

Research Article

Mind-Sets of “Verbal Judo” – How Young Males Respond to Described Interactions between Perpetrators and Police Officers

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Abstract

The study focuses on how young males, ages 16-30, in the Virginia area respond to different scenarios of a police officer interacting with a prospective lawbreaker. The scenarios were created by systematic combinations of messages (elements), developed from human experience and artificial intelligence. The deconstruction of the ratings into the part-worth contribution of each of 16 elements showed the degree to which each element would be “listened to” by the prospective lawbreaker, as well as the degree to which the same element would lessen the anger. Three mind-sets emerged. The first mind-set is the police officer who creates empathy, which de-escalates the situation. The second mind-set is the take-charge officer, who clearly senses a developing problem, talks authoritatively. The third mind-set pays attention to community-oriented and empathic policing. These mind-sets represent the way ordinary people, young males, think about the police and what the police do when they read about these different potential crimes and interactions between perpetrators and police. The approach allows us to identify the way young people think about the information that they read. The results show that not everybody is the same and that there may be different strategies about the role of police officers depending upon the nature of that to which a person pays attention.

Keywords: Lawbreaker, Mind-sets, Police officer, Verbal judo

Introduction

The origin of this study can be traced to ongoing work by the authors in the world of working with police officers to figure out how to deal with the public, how to deal with active lawbreakers, prospective lawbreakers, situations which may turn violent, and finally, just as important, how to recruit police officers in a world where certain kinds of social activities have been set up to hamper police officers. The study that was done here concerns what the police officer should say to an individual who looks like that individual will engage in violence. The study is based upon a series of discussions with various police departments, as well as the recognition that there are different mind-sets of criminals. A detailed look through the literature of crime suggests that criminals, those who do violence for example, are not doing it all for the same motive [1-5]. This statement may seem like a truism, and it is to some extent. However, the ramifications of this truism are especially important. We are not dealing here with academic issues which will result in the same outcomes. Rather, we are discussing real-world situations in which violence may take place, in which people may get hurt or even killed. We are looking at a problem which is systemic all over the world, namely the interaction, and perhaps even confrontation, between a police officer and a

lawbreaker. Crimes are committed for different reasons. What's not necessarily obvious is the nature of the motivation of the criminal, and perhaps just as well, the type of communication to which the criminal or at least the prospective lawbreaker might be receptive. Negotiators recognize these differences in the types of language and the types of wording that might be effective, but all too often, such knowledge resides in the mind of the person who has had experience, who has been trained “on the job” through personal interactions.

We would like to bring this effort into the public eye by doing research on what people think will be effective communications [6]. The objective here is not necessarily to have an encyclopedia of those discussions. We leave that to the professionals. Rather, our objective is to use new research techniques, such as Mind Genomics, to discover the types of mind-sets of prospective lawbreakers and their situations in which things happen. And, for both of them to figure out what type of language might be effective as perceived by a person who's asked to judge the situation. The science of criminology has long recognized the existence of mind-sets or types of individuals. It could be no other way. People are different in the reasons underlying their commission of crimes or misdemeanors. We all operate within different life circumstances. Can we make a tool that the negotiator in a crime or

the police officer can use for specific circumstances, named at the time of use? The objective would be to use that tool as a way to learn, and to instruct. We do not expect the work to be presented here to be anything other than a start of using Mind Genomics as emergent science to understand the mind of what we might call negotiation [7-10].

The Foundation and Approach of Mind Genomics

The foundation of Mind Genomics is the belief that it is possible to study the reactions to the world of the everyday in a scientific manner. When we look at the specific details of the everyday, we may often find that people react to these details in different ways, but in a limited number of different ways. These different ways are called mind-sets. The objective of Mind Genomics is to understand the world by understanding how people differ from each other in their response to features of and messages about the daily world [11]. Rather than assuming that there are a limited grand number of mind-sets — let’s say three or ten or sixty even — we assume that the mind-set emerges from the pattern of reactions or the pattern of potential reactions to a granular, everyday situation. That is, people can be in one mind-set when they think about how they’re going to order and eat breakfast but be in totally different mind-sets when they realize how they’re going to commute to work. The goal of Mind Genomics, therefore, becomes one to understand these mind-sets at the granular level, doing so in a way which is efficient, inexpensive, educational, reliable, powerful [12-14]. One ultimate goal is to create a “*database of everyday life*.” This paper presents one application, the messaging or “verbal judo” between a police officer and a prospective lawbreaker.

Setting Up the Mind Genomics Study Through a Templated System

The templated approach developed for Mind Genomics ensures that any user can do a study, whether the user knows the elements to be tested or whether the user wants to be “coached” by AI in the

form of an LLM (large language model) to create these elements. Figure 1, Panel A shows what confronts the user at the start of the study. The user is requested to tell four or select four questions which “tell a story.” Panel A is already filled in but one could imagine Panel A with no questions whatsoever simply with four blanks, one blank per question. The prospect of course is quite daunting as has been the experience of the authors over the past decades. It is for that reason that we embedded artificial intelligence using ChatGPT 3.5 [15]. ChatGPT 3.5 was programmed to receive a small squib shown in the box on the right (Figure 1, Panel B). The squib describes the issue. From that squib ChatGPT 3.5 creates 15 questions for each iteration [16,17]. The user can iterate again and again, each time creating 15 questions, until the user selects a total of four questions across the various iterations. The user can select the questions, edit them, provide other questions, doing so for many iterations. The Mind Genomics process will record each iteration, whether the elements were selected or not. The result is an education simply through creating questions in each iteration. Thus, the four selected questions could come from a variety of iterations and reflect the results of editing the suggested questions [16,17]. What ends up of course is that the user can drop the questions into the study as shown in Panel A, can edit it, put it into different words, or even use the user’s own ideas (Figure 1, Panel A). Table 1 shows the types of questions which emerge when the user uses Idea Coach ChatGPT for creating the questions.

The same approach requiring the user to generate four answers to each question finally selected once again generates a sense of discomfort. The level of discomfort seems to be less, perhaps because it is easier to answer questions than to pose them. Once again AI proves valuable here, reducing the panelist. The user only needs to select Idea Coach and AI is prompted to return with 15 answers to each question. The process can go on several times for each question, resulting in a book of questions and answers to those questions. Table 2 show the final set of four questions and four answers to each question.

POLICE...

For your study, please choose four questions which tell a story.

Idea Coach

Question 1*

What approach should a policeman take when encountering this mi

Question 2*

What should a policeman say to de-escalate the situation with this r

Question 3*

How can a policeman show empathy towards this mind-set while m

Question 4*

How can a policeman make this mind-set comply with their instructi

Use the BimiLeap Idea Coach to help formulate your four questions. Simply type in a short description of your idea, product, or whatever you are creating this study for and click submit. The Idea Coach will return up to 15 questions. You can use these questions as is, edit them, or write in your own.

Your description goes here

Cancel **Submit**

Figure 1: Panel A shows the user interface screen requesting four questions, with the questions filled in. Panel B shows the user interface box to write in the squib for the Idea Coach, using ChatGPT 3.5.

Table 1: Output of AI for the squib. Topic: A policeman is responding to a situation. What should I ask?

A policeman is responding to a situation. What should I ask?	
1.	What is the nature of the situation that the policeman is responding to?
2.	What steps is the policeman taking to assess the situation?
3.	How is the policeman ensuring the safety of all individuals involved?
4.	What resources does the policeman have at their disposal to handle the situation effectively?
5.	How is the policeman communicating with other law enforcement agencies, if necessary?
6.	What training and experience does the policeman have in handling similar situations?
7.	How is the policeman coordinating with other emergency responders, such as paramedics or firefighters?
8.	What legal protocols is the policeman following in their response to the situation?
9.	How is the policeman deescalating any potential conflicts in the situation?
10.	What communication strategies is the policeman using to keep the public informed and safe?
11.	How is the policeman documenting the details of the situation for later review?
12.	How is the policeman ensuring their own safety while responding to the situation?
13.	What support services are available to the policeman following the resolution of the situation?
14.	How is the policeman coordinating with community members and leaders to address any concerns or aftermath of the situation?
15.	What lessons learned or best practices is the policeman sharing with their colleagues to improve future responses?

Table 2: The final set of four questions, and the four answers (elements) for each question.

	Question A: What approach should a policeman take when encountering this mind-set to de-escalate the situation?
A1	First Interaction: Police enters... asks "Are there any weapons... do not make any sudden moves"
A2	First Interaction: Police enters and says "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone"
A3	First Interaction: Police enters... and says "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."
A4	First Interaction: Police enters... and says... "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."
	Question B: What should a policeman say to de-escalate the situation with this mind-set?
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."
B2	Police Says: "Hey... it's the police... Let me talk to you real quick..."
B3	Police Says: "I am not going to handcuff you... just stand here so I can talk to you"
B4	Police Says: "I understand that you are upset, let's talk calmly about what's going on."
	Question C: How can a policeman show empathy towards this mind-set while maintaining authority?
C1	Environmental Context: Encounter is in a well-lit, public place
C2	Environmental Context: Encounter is in a home or apartment
C3	Environmental Context: Situation is during a stressful event
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others
	Question D: How can a policeman make this mind-set comply with their instructions?
D1	Policeman says: "Listen to me man... either come here and talk to us or we're gonna grab you."
D2	Policeman says: "Drop the weapon... put it down!"
D3	Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."
D4	Policeman says: "I hear you, help me understand your perspective."

Orienting the Respondents and Providing a Rating Scale

The next step in the setup of the Mind Genomics study involves the creation of the orientation for the respondent and an easy-to-use rating scale. Traditionally, the rating scale has been unidimensional, from low to high, from 1 to 5. More recent efforts have used two-sided rating scales, allowing the respondent to provide two pieces of information in the same scale. It is a two-sided rating scale that we use in this study. The first side involves ratings of listening. The second one involves ratings of reducing anger. Table 3 presents the text of the rating scale. Respondents typically have little problem assigning ratings using this type of scale, even though it would seem that they are making two types of judgments. Figure 2, Panel A shows the screenshot for the respondent orientation provided by the researcher. Figure 2, Panel B shows the set up for the rating scale, allowing the user to select the question itself (top), the number of scale points, and

the optional anchoring phrase for each scale point.

Table 4 shows the three self-profiling questions selected by the user, in addition to two additional standard questions (age, gender). These self-profiling questions allow the user to obtain otherwise impossible-to-obtain information about the respondent. Figure 3 shows the actual pull-down menu as presented to the respondent at the start of the evaluation session.

Once the consumer respondent logs in and completes the self-profiling classification (Figure 3), the respondent is presented with an orientation and immediately evaluates 24 vignettes, one vignette after another (see Figure 4). The vignettes are created by experimental design, a systematized layout. Each respondent evaluates a unique set of the 24 vignettes, the uniqueness guaranteed by a permutation scheme which maintains the mathematical properties of the combinations (statistical independence, equal frequency of appearance, etc.).

Table 3: The rating scale.

What do you think is going through the mind of the person being talked to by the police officer? Read what the police officer says in BOLD text below...Pick one answer
1 = I feel less angry...will NOT listen to the policeman
2 = I feel just as angry...will NOT listen to the policeman
3 = I don't know
4 = I feel just as angry...I WILL listen to the policeman
5 = I feel less angry...I WILL listen to the policeman

Table 4: The three self-profiling questions selected by the user

How do you feel about police in general?
1 = I trust the police. 2 = I am indifferent towards the police. 3 = I fear the police.
How do you view violence in society?
1 = Violence is never justified. 2 = Violence is sometimes necessary. 3 = Violence is a natural part of life.
Have you had positive interactions with the police?
1 = Yes, multiple times. 2 = Yes, but only once. 3 = No, never.

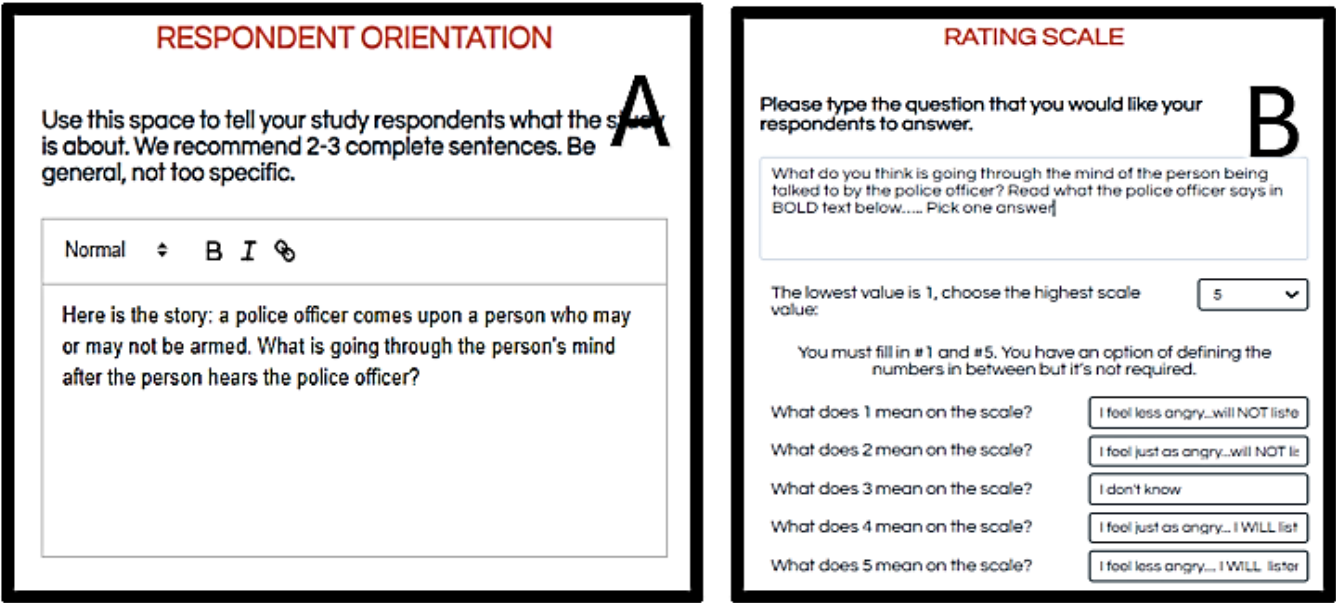


Figure 2: Panel A shows the user interface to create the respondent orientation. Panel B shows the user interface to create the rating question.

Thank you for participating. Please answer the following questions about yourself. This information will only be used for this study, and will not be given to any marketers for sales purposes.

Age

18 to 24

▼

What year were you born?

2002

▼

Gender identification

Male

▼

How do you feel about police in general?

I am indifferent towards police.

▼

How do you view violence in society?

Violence is sometimes necessary.

▼

Have you had positive interactions with the police?

Yes, multiple times.

▼

I understand that the information I give will not be used to identify who I am, nor will I be asked to provide private information which can identify me



Figure 3: The pull-down menu presenting the self-profiling questions.

Here is the story: a police officer comes upon a person who may or may not be armed. What is going through the person's mind after the person hears the police officer?

What do you think is going through the mind of the person being talked to by the police officer? Read what the police officer says in BOLD text below..... Pick one answer

1 = I feel less angry...will NOT listen to the policeman

2 = I feel just as angry...will NOT listen to the policeman

3 = I don't know

4 = I feel just as angry... I WILL listen to the policeman

5 = I feel less angry.... I WILL listen to the policeman

Police Says "I understand that you are upset, let's talk calmly about what's going on."

Environmental Context: Encounter is in a home or apartment

Policeman says: listen to me man....either come here and talk to us or we're gonna grab you

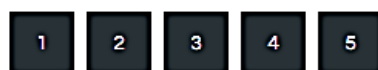


Figure 4: Example of a vignette as presented to the respondent, who reads and rates the vignette. The vignette automatically advances to the next vignette after the respondent assigns a rating.

A vignette has two, three, or four elements, at most one element from each question or one answer from each question. According to the experimental design, the combinations of the vignettes are incomplete. That is, the vignettes are not created by the obsessive requirement that each vignette have exactly one element (viz., answer) from each question. That requirement would, in fact, end up being counterproductive in a statistical sense because the 16 elements would not be statistically independent of each other, and only relative value of coefficients would emerge, not the more desirable absolute values. The strategy of having each respondent evaluate a unique set of combinations was developed by Gofman and Moskowitz in the early 2000's [18]. The objective was to ensure that Mind Genomics would explore many combinations and thus might be well used as a tool for exploration rather than a tool to confirm what was known. In traditional conjoint measurement, the typical user ends up testing known combinations, creating these limited numbers of combinations to test the hypothesis. It is important in traditional conjoint measurement to “know” the important elements ahead of time. In a complete about face, Mind Genomics was designed to explore the response to messages, elements, welcoming the absence of any ingoing knowledge about “what is important.” In Mind Genomics, the user may have absolutely no idea of what the important elements are, and therefore it makes far more sense to have each person test a unique set of combinations different from the combinations of everybody else. The consequence of that is that the Mind Genomics system is much like an MRI of the mind, looking at different areas, identifying things, and then putting everything together at the end of the experience with one grand computer analysis which shows exactly what every element contributes.

Transformation to Binary Scales and Creation of Equations Using OLS (Ordinary Least Squares) Regression

The analysis of Mind Genomics data follows a simple series of

steps and like the setup is templated to make the approach easier for people to use. The rating scale has two dimensions. One dimension is listening, the second dimension is lessening anger. We want to capture both of these. The transformations create two new variables, each taking on the values of 0 or 100, as shown. Each rating thus generates these two binary variables. As a precautionary measure to ensure that every respondent generates some level of variation in these two binary variables, we add a vanishingly small random number ($<10^{-5}$) to each newly created binary variable. By so doing we ensure that the subsequent analysis using OLS (ordinary least squares) regression will not “crash.”

R54 (Listen to Officer) Ratings 5 and 4 transformed to 100, ratings 1, 2, and 3 transformed to 0.

R52 (Lessen Anger) Ratings 5 and 2 transformed to 100, ratings 1, 3 and 4 transformed to 0.

The effort put into creating the combinations now pays out. It is straightforward to apply OLS regression to the data, whether at the level of a single individual or at the level of a group. The equation shows how one deconstructs the rating, or more correctly the transformed binary variable, into the part-worth contribution of each of the 16 elements. The equation does not have an additive constant, meaning that the equation is forced through the origin. This simple expression contains within it all of the information about the driving strength of each of the 16 elements for Listen to Office or for Lessen Anger.

$$\text{Binary Dependent Variable} = k_1A1 + k_2A2 \dots k_{16}D4$$

Table 5 shows the coefficients from the ordinary least squares regression. The coefficients are sorted by the magnitude for R54 (Listen to Police Officer). The convention for this analysis will be that any coefficient of 21 or higher will be shaded to highlight as being an extremely important, highly significant coefficient. The value 21 emerges from statistical tests of significance. The second column shows the coefficient for R52 the binary dependent variable for Lessened

Table 5: Coefficients for the Total Panel.

	TOTAL PANEL	R54: LISTEN TO POLICE OFFICER	R52: ANGER LESSENED
D3	Policeman says: I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully.	20	13
C3	Environmental Context: Situation is during a stressful event	18	15
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."	18	17
C1	Environmental Context: Encounter is in a well-lit, public place	18	12
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	18	10
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	17	11
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	17	10
D4	Policeman says: "I hear you, help me understand your perspective."	17	13
D2	Policeman says: "Drop the weapon...put it down!"	16	12
C2	Environmental Context: Encounter is in a home or apartment	16	9
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."	15	12
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	15	9
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."	14	10
A3	First Interaction: Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."	14	11
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others	14	14
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	13	9

Table 5: Coefficients for the Total Panel.

	TOTAL PANEL	R54: LISTEN TO POLICE OFFICER	R52: ANGER LESSENED
D3	Policeman says: I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully.	20	13
C3	Environmental Context: Situation is during a stressful event	18	15
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."	18	17
C1	Environmental Context: Encounter is in a well-lit, public place	18	12
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	18	10
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	17	11
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	17	10
D4	Policeman says: "I hear you, help me understand your perspective."	17	13
D2	Policeman says: "Drop the weapon...put it down!"	16	12
C2	Environmental Context: Encounter is in a home or apartment	16	9
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."	15	12
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	15	9
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."	14	10
A3	First Interaction: Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."	14	11
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others	14	14
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	13	9

Anger. In neither case is any element shown as highly significant with a coefficient of 21, although D3 is close: *Policeman says I respect your right to voice your grievances.*

The fact that there are no very strong elements for R54 (Listen to Police Officer) or for R52 (Lessen Anger) may emerge because people have different criteria, and therefore their ratings may cancel each

other out. We can think of two streams meeting another stream in opposite directions. A stream flows quickly, but if two streams meet together and they’re going in opposite directions, often the result is a pool with a lot of disturbance, but the pool is not going fast in any direction. It just becomes a maelstrom. The same thing may occur with the coefficients from the total panel. We may have different groups of people with different ideas, and the question is whether in fact these people are canceling each other out. We will see that when we come to mind-sets, but first we have to work our way through the differences between people as they have defined themselves in the classification questions.

Self-Profiling

The respondents were required to answer three questions at the start of the study, shown in Table 3. Mind Genomics can generate a wall of numbers because of the different binary dependent variables (R54, R52), the 16 elements, and the several groups self-defined by the respondent. To make understanding and discovering patterns easier, we focus from this point forward on one key dependent variable, R54. Table 6 shows the coefficients based upon Question 1, attitude towards police. The story in Table 6 is clear. Only one of the three subgroups generate consistently high coefficients, viz., those who say they trust police.

Table 7 shows the coefficients for R54, this time based on how the respondent feels about violence in society. Once again, a story emerges, although not one quite as clear as before. Those who feel that violence is never justified end up saying they will listen to direct statements

to them by the police. Those who feel that violence is occasionally warranted say that they will listen in a number of situations, but the common link is not clear. Finally, those who feel that violence is simply part of everyday life do not end up saying that they will listen to the police officer.

Table 8 shows the coefficients for R54, this time for self-profiling question #3, “positive interactions with police.” Those respondents who say that they have had several positive interactions with the police are likely to listen, especially when spoken to respectfully.

Mind-Sets

The last analysis creates mind-sets. Mind-sets are defined as clusters of individuals who respond in the same way towards a specific topic. Individuals within a mind-set find certain patterns to be extraordinarily engaging and other patterns to be virtually irrelevant. Mind-sets emerge from statistical analyses of the patterns of coefficients for the individuals. Ideally for a topic such as listening to police officers, the statistical analysis should generate a limited number of clusters of patterns, the mind-sets, with these patterns telling easy to understand “stories.” The former is parsimony, the latter is interpretability. The creation of mind-sets for these data involved the estimation of 108 individual-level equations, one equation for each respondent. It is just as easy for the computer to create 108 equations as to create one equation, since each respondent’s 24 vignettes were arranged ahead of time to ensure that the 16 elements appeared in a statistically independent fashion. As before, the key dependent variable is R54, Listen to the police officer. The final analysis to generate the

Table 6: Coefficients for elements based on self-profiling Question 1 (Attitude toward police).

		R54 LISTEN TO THE POLICE OFFICER		
	Q1 – Attitude towards police	Trust	Indifferent	Fear
C3	Environmental Context: Situation is during a stressful event	24		
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	23		
C2	Environmental Context: Encounter is in a home or apartment	22		
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	21	15	
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	21	16	
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	21		
D2	Policeman says: "Drop the weapon...put it down!"	21	15	
C1	Environmental Context: Encounter is in a well-lit, public place	18	16	23
D3	Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	19	19	18
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."	19	17	15
A3	First Interaction: Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."	15		15
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."	17		
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."	17		
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others	17		
D4	Policeman says: "I hear you, help me understand your perspective."	17	18	
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	15	15	

Table 7: Coefficients for elements based on self-profiling Question 2 (Violence in society).

		R54		
		LISTEN TO THE POLICE OFFICER		
	Q2 – Violence in Society	Never	When Justified	Natural Part
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	27		
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	23		
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	22		
D3	Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	17	24	
D4	Policeman says: "I hear you, help me understand your perspective."	16	22	
C3	Environmental Context: Situation is during a stressful event	17	21	
D2	Policeman says: "Drop the weapon...put it down!"		21	
C1	Environmental Context: Encounter is in a well-lit, public place	16	18	19
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	20		19
A3	First Interaction: Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."			16
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."	16	20	15
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."		15	14
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."		20	
C2	Environmental Context: Encounter is in a home or apartment		19	
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."		18	
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others		17	

Table 8: Coefficients for elements based on self-profiling Question 3 (Positive interactions with police).

		R54		
		LISTEN TO THE POLICE OFFICER		
	Q3 – Positive Interactions with Police	Several Times	Once	Never
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	23	15	
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	22		
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."	21	16	
D3	Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	21	21	
D2	Policeman says: "Drop the weapon...put it down!"	20	17	
D4	Policeman says: "I hear you, help me understand your perspective."	20	17	
A3	First Interaction: "Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."	19		
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	19	16	
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	18	18	
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."	17		22
C1	Environmental Context: Encounter is in a well-lit, public place	17	17	20
C3	Environmental Context: Situation is during a stressful event	17	20	16
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."	16		
C2	Environmental Context: Encounter is in a home or apartment	16	19	
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others	16	16	
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."	15		

mind-sets used k-means clustering [19]. The outcome is two, and then three clusters or mind-sets. The three-mind-set solution was easier to interpret. Table 9 shows the three-mind-set solution, sorted from high to low for each mind-set separately. Elements which generate coefficients of 21 or higher in two mind-sets appear in each mind-set in the proper order, to make interpretation easier. Table 9 shows many more strong performing elements, with these elements telling simpler stories. It is important to keep in mind that these mind-sets emerge without the help of human interpretation except at the very end. All of the analyses come from pure mathematical considerations. The strong performance of elements in Table 9 should not surprise. The analogy given above for the total panel was of two or more streams, moving swiftly in opposite directions, clashing with each other and creating a pool of turbulent, but non-flowing flowing water. The mind-sets flow in different directions. We see weaker performance for the total panel (see Table 5, column for R54). Only when the different mind-sets emerge do we see how really strong the mind-sets are.

Using AI to Understand the Mind-Sets More Deeply

Our final analysis comprises the deeper interpretation of our mind-sets through artificial intelligence. We know the strong performing elements for the key binary dependent variable R54. Table

9 shows these elements in shade. The LLM embedded in BimiLeap.com, the Mind Genomics platform, “summarizes” the patterns behind these strong performing elements. Table 10 presents these summaries exactly the way they emerged from the LLM. It is important to keep in mind that the user does not have to accept the summarization. For example, the mind-set names used in Table 9 are not those recommended by AI. Rather, the summarization shown in Table 10 is meant as an aid to learning and to critical thinking, essentially acting as a “coach” to suggest other aspects meriting the user’s attention.

Discussion and Conclusions

The goal of this study was to demonstrate how a combination of artificial intelligence and Mind Genomics thinking can create different features of the interaction between a potential perpetrator of a violent act and the police. With the increasing power of artificial intelligence as manifested in large language models, it becomes straightforward to request these large language models to provide relevant questions and then for each question relevant answers. We demonstrated this through Idea Coach. Whether or not we created the correct questions and selected the correct answers becomes a minor issue when we realize that we can do an iteration in a minute or less. What would take months of thinking, now with the help of large language models, really

Table 9: The three-mind-set solution emerging from clustering the coefficient on the basis of values for R54 (Listen to the police officer).

		R54 LISTEN TO THE POLICE OFFICER		
	Mind-Sets	MS1	MS2	MS3
	Base Size	32	38	38
Mind-Set 1 – Police officer creates empathy				
C1	Environmental Context: Encounter is in a well-lit, public place	30		20
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	29	22	
C3	Environmental Context: Situation is during a stressful event	28		17
B4	Police Says, "I understand that you are upset, let's talk calmly about what's going on."	27	20	
C2	Environmental Context: Encounter is in a home or apartment	24		
B2	Police Says: "Hey...it's the police...Let me talk to you real quick."	23	20	
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	23	22	
Mind-Set 2 – Police officer clearly senses a problem developing and talks authoritatively				
D3	Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."		33	
D1	Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."		27	17
D2	Policeman says: "Drop the weapon...put it down!"		27	21
D4	Policeman says: "I hear you, help me understand your perspective."		26	18
B3	Police Says: "I am not going to handcuff you...just stand here so I can talk to you."	29	22	
B1	Police Says: "Let's find a way to resolve this without anyone getting hurt."	23	22	
Mind-Set 3 – Community-oriented and empathic policing approach				
A4	First Interaction: Police enters...and says..."I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."			26
A2	First Interaction: Police enters and says, "I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone."			23
A1	First Interaction: Police enters...asks, "Are there any weapons...do not make any sudden moves."	15		22
Not strong in any mind-set				
A3	First Interaction: Police enters...and says, "I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can."			19
C4	Environmental Context: Encounter involves someone holding a knife threatening to hurt themselves or others	20		

Table 10: AI-generated “automated summaries” of strong-performing elements for each of the three mind-sets shown in Table 9.

MIND-SET 1 OF 3 The following is a description of attributes from the research study: Police Says: "Let's find a way to resolve this without anyone getting hurt."; Police Says: "Hey...it's the police...Let me talk to you real quick."; Police Says: "I am not going to handcuff you... just stand here so I can talk to you."; Police Says, "I understand that you are upset, let's talk calmly about what's going on."; Environmental Context: Encounter is in a well-lit, public place; Environmental Context: Situation is during a stressful event Create a label for this segment: De-escalation and Crisis Intervention in Public Settings Describe this segment: This segment of the research study focuses on the attributes of police communication and environmental context during encounters with individuals. The police officers in the sample are depicted as using calm and reassuring language in order to de-escalate situations and prevent harm. They are portrayed as attempting to establish a rapport with the individuals involved and show understanding towards their emotions. The environmental context is described as being in a well-lit, public place, but also during a stressful event. This segment highlights the importance of effective communication and situational awareness in law enforcement interactions. Describe the attractiveness of this segment as a target audience: This segment of the total sample in the research study appears to be particularly appealing as a target audience. The police officers in this segment exhibit a high level of empathy, communication skills, and a willingness to resolve situations peacefully, which could make them more receptive to constructive dialogue and de-escalation tactics. The fact that the encounters take place in a well-lit, public place also indicates a level of transparency and accountability on the part of the police officers, which could be attractive to organizations or initiatives focused on improving police-community relations. Additionally, the fact that the encounters occur during a stressful event highlights the importance of effective communication and conflict resolution skills, making this segment a potentially valuable target audience for programs aimed at training police officers in de-escalation techniques. Explain why this segment might not be attractive as a target audience: This segment may not be attractive as a target audience because they are likely to be individuals who are involved in potentially high-stress or confrontational situations with the police. As a result, they may not be receptive to marketing messages or have the capacity to engage with brands or products in a meaningful way. Additionally, they may not be in a mind-set to consider making purchasing decisions or engaging with promotional content. The presence of police involvement and stressful events may also indicate a level of vulnerability or distress that may not be conducive to engaging with marketing messages. List what is missing or should be known about this segment, in question form: - What is the demographic information of the individuals involved in these encounters? - What is the nature of the situation that the police are trying to resolve without anyone getting hurt? - What specific tactics or strategies are the police using to de-escalate the situation? - How do the individuals respond to the police communication and attempts at resolution? - Are there any previous interactions or history between the police and the individuals involved? - What are the specific stressors or factors contributing to the stressful event in the environmental context? List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment: 1. Virtual reality training simulations for police officers: This innovative training method allows officers to practice de-escalation techniques in realistic scenarios, helping them to effectively handle stressful situations without resorting to violence. 2. Community-based crisis intervention teams: These teams consist of mental health professionals who respond alongside police officers to de-escalate situations involving individuals experiencing a mental health crisis. This collaborative approach helps to ensure that individuals receive appropriate care and support. 3. Mobile mental health crisis units: These units consist of mental health professionals who respond to crisis situations in the community, providing immediate support and resources to individuals in distress. By diverting these individuals from the criminal justice system, these units help to prevent unnecessary harm and promote overall well-being. 4. Trauma-informed policing practices: By incorporating trauma-informed approaches into police training and operations, officers can better understand and respond to the underlying causes of behavior in individuals experiencing heightened emotional distress. This approach can help to build trust and improve outcomes for both officers and community members. Which messages will interest this segment? This segment is likely to be interested in the messages that show the police officers displaying empathy and understanding towards the individuals they are interacting with. Messages such as "Let's find a way to resolve this without anyone getting hurt" and "I understand that you are upset, let's talk calmly about what's going on" are likely to resonate with this segment. They may also be interested in the message where the police officer reassures the individual by saying "I am not going to handcuff you...just stand here so I can talk to you." Additionally, the environmental context of the encounter being in a well-lit, public place may also be of interest to this segment as it suggests a level of transparency and accountability in the interaction. MIND-SET 2 OF 3 The following is a description of attributes from the research study: Police Says: "Let's find a way to resolve this without anyone getting hurt."; Police Says: "Hey...it's the police...Let me talk to you real quick."; Policeman says: "Listen to me man...either come here and talk to us or we're gonna grab you."; Policeman says: "Drop the weapon...put it down!"; Policeman says: "I respect your right to voice your grievances. Let's find common ground and find a way to move forward peacefully."; Policeman says: "I hear you, help me understand your perspective."

Create a label for this segment: Conflict resolution techniques and communication methods of police officers Describe this segment: This segment includes various tactics used by police officers in different situations. The police officers are shown utilizing different communication strategies such as attempting to de-escalate the situation by finding a peaceful resolution, trying to establish a dialogue with the individual, giving direct commands, showing empathy and respect towards the individual, and acknowledging their perspective. The range of approaches used by the police officers reflects an attempt to handle diverse situations with a mix of empathy, authority, and understanding. Describe the attractiveness of this segment as a target audience: This segment appears to be open to communication, showing a willingness to resolve conflicts peacefully and engage in respectful dialogue. They value understanding different perspectives and finding common ground. This makes them an attractive target audience as they are likely receptive to conflict resolution strategies and may be more willing to cooperate with law enforcement to find mutually beneficial solutions. Their potential for cooperation and communication skills makes them a valuable audience for promoting positive community relationships and addressing issues effectively. Explain why this segment might not be attractive as a target audience: This segment may not be attractive as a target audience because it includes individuals who may potentially be involved in confrontational or dangerous situations with law enforcement. This suggests a higher likelihood of resistance or conflict, which could pose risks to the safety and well-being of both the individuals and law enforcement officers. Additionally, engaging with this segment may require specialized training or resources to effectively address and de-escalate potentially volatile situations. List what is missing or should be known about this segment, in question form: - Were these statements made by different police officers or the same police officer? - What was the context or situation in which these statements were made? - Were these statements made in a specific order or randomly in the research study? - Were the responses or outcomes of these statements recorded in the research study? - Were there any demographic or background information collected about the participants or police officers involved in these interactions? - Were there any follow-up questions or prompts given to the participants after these statements were made? List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment: 1. Conflict resolution training for police officers: Implementing comprehensive conflict resolution training for police officers can help them effectively de-escalate situations without resorting to violence. This can lead to more peaceful outcomes and build trust with the community. 2. Communication techniques: Providing police officers with communication techniques that focus on active listening and empathy can help them better understand and connect with individuals in tense situations. This can lead to more meaningful conversations and resolutions. 3. Community policing initiatives: Implementing community policing initiatives that involve regular engagement with community members can help build positive relationships and trust between police officers and the public. This can foster a sense of partnership and cooperation in addressing community issues. 4. Mental health training: Providing police officers with training on mental health awareness and crisis intervention techniques can help them effectively respond to situations involving individuals experiencing mental health crises. This can ensure that individuals receive appropriate care and support. 5. Body-worn cameras: Equipping police officers with body-worn cameras can provide transparent and accountable interactions during law enforcement activities. This can help protect both officers and community members and improve trust in policing practices. Which messages will interest this segment? This segment is likely to be interested in messages that prioritize peaceful resolution and dialogue, such as “Let’s find a way to resolve this without anyone getting hurt,” “I respect your right to voice your grievances. Let’s find common ground and find a way to move forward peacefully,” and “I hear you, help me understand your perspective.” These messages emphasize understanding, communication, and cooperation over confrontation and aggression. MIND-SET 3 OF 3 The following is a description of attributes from the research study: First Interaction: Police enters...asks, “Are there any weapons...do not make any sudden moves.”; First Interaction: Police enters and says, “I understand that you may have had negative experiences in the past, but I am here to work with you and support you in finding solutions that benefit everyone.”; First Interaction: Police enters...and says “I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can.”; First Interaction: Police enters...and says...”I respect your right to voice your grievances. Let’s find common ground and find a way to move forward peacefully.” Create a label for this segment: Community-oriented and empathic policing approach Describe this segment: This segment highlights different approaches that police officers may take during their first interactions with individuals in the community. The common theme among these interactions is a focus on building trust, communication, and collaboration in order to create a safer and more supportive community for all. These approaches aim to show understanding, empathy, and a willingness to listen and work together towards finding mutually beneficial solutions. Overall, this segment reflects a proactive and community-oriented approach to policing that prioritizes building positive relationships and promoting peace and safety.

Describe the attractiveness of this segment as a target audience:

This segment of the population appears to be open-minded, receptive to collaboration, and interested in building a positive relationship with the police. They value communication, respect, and mutual understanding. They are likely to be willing to engage in constructive dialogue and work towards solutions that benefit all parties involved. As a target audience, they are highly attractive due to their willingness to listen, cooperate, and build a stronger, more supportive community. Their positive attitude and desire for peace and harmony make them an ideal group to engage in community policing efforts.

Explain why this segment might not be attractive as a target audience:

This segment might not be attractive as a target audience because they may have had negative experiences with police in the past and may be distrustful or resistant to engaging with law enforcement. They might have deep-seated concerns or fears about interacting with police and may not be receptive to messages of cooperation or building a safer community together. This segment may require more tailored and targeted messaging, as well as efforts to rebuild trust and address their specific concerns and grievances.

List what is missing or should be known about this segment, in question form:

- How many individuals were involved in each of these interactions?

- Was the location of the interaction the same for all of them?

- What was the purpose or reason for the police entering in each case?

- What were the demographics of the individuals involved in each interaction?

- Were there any specific incidents or events leading up to these interactions?

- What were the outcomes or reactions to each of these interactions?

List and briefly describe attractive new or innovative products, services, experiences, or policies for this segment:

1. Community Policing Training: A new training program that focuses on teaching police officers how to approach interactions with respect, empathy, and a focus on working together with the community to build trust and find solutions.

2. Mental Health First Responder Units: A new service that trains police officers in mental health crisis intervention techniques, allowing them to respond to calls involving individuals in distress with compassion and understanding.

3. Restorative Justice Programs: A new policy that implements restorative justice practices within the criminal justice system, focusing on repairing harm caused by crime through dialogue, accountability, and collaboration between offenders, victims, and the community.

4. Community Engagement Initiatives: A new set of policies that prioritize community input and involvement in police decision-making processes, ensuring that community voices are heard and valued in creating safer and more supportive environments for all.

5. Trauma-Informed Policing: A new approach that trains police officers to recognize and respond to trauma in individuals they encounter, providing support and resources that address underlying issues and promote healing.

Which messages will interest this segment?

This segment is likely to be interested in the messages that emphasize collaboration, support, listening, and finding common ground, such as:

- “I am here to work with you and support you in finding solutions that benefit everyone.”

- “I want to work together to build a safer and more supportive community for all of us. Your voice matters, and I am here to listen and help in any way I can.”

- “I respect your right to voice your grievances. Let’s find common ground and find a way to move forward peacefully”

takes minutes to do in terms of searching for new questions and in turn for new answers to those questions, the elements of our study. The first half of the study was devoted to finding the test stimuli. The second half is devoted to finding the response of real people, in our case young males living in the Virginia area. The issue was whether these people would respond in a specific way to the various scenarios, to the different elements combined. The data from our 108 respondents suggest three different mind-sets. It’s important to know that this is our first foray. The first mind-set would be strong responses to listening when the place is familiar and when the police officer says to the effect that “*I’m going to not do anything to you, just let’s talk.*” The second mind-set stresses that the person says they will listen when there are clear actions that suggest a hostile nature. The police officer clearly senses a situation and the problem developing and talks authoritatively. It’s important to note that the police officer who talks authoritatively may also want to talk in a more peaceful manner to find common ground. The third mind-set is that the police officer really knows what’s going to happen and essentially threatens or orders the potential perpetrator not to do anything. As a closing comment, one should keep in mind

that these mind-sets are not hard and fast divisions, but interpretable regions on a continuum. That itself is key learning, that sometimes there are strong differences, opposite or independent, orthogonal, and sometimes the mindsets fall along a continuum of power. It’s quite possible that in the case of police behavior in these situations we are dealing with positions on a continuum rather than radically different mind-sets. Only experimentation will tell us.

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Abbreviations

Abbreviation	Definition
AI	Artificial Intelligence
ChatGPT	Chat Generative Pre-trained Transformer
LLM	Large Language Model
OLS regression	Ordinary Least Squares regression

Competing Interests

The authors have no conflict of interest to disclose.

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