or leave them fully clothed)

B & S & D$_1$ & O & (R & ~E$_1$) & C$_3$ ⊃ A$_1$ $\qquad$(Therefore, if Power-Assertive offenders do not perform rituals,

place victims in "submissive body positions, or leave victims fully clothed", and if Power Reassurance offenders do not "disfigure" victims, place them in "submissive positions", or leave them fully clothed, and if Anger-Excitation offenders do no utilize "blitz" attacks, place victims in "submissive body positions", "overkill their victims, or often leave victims fully clothed but Anger-Retaliatory killers do, once can deduce *if* one finds "blitz" attack, "submissive body positioning", "disfiguration", and "overkill", *then* the evidence hints towards an Anger-Retaliatory)

Because Power-Assurance offenders share the characteristics of "blitz" attack and the *negative space evidence* of and an absence of "exploitations" with Anger-Retaliatory offenders; and, because Power-Reassurance offenders perform "rituals", utilize "blitz attack", and may not show evidence of erection, (and also may overkill their victims) like Anger-Retaliatory offenders, I decided it quite important to distinguish the act of "submissive body positioning" because it can be so helpful in hinting at the offender's psychology.

- Anger-Excitation offender:

μ   (It is often the case that Anger-Excitation offenders "mutilate" their victims)

T   (It is often the case that Anger-Excitation offenders "torture" their victims)

K   (It is often the case that Anger-Excitation offenders use a "rape/murder-kit/lab")

R &/V E_1   (It is often the case that Anger-Excitation offenders perform "rituals" and/or "exploitations")

E_2   (It is often the case that there are signs/ indications of rape and/or an erection/ orgasm in Anger-Excitation offenders' crimes)

M   (It is often the case that Anger-Excitation offenders utilize "methodical murder" strategies)

C$_4$ (It is the case that Anger-Excitation offenders may cut off victim's clothing)

~M & ~T & ~ M &~K&~C$_4$ (It is not the case that Power-Assertive offenders "mutilate", "torture", or perform any "rituals" and/or "exploitations", utilize "methodical murder" strategies, use a "rape/murder kit/ lab, or cut off victim's clothing)

~T & ~ M & ~K & ~ E$_2$ ~C$_4$ (It is not the case that Power –Reassurance offenders perform "torture", utilize "methodical murder" strategies, use a "rape/murder kit/lab, often show signs of erection/ orgasm and/or rape, or cut their victim's clothing off)

~ μ & ~T & E$_1$ &~K & ~ E$_2$ &~C$_4$ (It is not the case that Anger-Retaliatory offenders tend to "mutilate", "torture", or often perform any "exploitations", use a "rape/murder kit/lab", or show evidence of an erection/orgasm and/or rape)

μ & T & K & (R &/V E$_1$) & E$_2$ & M & C$_4$⊃A$_2$ (If it is not the case that Power-Assertive offenders "mutilate", "torture", or perform any "rituals" and/or "exploitations", utilize "methodical murder" strategies, use a "rape/murder kit/ lab, or cut off victim's clothing, and if it is not the case that Power – Reassurance offenders perform "torture", utilize "methodical murder" strategies, use a "rape/murder kit/lab, often show signs of erection/ orgasm and /or rape, , or cut off victim's clothing, and if it is not the case that Anger-Retaliatory offenders tend to "mutilate", "torture", often perform any "exploitations", use a "rape/murder kit/lab", often show evidence of an erection/orgasm and/or rape, or cut off victim's clothing, but Anger-Excitation offenders do, then one can deduce, *if* there is evidence of "mutilation", "torture", a "rape/murder kit/lab", "rituals" and/ or "exploitations", an erection/ orgasm or rape, strategies of "methodical murder", and cutting off the victim's clothing *then* the evidence hints towards an Anger-Excitation offender)

While the *broad* evidence category of "exploitations" encompasses both "mutilation" and "torture" I chose to list them separately here because the Anger-Excitation offender's love of "*picquerism*"-paramount to mutilation-(Keppel and Walter, 1999, pp 434) and the distinctive "exploitation" evidence of "torture", which is almost solely is found within this offender type. Because of these pieces of evidences' importance in-and-of-themselves, I made a point to list and mention separately because of their extreme aid when attempting to identify an offender (with "torture" being an extremely important clue).

An important point to mention here is that, as you may have noticed, some pieces of information/ equations in the A$\rightarrow$C equation (such as "externally brought weapons" or states of clothing) section do not appear in all of the "if, then" or "if and only if" formulas. This is because, while those A$\rightarrow$C equations help narrow down what type of offender may have committed the crime, I did not think they were necessary pieces of information to put in the longer equations. Instead, I consider them helpful, only so far as they appear in their A$\rightarrow$C equations form. This judgment call, however, was just that, and in future research it will be interesting and important to determine if this decision on my part was correct.

"If and only if" $F_1A_1+\ldots+F_nA_n= F_1C_1+\ldots+F_mC_m$ *equations:*

$\rightarrow$(*remember, $\equiv$ means "if and only if")

➢ Power-Assertive offenders:

There are two pieces of evidence ("blitz" attack and "erection/orgasm/rape") and three pieces of *negative space* evidence ("submissive body positions", "rituals", and

"exploitations") which appear almost consistently throughout most of the Power-Assertive offender crimes I looked at while making these equations. As it turns out, the exact grouping of such evidence does not appear in any other type of offender from Keppel's and Walter's classifications making it logically unique to this offender-type. Because of this, it was deduced that *if* a crime scene exhibits these pieces of evidence (including *negative space evidence*) *then* the offender was a Power-Assertive offender-type.

B & E$_2$ & ~S & (~ R &/V ~ E$_1$)   (It is the case that only Power-Assertive offenders exhibit evidence of "blitz" attack, of "rape/erection/orgasm", and *negative space* evidence of "submissive body", "rituals" and/ or "exploitations")

~ {B & E$_2$ & ~S & (~ R &/V ~ E$_1$)}   (It is not the case that Power-Reassurance offenders exhibit this pattern of evidence)

~ {B & E$_2$ & ~S & (~ R &/V ~ E$_1$)} (It is not the case that Anger-Reassurance offenders exhibit this pattern of evidence)

<u>~ {B & E$_2$ & ~S & (~ R &/V ~ E$_1$)}</u> (It is not the case that Anger-Excitation offenders exhibit this pattern of evidence)

B & E$_2$ & ~S & (~ R &/V ~ E$_1$) ≡ P$_1$ (Because no other offender types exhibits this pattern of evidence one can deduce, *if and only if* this pattern of evidence exists can the offender type who committed the crime be Power-Assertive)

Because Power-Assurance offenders share the characteristics of "blitz" attack evidence and the *negative space evidence* of and an absence of "exploitations" with Anger-Retaliatory offenders I decided to add "it is not the case that Power-Assertive offenders "submissively pose their victims"" because it appears to is so prevalent amongst Anger-Retaliatory offenders and is hardly ever (if ever) seen with Power-

Assertive offenders that it makes more an important piece of information when judging an offender's psychology.

➢ Power-Reassurance offenders:

There are two/ three pieces of evidence ("blitz" attack and "exploitations" and/ or "rituals") and one piece of *negative space* evidence (erections/orgasm/rape) which appear almost consistently throughout most of the Power-Reassurance offender crimes I looked at while making these equations. As it turns out, the exact grouping of such evidence does not appear in any other type of offender from Keppel's and Walter's classifications, making it logically unique to this offender-type. Because of this, it was logically deduced that *if* a crime scene exhibits these pieces of evidence (including *negative space evidence*) *then* the offender was a Power-Reassurance offender-type.

$B \& (E_1 \&/V R) \& \sim E_2$ (It is the case that only Power-Reassurance offenders evidence of "blitz" attack, of "exploitations" and/or "rituals, and *negative space evidence* of "erections/ orgasm/ rape")

$\sim \{B \& (E_1 \&/V R) \& \sim E_2\}$ (It is not the case that Power-Assertive offenders exhibit this pattern of evidence)

$\sim \{B \& (E_1 \&/V R) \& \sim E_2\}$ (It is not the case that Anger-Reassurance offenders exhibit this pattern of evidence)

$\underline{\sim \{B \& (E_1 \&/V R) \& \sim E_2\}}$ (It is not the case that Anger-Excitation offenders exhibit this pattern of evidence)

$B \& (E_1 \&/V R) \& \sim E_2 \equiv P_2$ (Because no other offender types exhibits this pattern of evidence one can deduce, *if and only if* this pattern of evidence exists can the offender type who committed the crime be Power-Reassurance)

➢ Anger-Retaliatory offenders:

There are two/ three pieces of evidence ("blitz" attack and "submissive body positions") and one piece of *negative space evidence* ("exploitations") which appear

almost consistently throughout most of the Anger-Retaliatory offender crimes I looked at while making these equations. As it turns out, the exact grouping of such evidence does not appear in any other type of offender from Keppel's and Walter's classifications, making it logically unique to this offender-type. Because of this, it was logically deduced that *if* a crime scene exhibits these pieces of evidence (including *negative space evidence*) *then* the offender was an Anger-Retaliatory offender-type.

$B \& S \& {\sim}E_1$ (It is the case that only Anger-Retaliatory offenders exhibit evidence of "blitz" attack and "submissive body positions", and *negative space* evidence of "exploitations")

$\sim\{B \& S \& {\sim}E_1\}$ (It is not the case that Power-Assertive offenders exhibit this pattern of evidence)

$\sim\{B \& S \& {\sim}E_1\}$ (It is not the case that Power-Reassurance offenders exhibit this pattern of evidence)

$\underline{\sim\{B \& S \& {\sim}E_1\}}$ (It is not the case that Anger-Excitation offenders exhibit this pattern of evidence)

$B \& S \& {\sim}E_1 \equiv A_1$ (Because no other offender types exhibits this pattern of evidence one can deduce, *if and only if* this pattern of evidence exists can the offender type who committed the crime be Anger-Retaliatory)

➢ Anger-Excitation offenders:
  There are three/four pieces of evidence ("exploitations" and/or "rituals", and "erection/orgasm/rape", and "methodical murder") which appear almost consistently throughout most of the Anger-Excitation offender crimes I looked at while making these equations. As it turns out, the exact grouping of such evidence does not appear in any other type of offender from Keppel's and Walter's classifications, making it logically unique to this offender-type. Because of this, it was logically deduced that *if* a crime scene exhibits these pieces of evidence *then* the offender was an Anger-Excitation offender-type.

(E$_1$ &/V R) & E$_2$ & M	(It is the case that only Anger-Excitation offenders exhibit evidence of "exploitations" and/ or rituals, and "erections/orgasm/rape", and "methodical murder")
~ {(E$_1$ &/V R) & E$_2$ & M }	(It is not the case that Power-Assertive offenders exhibit this pattern of evidence)
~ {(E$_1$ &/V R) & E$_2$ & M }	(It is not the case that Power-Reassurance offenders this pattern of evidence)
~ {(E$_1$ &/V R) & E$_2$ & M }	(It is not the case that Anger-Retaliatory offenders exhibit this pattern of evidence)
(E$_1$ &/V R) & E$_2$ & M ≡ A$_2$	(Because no other offender types exhibits this pattern of evidence one can deduce, *if and only if* this pattern of evidence exists can the offender type who committed the crime be Anger-Excitation)

*Because there so much of a difference between Anger-Retaliatory offenders' crime patterns and Anger-Excitation offenders' crime patterns I did not feel a need to express ~S (it is not the case that Anger-Excitation offenders place victims in "submissive body positions") in the equation.

In this section there are a few important aspects which need to be addressed. Firstly, is the actual issue of my self-assumed correctness regarding my "if and only if" equations. Please be aware that with limited time and resources, my information on criminal statistics and academic articles (dealing with patterns in evidence and profile relations) were virtually non-existent. This is a very new field and very little on this specific concept of evidence-patter and profile-relations has been published. In a perfect world, I would have statistics to back up my claims (or refute them), but unfortunately I do not have this information. This means, while I believe the logic equations above are correct there are not statistics to back them up, only my research of many real life sexual homicides.

It is also important to point out here that these "if and only if" equations are *not* equations which one *needs* to arrive at to logically determine correct profile (assuming they are correct). Go back to the poker analogy I used earlier. In a sense, these equations can be thought of as a poker player's *royal flush*; if you have a perfect match to these equations then you can be pretty sure you're going to win, but one hardly needs a r*oyal flush* to win. If one arrives at a logically deduced profile with an almost perfect match to an "if and only if" equation (and remember, here is where the analogy blurred a little) one can feel confident about the pattern, the way a person with a near *royal flush* may feel confident with asking for a hit. The closer one is to matching a pattern with "if and only if" equations the better, similar to the principle of the "if, then" documented previously.

Appendix E

- The 'Age- Factor' principle: $(E_2) \mathrel{\&/\vee} (E_1 \mathrel{\&/\vee} R) \mathrel{\&} (Y) \vee (L_2) \supset P_2 \vee A_2$

    (There appears to be a general trend in sexual homicides, that if there is

evidence of an "erection/ orgasm/rape" and/or evidence of "exploitations" and/or "rituals"

against "young" (≤16) or "elderly" (≥60) victims, then the offender seems to fit a Power-

Assertive and/or Anger-Excitation profile. For that reason, this equation addresses such

a trend in the hope that if such a pattern of evidence is detected, right away a profiler

and/or investigator can eliminate two of the four potential profiles. The equation above

thus reads: **If it is the case that there is evidence of an "orgasm/erection/rape" (E_2)**

and/or evidence of "exploitations" and/or "rituals" ($E_1 \mathrel{\&/\vee} R$) and that victim is

"young" (Y) or "elderly" (L), then you most likely have a Power-Reassurance or

an Anger-Excitation offender ($P_2 \vee A_2$). Right away, one might point out that, above,

the logic says Power-Reassurance offenders don't often rape their victims of orgasm at

the crime scene. While this is true, remember that equation hardly expresses something

universal in all Power-Reassurance offenders (it's just a general trend), and that even if

there is no evidence of "rape/orgasm" there will probably be evidence of "exploitations"

and/or "rituals")

- The 'Kroll' principle:

$$D_2 \mathrel{\&} {\sim}\Delta \mathrel{\&} {\sim}D_1^{Face} \supset {\sim} D_2^{all} \vee {\sim}D_1$$
$$\frac{{\sim}D_2^{all} \mathrel{\&/\vee} {\sim} D_1 \supset E_1}{D_2 \mathrel{\&} {\sim}\Delta \mathrel{\&} {\sim}D_1^{Face} \supset {\sim} D_2^{all} \vee {\sim}D_1 \equiv E_1}$$

    Named after the "Ruhr Hunter", Joachim Kroll, (Newton, 2000, 130-131) this

equation deals with the conundrum of what to do, logically, when faced with a case in

which a victim may have a hand of a foot removed, but in which the head remains and

no damage has been done to the face. Throughout this paper I have attempted to avoid

dragging in any potential motive to criminal actions, since such assumptions are just speculations. Here, however, I do bring in what can be considered, some *negative space evidence* of motive. I feel that it is safe to say that an offender who cuts off a victim's foot or hand (technically "dismembering"), yet leaves the head attached and/or at the scene and does not destroy the face had an "expressive" elemental drive for doing so to it. Because of this mode of thought, I reasoned the flowing: **If it is the case that there is evidence of disfiguration (D_2), and it is not the case that there is evidence of "decapitation" (and head taken from crime scene) (~Δ), and it is not the case that there is evidence of facial "disfiguration" (~D_1^{Face}), then it is not the case that it is "dismemberment" or "disfiguration" (~D_2^{all} V ~D_1).**
If the act(s) is/are not classified as "dismemberment" and/or "disfiguration" (~D_2^{all} V ~D_1), then such an act must be classified (due to its "expressive" nature) as an "exploitation" (E_1).
Which means, if you have "dismemberment" with no evidence of "decapitation" (removal of head from crime scene) and no evidence of "disfiguration" of the face, then it is not the case that these pieces of evidence are "dismemberment" and "decapitation", but that, if and only if you have this set of evidence do you treat a form of "dismemberment" as an "exploitation": (D_2 & ~Δ & ~D_1^{Face} $\supset$ ~ D_2^{all} V ~D_1 $\equiv$ E_1)

- The "River Man" principle: **~B & ~ K & ~ T & E_2 $\supset$ A_2**

    Here we see the logical formula of America's "River Man", Gary Ridgway. Ridgway's crimes were interesting because, at first glance, it seems as though the killer is not one with an Anger-Excitation profile. There is no evidence of rape/murder kits/labs

(~K), no evidence of torture **(~T)**, and (due to the sparse nature of performing "exploitations" (regressive necrophilia and necrophilia) which where only documented in a number of his 50^+ murders) no strong evidence for "exploitations" or "rituals". Here the most important clues deal with the evidence of consistent "rapes/ erections/ orgasm" **(E₂)** and the consistent *negative space evidence* of no "blitz" attacks **(~B)** (Newton, 2000, 83-85). It seems odd to say "it is not the case that "blitz" attacks were used" rather than "it is the case that "methodical murder" strategies were used", but because Ridgway conned his victims yet left no physical evidence of meditated capture one can only say that he didn't use a "blitz" attack.

Also, the indications that he pre-selected "dump sites" for his victims was speculation at the time of his crime spree, so that knowledge should not be used now in creating our profile. Instead, in a crime like this, we must rely on simply two A→C equations within this long logic problem. First, that Anger-Excitation offenders do not use "blitz" style attacks, and, two, that Anger-Excitation offenders often show signs of "raping" their victims, or of at least achieving an erection and managing an orgasm. Because of these critical pieces of evidence the above mentioned formula of logic, applied to Ridgway's crimes yield a correct Anger Excitation profile: **(If it is not the case that there is evidence of a "blitz" attack and it is not the case that there is evidence of a "rape/murder kit/lab" and that it is not the case that there is evidence of torture and that it is the case that there is evidence of "rape/erection/orgasm", then it is likely the evidence hints towards an "Anger-Excitation" profile. (~B & ~ K & ~ T & E₂ ⊃ A₂)**

Appendix F

Instructions: Read completely and carefully!

1. Please take the time to read over the information on the *two* pages labeled "Terms and Definitions".
2. Next, look over the page labeled "Symbols" to familiarize yourself with the symbols you will be using to 'list' evidence when appropriate.
3. Read the four crime scene descriptions with care.
4. While reading each crime scene descriptions please underline all physical evidence at the scene *which also appears* on the list of symbols. Please refer to your definition sheets to confirm any suspicions you have about potential evidence.
   (i.e. if you believe there is evidence of a "blitz attack" refer to the definition sheet, decide 'yes' or 'no', and then underline it if you think 'yes'.)
5. While and/or after reading *a crime scene description* and underlining the evidence please refer, again, to your "Symbols" sheet, select the appropriate symbol for the corresponding evidence, and then write the symbol below the crime scene description.
   (i.e. if you decided there is evidence of a "blitz attack" write **B** below the scene description)
6. Follow each symbol (apart from the last) with an ampersand (&).
   (i.e. **B & …**)
7. **!!→**If the following evidence does <u>not</u> appear: *Rituals, Exploitations, and/or Submissive body positions* please document this in your 'list' of evidence by writing an **~** and then the symbol to indicate this evidence is "missing".
   (i.e. if you *do <u>not</u>* believe the body was placed in a submissive position (as defined) write **~S**)
   You <u>do not</u> have to worry about documenting "missing" evidence *of any other kind*.
   !!*Please realize that if evidence of Rituals, Exploitations, and/or Submissive body positions do/does appear, still document them as you would any other appearing evidence (i.e. if there *is* evidence of "submissive body positioning" write **S**)
8. At the end, evidence 'lists' should appear something like this: **A & B & ~C & D & ~E &~F**. Check. If not, please ask for help.
9. After you have completed listing the evidence refer to the sheet labeled "Formulas".
10. Going crime scene by crime scene, compare your 'lists of evidence' to the formulas on that sheet.
11. Select the *closest matching* formula on the "Formula" sheet to determine if your formulas match **P₁, P₂, A₁, or A₂.**
    !!→Please note each case 'list' should have one answer per, and **no 'list' you created will match perfectly** with these formulas.
    !!→Please also note there are two categories on the formula sheets: "Master" and "If and only if". The rules to this are simple. For the "Master" formulas you are comparing your 'lists' of evidence to them and picking out which formula matches *best* , thereby assigning **P₁, P₂, A₁, or A₂** to each crime scene. The "If and only if" list is simply another way to arrive at an answer. If, in any of your 'lists' you see the same pieces of evidence match up to an "If and only if" formula, then your answer must be the corresponding   **P₁, P₂, A₁, or A₂.** (i.e. if you listed "blitz attack" and "submissive body position (**B & S**) you'll know your answer must be **A₁**.) Please feel free to use both lists to try and determine an answer.

Write **P₁, P₂, A₁, or A₂** (whichever you determine to be the "answer") next to the corresponding crime scene. Then,

you're done.

Appendix G

#1 A skeleton, buried in a shallow grave, is unearthed in the middle of a patch of woods approximately 4 ½ miles outside of town. A man who was hunting in the area discovered the grave when he exposed a piece of bone which belonged to a human skull. The victim's skeleton has been buried in the ground for a number of years. Most physical evidence has decomposed or been eroded/washed away. It is clear, however, that the victim's face was smashed with extreme force due to the complete lack of facial bones and severe damage seen upon the jaw. The skull itself is described by forensic anthropologists as a doughnut-appearance because of the damage. There is also evidence of multiple blows to the back of the skull. The victim's cloths are in poor condition. Yet, it is clear that the victim's shirt has been partially ripped and that the zipper to her pants was also torn open, indicating rape. There is no evidence of a murder weapon at the scene. All evidence to determine if burial site and kill site are one and the same is absent.

#2: The body of a waitress is found in the restaurant where she works. Signs of a struggle are evident (glasses are broken and tables and chairs are overturned).Her body is lying on the ground, blood carpeting the floor, with a plastic bag tied around her head. It is clear the body sustained a lot of damage. The victim's head is misshaped due to fractures in her skull caused by having her face punched and head slammed against the tiled floor. There is deep bruising across the victim's chest due to blows/punches and a massive amount of weight placed on the body. The small U-shaped bone in her neck (where the Adam's apple is)is fractured due to manual (with hands) strangulation. She has been cut across her forearms and hands with the butcher knife (restaurant property) which lies nearby. This same knife was also used to repeatedly stab her about her torso and to slit her throat deep enough to reach her spine. A second knife (also restaurant property and at the scene) was used to stab into the victim's spinal column with enough force that the blade stuck into the tiled floor. The bag was placed on after the attack and appears to have been the cause of death. The victim is still dressed and there appears to have been no attempt to remove her clothing. There is also no evidence to indicate rape or any obvious "sexual" assault. No forced entry was found. The victim was last known to have been alone in the locked restaurant.

 # 3: A nude woman is found floating in a river. Investigators discover, while dragging out her body, that she has been bound with electrical wire in a peculiar fashion and tied to a car engine. Forensics proves that the woman had been raped, with extreme force, and that the cause of her death was strangulation by some rope not found at the scene. There are a series of small puncture marks across her torso which are singed/burnt around these patches of flesh. The cause of these burns has been determined to be due to a strong electrical current applied to concentrated parts of the victim's body, and appear to have been done antemortem. No evidence in the surrounding brush points to the location in which the victim was attacked and/or killed.

#4: A woman's body is laying face-down ten yards off of a largely traveled path in a public 1,100- acre park. A jogger finds the body. Beside the victim is her three year old son, speaking to his dead mother. The boy has a slight trauma to the left side of his head from a fist or rock, but nothing more. The victim's pants and underwear have been pulled down and there is a knife between her legs. Her shirt and bra are still on. It appears the killer has inflicted trauma to the victim's anus after having molested her with the hilt of his knife. Across the woman's torso and back, the victim has sustained forty-nine stab wounds. It is evident from the blood that she was attacked and killed where she lay. The murder is believed to have occurred at 10:00. No other signs of rape (i.e. no evidence of an erection or any sperm) are reported.

Appendix H

- *Submissive Body Positioning: **S** (It is not the case…/ absence of: **~S**)
- *Methodical Murder: **M** (It is not the case…: **~ M**)
- *Mutilation: **μ** (It is not the case…/ absence of: **~μ**)
- *Disfiguration: **D$_1$** (It is not the case…/ absence of: **~D$_1$**)
- *Dismemberment: **D$_2$** (It is not the case…/ absence of **~D$_2$**)
- *Torture: **T** (It is not the case…/ absence of: **~T**)
- *Overkill: **δ** (It is not the case…/ absence of: **~δ**)
- *Rituals: **R** (It is not the case.../ absence of: **~R**)
- *Murder and/ or Rape Kit/Lab: **K** (It is not the case…/ absence of: **~K**)
- *Exploitation: **E$_1$** (It is not the case…/ absence of: **~E$_1$**)
- Evidence of Sperm/Orgasm: **O** (It is not the case…/ absence of: **~O**)
- Nude: **γ** (It is not the case…/ absence of: **~γ**)
- Clothed: **C$_1$** (It is not the case…: **~C$_1$**)
- Partially Clothed: **C$_2$** (It is not the case…: **~C$_2$**)
- Clothing was cut off: **C$_3$** (It is not the case…: **~ C$_3$**)
- Clothing was torn off: **C$_4$** (It is not the case…: **~C$_4$**)
- Clothing was 'removed': **C$_5$** (It is not the case: **~C$_5$**)
- Evidence of Erection: **E$_2$** (It is not the case…/absence of: **~E$_2$**)
- Relocation: **Υ** (It is not the case: **~Υ**)
- Necrophilia: **N** (It is not the case…/ absence of: **~N**)
- Cannibalism: **χ** (It is not the case…/ absence of: **~χ**)
- Decapitation: **Δ** (It is not the case…/absence of: **~Δ**)
- Young victim (≤ 16): **Y**
- Elderly/ Older victim (≥ 60): **O$_2$**
- Predetermined Weapon: **W** (Improvised Weapon/is not the case…predetermined: **~W**)
- Power Assertive: **P$_1$**
- Power Reassurance: **P$_2$**
- Anger Retaliatory: **A$_1$**
- Anger Excitation: **A$_2$**

} Please select one of the following clothing symbols for evidence

Appendix I

Symbol meanings:

*In logical equations, entire sentences and concepts (or in your case pieces of evidence) are represented by a letter or symbol. This is why the examples below will have a letter in parenthesis after each concept.

& means "and" (i.e. There was tea (T) *and* ice (I) in the glass: T & I)

V means "or" (i.e. There was tea (T) *or* ice (I) in the glass: T V I)

&/V means "and/or " (i.e. There was tea (T) *and/or* ice (I) in the glass: T &/V I)

*Parenthesis may surround pieces of *and/or* concepts to show that these to concepts exist together: (T &/V I)

> means "if, then" (i.e. *If* this man is guilty (M), *then* I have this evidence (E): M>E)

≡ means "if and only if" (i.e. *If and only if* this man is guilty (M), *then* will I find this evidence(E): M≡E)

Use theses formulas to determine your answers:

Master formulas :

➢ $P_1 > B \& C_4 \& E_2$ (So, this "formula can be read: *If* there was a blitz attack (B), and   clothing is torn (C_4), and there is evidence or rape/ an erection (E_2) *then* it was a power assertive criminal (P_1))

➢ $P_2 > B \& {\sim}S \& (E_1 \,\&/V\, R) \& C_5$ *Remember, here E_1 **&/V** R means you will find exploitations   and/or rituals, but do not *need* both.

➢ $A_1 > B \& S \& D_1 \,\&\delta\, \& R \& {\sim}E_1$

➢ $A_2 > T \& K \& (R \,\&/V\, E_1) \& E_2$

➢ <u>"If and only if" formulas</u> :

➢ $P_1 \equiv B \& E_2 \& ({\sim}R \,\&/V\, {\sim}E_1)$

➢ $P_2 \equiv B \& (E_1 \,\&/V\, R) \& {\sim}E_2$

➢ $A_1 \equiv B \& S$

➢ $A_2 \equiv (E_1 \,\&/V\, R) \& E_2$

Appendix J

Instructions:

1) Read the flowing four cases labeled 1,2,3, and 4
2) As you read these cases, using one checklist per case, use your "Terms" and "Definitions" sheet to decide whether or not the evidence listed on your checklist(s)is present (i.e. Is "mutilation" present, is "dismemberment" present, etc.)
3) Once determined ""**yes**" the evidence is present" or ""**no**" it's not", mark the appropriate "yes" or "no" circle.
4) Once all pieces of evidence are checked "yes" or "no" compare your answers to the "cheat sheets" titled "Power-Assertive", "Power-Reassurance", "Anger-Retaliator and "Anger-Excitation" and determine which the closer match is.
5) Write the closest matching killer type "Power-Assertive", "Power-Reassurance", "Anger-Retaliatory", "Anger-Excitation" beside the appropriate crime scene, or write the matching crime scene number on top of the corresponding "cheat sheet".

Important Information:

▪ You will notice that some evidence is <mark>highlighted</mark> on each "cheat sheet". If you ever have perfectly matching "yes" "no" answers to the highlighted areas your answer is automatically that killer type.
▪ If you do not have a checklist which matches any highlighting perfectly, that's okay, simply select the closest matching "cheat sheet".
▪ You will also notice that some pieces of evidence *do not* have an answer of "yes" or "no", this means that this evidence is not overwhelmingly indicative for that killer type. For tips/ information on these blank pieces of evidence please refer to the footnotes.
▪ Footnotes are there to help you, *please read them* for tips/ pointers when deciding which cheat sheet matches your checklist.

Other:

● Some pieces of evidence may seem to have multiple answers (i.e. "partially stripped" and "clothing torn") in the case of these incidents simply mark all you think apply as "yes".
● Please do not be alarmed when you do not have a list of evidence which does not "perfectly" match a "cheat sheet". They rarely will.

Appendix K

TERMS

Antemortem: before death
Perimortem: while dying
Postmortem: after death
Bludgeoning: using a blunt instrument (including fists and feet) to strike with force
Cuts: any rendering of the skin with a sharp object (damage is wide not deep)
Hacks: deep cuts and or slices which were delivered with a fast, arching, and swinging motion
Stabs: the thrusting of a sharp object into the body, so as to damage deep tissue (damage is deep, not wide)
Slices: using a sharp instrument to cut horizontally through skin, fat, and/or possibly deep tissue (damage is wide and deep)
Impaled: the thrusting of a dull object into the body, so as to damage deep tissue
Puncture: the thrusting of a dull object into the body without damaging deep tissue
Piercing: puncturing the skin (and no deeper)with a sharp object
Expressive crime and/or criminal actions: crimes and/or criminal actions (compulsive in nature) which are done for no purpose except to accomplish the action that is desired by the perpetrator.
Instrumental crime and/or criminal actions: crimes and/or actions which are to acquire goods or services which benefit perpetrators tangible (beyond emotional) ways.
Stripped: when articles of clothing are forcefully *removed* so that it is stretched or ripped totally off the body.
Undressed/exposed: When articles of clothing are taken off with care or when clothing is partially (not completely) taken off, shifted, or pulled down to reveal a certain part of the body.
Clothing is torn: when articles of clothing are forcefully *removed* so that it is stretched or ripped but not off the body.
Clothing is cut off: when clothing is apparently cut to take off the article of clothing (not cuts resulting from wound infliction)

Appendix J.2

Sample Case:
In the early morning, a young woman is reported to be lying along a side street in a pool of her own blood. When police reach the scene they find Mary Ann Nichols (30-35 years old) dead.

Nichols appears to have suffered a series of strikes to the right side of her face, resulting in bruising upon the jaw, a laceration to the tongue, and a few missing teeth. Her faces' left side is bruised caused by serious pressure applied by the killer's thumb. Right below this bruise is a three inch cut near the jaw. The left side of Nichols's jaw has a cut from her ear down to mid-neck. Beside this injury is a slice, eight inches in length, deep enough to scrap the vertebra, which has severed the victim's jugular, veins, and arteries. The victim sustained no injuries to her chest. Her abdomen, however, received a series of perimortem and/or antmortem cuts and slices. On her left side, Nichols is sliced so deep that the knife went through multiple layers of clothing, and deep into her abdomen. This slice is quite long. On Nichols's right side are a series of slices and stabs (numbering three to four), similar to what was done to her left. Two bystanders later admit that Nichols's shirt had been lifted to reveal her partially removed underwear, although no sexual assault occurred, and that they had "fixed" it for her decency.

Appendix L

Yes		No
○	Mutilation	○
○	Disfiguration	○
○	Dismemberment	○
○	Torture[2]	○
○	Submissive body position	○
○	Ritual	○
○	Exploitations	○
○	Blitz style attack	○
○	Overkill	○
○	Sperm	○
○	Penile penetration/ Rape	○
○	Nude	○
○	Fully Clothed	○
○	Partially stripped	○
○	Clothing cut off	○
○	Clothing torn	○
○	Partially undressed or exposed	○
○	Rape/Murder kit and/or lab	○
○	Decapitation[3]	○
○	Young victim ≤16[4]	○
○	Elderly Victim ≥60[5]	○
○	Methodical Murder	○

---

[2] If present answer most likely Anger Excitation

[3] If the victim is decapitated, *but not* dismembered in any other way your answer will either be Power Reassurance or Anger Excitation. If victim is dismembered *and* decapitated, possible answers *also* include Anger Retaliatory

[4] If victim is "young" your answer will either be Power Reassurance or Anger Excitation.

[5] If victim is "old" your answer will either be Power Reassurance or Anger Excitation.
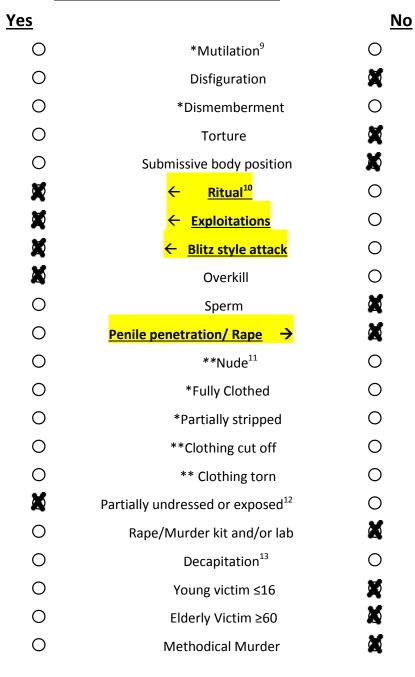
POWER-ASSERTIVE CHECKLIST

Yes		No
⭕	Mutilation	✖
✖	Disfiguration	⭕
⭕	Dismemberment	✖
⭕	Torture	✖
⭕	Submissive body position	✖
⭕	**Ritual** →	✖
⭕	**Exploitations** →	✖
✖	← **Blitz style attack**	⭕
⭕	Overkill	✖
✖	Sperm	⭕
✖	Penile penetration/ Rape	⭕
⭕	*Nude [6]	⭕
⭕	**Fully Clothed[7]	⭕
⭕	*Partially stripped	⭕
⭕	*Clothing cut off	⭕
✖	Clothing torn[8]	⭕
⭕	*Partially undressed or exposed	✖
⭕	Rape/Murder kit and/or lab	✖
⭕	Decapitation	✖
⭕	Young victim ≤16	✖
⭕	Elderly Victim ≥60	✖
⭕	Methodical murder	✖

---

[6] * = Frequent, but not average or majority
[7] **= Atypical
[8] Most common state of undress

POWER-REASSURANCE CHECKLIST

Yes		No
○	*Mutilation[9]	○
○	Disfiguration	✖
○	*Dismemberment	○
○	Torture	✖
○	Submissive body position	✖
✖	← <mark>**Ritual[10]**</mark>	○
✖	← <mark>**Exploitations**</mark>	○
✖	← <mark>**Blitz style attack**</mark>	○
✖	Overkill	○
○	Sperm	✖
○	<mark>**Penile penetration/ Rape**</mark> →	✖
○	**Nude[11]	○
○	*Fully Clothed	○
○	*Partially stripped	○
○	**Clothing cut off	○
○	** Clothing torn	○
✖	Partially undressed or exposed[12]	○
○	Rape/Murder kit and/or lab	✖
○	Decapitation[13]	○
○	Young victim ≤16	✖
○	Elderly Victim ≥60	✖
○	Methodical Murder	✖

---

[9] * = Frequent, but not average or majority
[10] Evidence of ritual(s) **and/or** exploitation(s) **+** the other highlighted evidence = Power-Reassurance
[11] ** = Atypical
[12] Most common state of undress
[13] If the victim is decapitated, **but not** dismembered in any other way, answer may be Power Reassurance

ANGER-RETALIATORY CHECKLIST

Yes		No
◯	**Mutilation[14]	◯
✖	Disfiguration	◯
◯	Dismemberment	✖
◯	Torture	✖
✖	← **Submissive body position**	◯
✖	Ritual	◯
◯	**Exploitations** →	✖
✖	← **Blitz style attack**	◯
✖	Overkill	◯
◯	**Sperm	✖
◯	** Penile penetration/ Rape	✖
◯	**Nude	✖
✖	Fully Clothed[15]	◯
◯	* Partially stripped[16]	◯
◯	**Clothing cut off	◯
◯	**Clothing torn	◯
◯	* Partially undressed/ exposed	◯
◯	Rape/Murder kit and/or lab	✖
◯	Decapitation[17]	◯
◯	** Young victim ≤16	✖
◯	* Elderly Victim ≥60	◯
◯	Methodical Murder	✖
◯		

---

[14] **= Atypical

[15] Most common state of dress

[16] * = Frequent, but not majority or average

[17] If the victim is decapitated **and** dismembered
answer may be Anger Retaliatory or Anger Excitation

ANGER-EXCITATION CHECKLIST

Yes		No
○	*Mutilation[18]	○
○	Disfiguration	✖
○	Dismemberment[19]	○
✖	Torture	○
○	Submissive body position	✖
✖	← *Ritual* [20]	○
✖	← *Exploitations*	○
○	Blitz style attack	✖
○	Overkill	✖
✖	Sperm	○
✖	←*Penile penetration/ Rape*	○
○	* Nude	○
○	** Clothed[21]	○
○	* Partially stripped	○
○	*Clothing cut off	○
○	**Clothing torn	○
○	* Partially undressed or exposed	○
✖	Rape/Murder kit and/or lab	○
○	Decapitation[22]	○
○	*Young victim ≤16	○
○	**Elderly Victim ≥60	○
✖	← Methodical Murder	○
		○

NO ONE DOMINATE STATE OF DRESS

[18] *= Frequent, but not average or majority

[19] Occasionally occurs

[20] Evidence of ritual(s) **and/or** exploitation(s) **+** the other highlighted evidence= Anger-Excitation

[21] ** = Atypical

[22] If the victim is decapitated **and/or** dismembered in any other way your answer will either be Anger Retaliatory or Anger Excitation.

Appendix M

In the power-assertive type of killer, the offender is usually in his early 20's and somewhat emotionally primitive. He is primarily preoccupied with projecting a macho image and orients his life accordingly. Despite a wide range of physical characteristics the types, the power-assertive offender is sensitive to his characteristics of masculinity. Therefore, he often is a body builder and portrays a muscular image and/or displays tattoos for a show of machismo and power. In addition to display a confident body posture, the offender cruises in his well-attended car, carries weapons, and shows an arrogant and condescending attitude towards others. Although a heavy use of alcohol and drugs may be used to bolster the offender's courage and power, he does not abuse these substances to the point of blacking out.

Although the offender may associate with people, he is not seen as a team player. Socially, he may not be a hermit but at times because of his level of frustration with social contacts, he lives on the edge of being a loner. Although he may have an active interest in sports, they are generally limited to individual contact events such as wrestling, judo, and karate. For the most part, he seeks to gain power and displays a winner-take-all attitude. Although he may have a history of multiple marriages and relationships, he does not view them as successful.

In demonstrating his potential for power; he has a history of perpetrating crimes such as burglary, theft, and robbery. Unless the criminal history has resulted in a mental health referral, he may have had no contact with mental health workers.

Educationally, he is typically a school dropout. Based on the limits of the masculine image, his sexual preferences will not accommodate the variety of materials contained in hard-core pornographic literature. He is especially conflicted over unconventional sexual interest and may display a strong antihomosexual attitude. For the most part, if he reads magazines, they will likely be *Playboy* and *Penthouse* types of literature.

Although he may have served in the Marines or the Navy, his service record is generally poor, and he may have terminated his service prematurely. He is generally viewed as antisocial. (Keppel and Walter, 1999, pp.422-423)

Appendix N

In considering the age of the power-reassurance murderer, the general acting out age is in the mid-20's range. Of course, the age can be variable and conditional on the circumstances such as the incarceration of the offender for other crimes during his mid-20's. Although intellectually equal to other types of offenders, the murderer relies excessively on fantasies that allow opposing ideas to come in close proximity. This often makes the offender appear dull and somewhat emotionally scattered. He prefers to satisfy his needs through certain fantasies rather than risk rejection. As a consequence,

hi is often plagued by an inadequate sex life and uses sexual fantasies and relationships to overcome the dysfunction and pain or reality.

In developing his extensive repertoire or rape fantasies, he borrows notions from erotic pornography and a long history of substitutions for sexual activity such as window peeping, fondling of clothing, and obsessive daydreaming. Developmentally, the onset of absorbing fantasies nay have taken him into a private world, he is generally viewed as being socially isolated with no male or female friends. He is viewed as a loner and a weirdo. Generally, he is an unmarried person without a history of normal sexual activities.

Educationally, he may be identifies as an underachiever who suffers from a learning disability but who still squeaks through the system. His military service will not be marked with unusual problems. He will simply be viewed as a no achieving passive soldier who takes orders.

Because he does not have any interests in athletic activities, he will often compensate for his lack of machismo through compulsive behaviors. Mentally, he may have had a professional referral because he does not live up to what he is capable of achieving.

Due to the dominating influences of fantasy activities, his life tends to leave him an immature person who vies life as a spectator not a participant. In other words, he lacks the confidence to participate. He feels inferior and cannot tolerate criticism of tem members. Again, because his activities are dominated be compressed and edited illusions, he often by passes the social intermediate steps in developing normal social-sexual interactions.

Given the excessive energies directed towards his own self-stimulations, the offenders may live at home and try to subsist on little income. If income is not available, he may perform menial labor to support his needs. Accordingly, he often lives, works, and plays, in a neighborhood familiar to him. A common form of transport would be walking. However, if the subject does have a car, it would likely be an older model in need of repair and care.

The subject's criminal record may reflect his interest in fetish activities, unlawful entry, and larcenies. Basically the killers is a fantasy driven and once the satisfaction is over, he leaves the disorganized crime scenes (Geberth, 1996) laden with very valuable evidence. (Keppel and Walter, 1999, pp.425-426)

Appendix O

In the anger-retaliatory type, the offender is usually in the mid-to-late 20's and somewhat younger than his victims. He is seen as an explosive personality who is impulsive, quick-tempered, and self-centered. In dealing with people, he is not reclusive but a loner in the midst of a crowd. Generally, his social relations are superficial and limited to man drinking buddies. Socially, he is a person whom no one really knows. Although a sportsman, he prefers playing team contact sports.

Conflicted over his relationship with women, he may often feel dependent and aggressively resistant towards them. When challenged by women, he may use various forms of aggression to get even and degrade them. If he has been married, his marital relationship may have been ill-fated or may be in some phase of estrangement. In the

marriage, there has generally been a history of spousal abuse. Rather than dealing with the problems in the marriage, he will often avoid tem be seeking external liaisons. For the most part, these relationships are unsatisfactory.

Sexually, he is frustrated any may be impotent. Often, he links eroticized anger with sexual competence. Although he may use *Playboy* and similar types of magazines for curiosity, he does no use pornographic material for stimulation.

When his aggressive feelings towards women are linked with impulsive behavior, he may develop a history of committing crimes such as assault and battery, wife beating, felonious assault, and reckless driving. Humiliated by disciplinary violations, he is usually a school dropout who has not lived up to his potential. If he has joined the military services, his unsettled behavior often results in a discharge from service. Consistent with these behaviors, his free-floating anger is the cause of many difficulties with authority. Mentally, his unpredictable behavior may have resulted in his being referred to a ,mental health worker. (Keppel and Walter, 1999, pp.429)

Appendix P

In the anger-excitation type, the age range of the perpetrator is considered somewhat variable. Although most perpetrators commit their first homicide by the age of 35, it is possible that a late bloomer or an undetected perpetrator could do so earlier. Characteristically, the organized offender is often a well-appearing person who if bright and socially facile with others. Based on the ability to appear conventional and law abiding, he can cunningly deceive others. Because he has the ability to separate a general lifestyle from his criminal interest, he may enjoy a good marriage. In the marriage, he may perform as a dutiful and conventional husband. Financially, he is identified as an adequate provider His work history may be tumultuous until he finds a positions with minimum supervision. Sometimes, he may show a penchant for mechanical trades such as auto mechanics, carpentry, or a specialty factory position. In his daily habits he is often compulsive and structurally organized. Educationally, he may have 2 years of college and/or graduated. On serving in the military services, he will be identifies as doing well. Often, his military success may have resulted in him ebing identified as "good officer material."

Based on his exceptional ability to organize, he can successfully segment his criminal interest into a private world of protected ritualism's. Often his ritual foe paraphernalia and souvenirs are contained in a private chamber of horrors. This specially place may be a dark closet, room, basement, or hole in the ground. Also, he may use and abandoned barn, cabin, or garage. Inside the specialty area, he will keep the victim's souvenirs, murder kits, and favored pornographic materials. Characteristically, the pornographic materials will depict a look of terror and scantily dressed victims. Most often, the literature shows bondage and sadism. Because the specialty area is designed to help the perpetrator manufacture and refine fantasies, it may contain a wide range of masochistic and sadistic clues. Although alcohol is not indicated, it is possible that the perpetrator will use chemical drugs to fuel his fantasies.
(Keppel and Walter, 1999, pp.432-433)

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