Research Open

Mind Genomics Studies in Psychology & Experience

Volume 5 Issue 3

Research Article

Developing a New Skin Cosmetic Product: Rapid, Efficient Insights from AI Coupled with Mind Genomics Thinking with the Product Selected, and the Evaluation of Relevant Communications by Actual Prospective Consumers in the UK

Noel Thompson[1], Bojana Kovac[2], Stephen D. Rappaport[3], Sharon Wingert[4] and Howard R. Moskowitz[4,5]*

[1]ZepterHyperTech, 11070 Belgrade, Serbia
[2]Red Queen Mediaset, Vladimira Popovića, 11000 Belgrade, Serbia
[3]Stephen D. Rappaport Consulting, LLC, Norwalk, CT, USA
[4]Tactical Data Group, Stafford, VA, USA
[5]Mind Genomics Associates, Inc., White Plains, NY, USA

***Corresponding author:** Howard R. Moskowitz, Tactical Data Group, Stafford, VA, USA & Mind Genomics Associates, Inc., White Plains, NY, USA

Received: April 04, 2025; **Accepted:** April 14, 2025; **Published:** April 25, 2025

Abstract

The paper shows how Mind Genomics, coupled with AI, can drive the creation of messaging for a new cosmetic product. AI (ChatGPT 3.5) in the Idea Coach feature of BimiLeap.com, the Mind Genomics platform, generated the required 16 test elements for Mind Genomics. These test elements (statements about the product) were combined into vignettes, presented to 25 English respondents (ages 18-25). The data, collected in less than two hours through an online panel, identified strong performing elements and two dramatically different mind-sets among the respondents: those interested in the texture and skin-relevant aspects and those interested in the fragrance. The speed, low cost, simplicity, and scope of the research provides a new way to understand products, build the critical knowledge base and generate potentially better market entries.

Keywords: *Artificial intelligence, Consumer behavior, Cosmetic product development, Market research innovation, Mind genomics*

Introduction

Product development and marketing have traditionally relied on qualitative interviews or questionnaires to gather insights from consumers. The process required the respondent to think in an abstract way about experiences that are often concrete and hard to conceptualize. Thus, in a situation involving cosmetics, the respondent may be asked to rate the importance of ideas or experiences one at a time. It is not unusual for consumer researchers to report these ratings as the "truth" for a particular respondent [1-3]. The emergence of Mind Genomics thinking in the late 20th and early 21st centuries introduced a new approach. This approach involves breaking down a problem into different topics or questions and then identifying various answers or elements for each question. These elements are combined into vignettes, which are small, easy-to-read combinations that paint a word picture. Respondents do not answer individual questions but instead respond to the vignettes created by the combination of elements. This approach is simpler and more engaging for participants, as it allows them to provide feedback based on real-world scenarios rather than abstract concepts. The underlying statistical machinery then analyzes how each element contributes to the overall rating of the vignette [4-6].

Today's version of the Mind Genomics process involves four questions, each with four answers or elements. These elements are stand-alone phrases or sentences that are mixed and matched into vignettes according to a predetermined experimental design. The experimental design ensures that the elements are statistically independent of each other, allowing for a more accurate analysis of consumer responses. One of the most important aspects of Mind Genomics is that each respondent evaluates just the right number of vignettes of the right construction by an underlying experimental design. The experimental design ensures that each vignette has a minimum of two elements and a maximum of four elements. Furthermore, in each vignette, the elements must come from different questions. That is, no question can contribute more than one element to a vignette, although there are, of course, many vignettes to which a question does not contribute. Perhaps the most important feature is that each respondent in the Mind Genomics study evaluates a unique set of 24 different vignettes. The underlying permutation scheme thus enables the Mind Genomics study to cover a wide range of combinations.

Finally, with the Mind Genomics platform, BimiLeap.com and the embedded artificial intelligence available through the Idea Coach

feature, it becomes a very simple matter for the researcher, experienced or inexperienced, to develop questions and answers [7]. The benefits of this approach are that the Mind Genomics system becomes a way to explore the topic rather than to confirm one's judgment. The old Russian adage "measure nine times, cut once" is not necessary. The user can freely explore the topic because it is not necessary to "know the right answer" at the start of the study or experiment. The answer emerges.

Setting Up the Mind Genomics Study to Understand How "Real People" Feel About Ideas for a Cosmetic Lotion

Step 1 requires the researcher to create four questions that "tell a story" and then for each question to create four separate answers, hopefully each answer meaningfully different from the other three answers to the question. Figure 1 shows the template where the researcher fills in the four questions. Figure 2 shows the template where the researcher fills in the answers to the first question.

In the original Mind Genomics studies, researchers faced the challenging task of developing questions and answers for each topic. This task proved to be daunting for many individuals, especially older professionals, as it required critical and creative thinking skills that were not commonly taught. The concept of structuring thoughts into questions and answers forced participants to step out of their comfort zone and think outside the box. With the integration of AI into the BimiLeap.com platform through the Idea Coach, the process

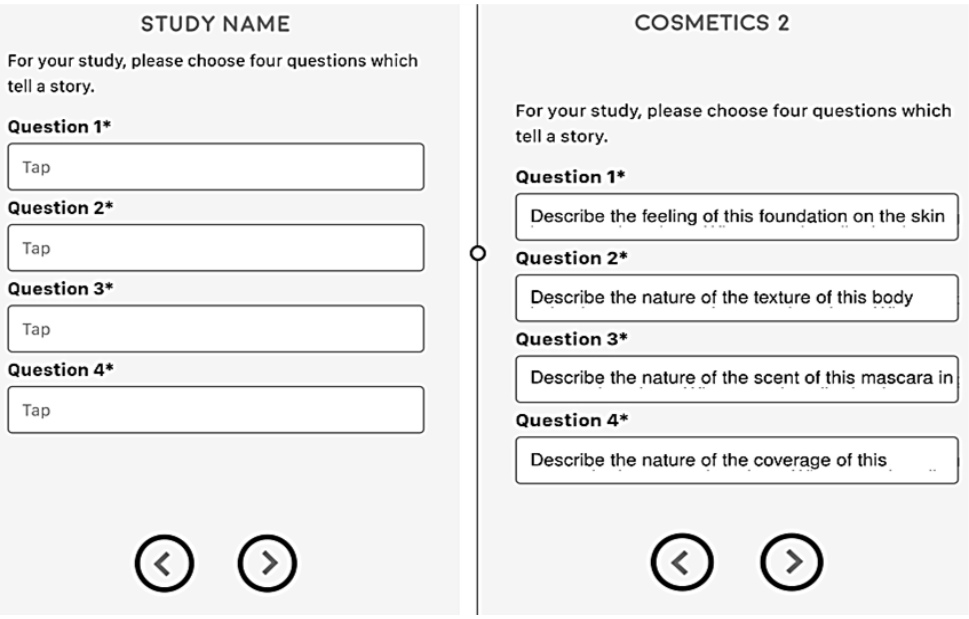

Figure 1: Template in BimiLeap.com requesting user to create four questions which tell a story.

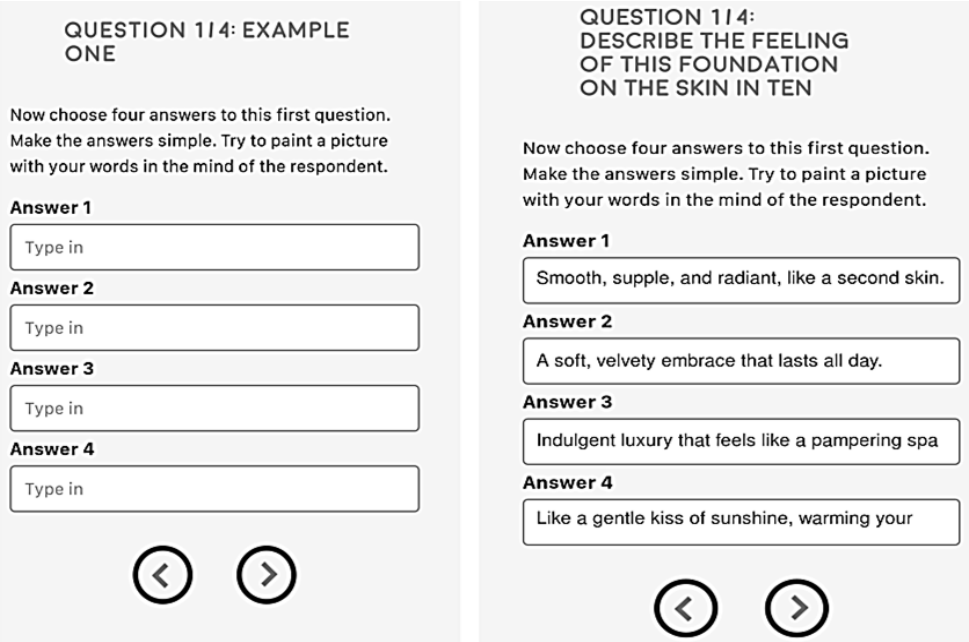

Figure 2: Template in BimiLeap.com requiring the researcher to create four answers to the question.

of generating questions and answers became more streamlined. Users could simply input the topic and some information, and the platform would generate 15 relevant questions. Researchers were then tasked with selecting up to four questions, completing one or several iterations, and fine-tuning the questions to create a narrative for the study. The same process is applied to generating answers, with AI creating responses based on the selected questions. Researchers were responsible for choosing and arranging the answers to create a coherent word picture that could stand alone or in a group. This innovative approach allowed for a more efficient and structured way of collecting data and insights from participants. For both generating questions and answers, the Idea Coach enabled the user to specify the nature of the way the questions and answers should "read," e.g., be explanatory, have fewer than a certain number of words, etc. Furthermore, Idea Coach enabled the user to "edit" the output from AI at any time so that the Idea Coach became a true aid to the project, rather than "taking over."

Incorporating AI into the research simplified the process of developing questions and answers, allowing researchers to focus more on the analysis and interpretation of data. This approach not only saved time and resources but also enhanced the overall quality of the elements, as Table 1 suggests. The elements "read well."

The actual implementation of the study is straightforward, following these steps:

1. The questions and elements (answers) are generated and put into a form so that each element becomes a stand-alone phrase that paints a word picture.
2. The BimiLeap platform combines the elements into 24 combinations known as vignettes. Figure 3 (bottom) shows an example of the vignette, in this case three elements or answers, one element or answer from three of the four questions. The fourth question does not contribute to the vignette.
3. The underlying experimental design prescribes 24 vignettes. The combinations are created in order to ensure that the

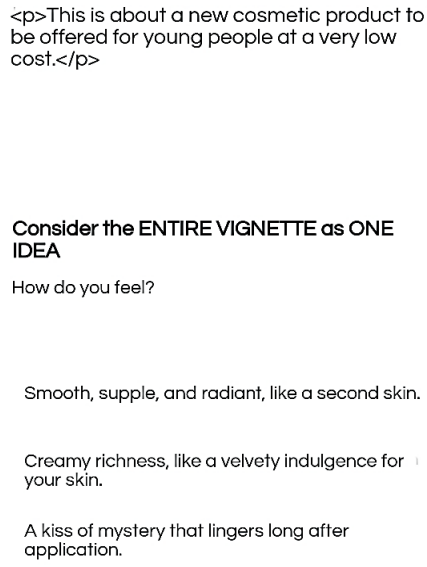

Figure 3: Example of a vignette with the rating question (top) and the actual vignette comprising three elements (bottom).

Table 1: The four questions and the four answers to each question, as created by AI and edited slightly by the researchers.

	Question A: Describe the feeling of this foundation on the skin in ten words or less. When you describe it, give some emotion and feeling to it, and make it a full, rich sentence. Make the description poetic and memorable for a slogan.
A1	Smooth, supple, and radiant, like a second skin.
A2	A soft, velvety embrace that lasts all day.
A3	Indulgent luxury that feels like a pampering spa treatment.
A4	Like a gentle kiss of sunshine, warming your complexion.
	Question B: Describe the nature of the texture of this body lotion in a sentence of ten words or less. When you describe it, give some emotion and feeling to it, and make it a full, rich sentence. Make the description poetic and memorable for a slogan.
B1	Luxuriously creamy like a decadent dessert for your skin.
B2	Creamy richness, like a velvety indulgence for your skin.
B3	Delicately smooth, like a gentle caress for your body.
B4	Sumptuously smooth, like a lavish feast for your skin.
	Question C: Describe the nature of the scent of this mascara in ten words or less. When you describe it, give some emotion and feeling to it, and make it a full, rich sentence. Make the description poetic and memorable for a slogan. Make sure we don't name a specific smell.
C1	A dance of fragrant notes that stirs the soul.
C2	A sweet lullaby sung by wildflowers under moonlight.
C3	A kiss of mystery that lingers long after application.
C4	The essence of a secret garden hidden from the world.
	Question D: Describe the nature of the coverage of this concealer in ten words or less. When you describe it, give some emotion and feeling to it, and make it a full, rich sentence. Make the description poetic and memorable for a slogan.
D1	Cloaks blemishes in a soft embrace of light.
D2	Smooths away flaws with a gentle, luminous touch.
D3	Coverage that feels like a delicate silk kiss.
D4	Like a soft-focus lens, it perfects with grace.

Citation:

Thompson N, Kovac B, Rappaport SD, Wingert S and Moskowitz HR (2025) Developing a New Skin Cosmetic Product: Rapid, Efficient Insights from AI

16 elements or answers appear equally often (5 times in 24 vignettes) and that no vignette contains more than one element or answer from a question (preventing mutually contradictory statements in a single vignette).

4. The basic design is permuted to create "isomorphic" designs. That is, the mathematical structure of the 24 vignettes is maintained, but the elements are permuted. The happy result is that each respondent evaluates a unique set of combinations.
5. Each respondent evaluated the appropriate 24 vignettes, making it possible to analyze the data from each separate individual.
6. The permutation scheme is set up so that one need not know the "right combinations" to test. As noted in the introduction, this permutation means that the Mind Genomics procedure tests a great deal of the possible space. The analogy to this approach is the MRI, which takes pictures of the underlying body from different angles and reconstructs the body by combining the pictures taken from different angles [8].
7. The respondent begins by receiving an invitation to participate, clicking on the embedded link, and being shown to the study. The study is introduced by a short paragraph. The paragraph here is reduced to a simple sentence as follows: "Study info: This is about a new cosmetic product to be offered for young people at a very low cost." Parenthetically, most respondents exhibit indifference towards the study and simply follow these introductory instructions. In some cases, such as the use of Mind Genomics for the law, the introduction may be longer.
8. Before the actual evaluations begin, the respondent completes a simple classification question, requiring the respondent to provide age and gender. For this study, the respondent answered two additional questions shown below in Table 2.
9. Once the respondent has completed the self-profiling classification, the respondent evaluates each vignette one at a time (monadic evaluation), using the rating scale at the bottom of Table 2.
10. The BimiLeap platform first acquires the information from the self-profiling classification.
11. The BimiLeap platform then presents each vignette, obtains the rating, and measures the response time. The response time (RT) is defined as the number of seconds to the nearest 100th a second between the time the vignette is presented to the respondent and the respondent selecting a rating. Times greater than 8 seconds are considered to represent the respondent multi-tasking and were automatically brought to the value of 8 seconds.
12. The respondents were 25 females, 18-25 years old in the United Kingdom. They were members of Lucid, Inc. (now Cint, Inc.) online panel and were accustomed to participating in online studies of this type. It is important to note that the respondents are not experts.
13. With the experimental design presenting 24 different vignettes, usually requiring 3-4 minutes in total to evaluate, it is virtually impossible for the respondents to "game" the system. The typical behavior which emerges is almost a relaxed, intuitive response to the vignette, rather than a considered response which searches for the "right answer."

Analysis of the Data Using Ordinary Least Squares (OLS) and K-means Clustering to Create Mind-Sets

1. The scale presented at the bottom of Table 2 shows two dimensions. The first dimension is "buy vs. not buy," and the second dimension is "believe vs. do not believe."
2. The Mind Genomics convention is to recode the 5-point scale to new binary variables. These binary variables are easier to understand. The coding is either 100 (yes) or 0 (no).
3. The coding is the following:

Table 2: Two preliminary self-profiling classification questions and the rating question.

Preliminary (classification) question: Describe how you feel about skin lotions. **Possible answers:** 1=I like to use the same product all the time. 2=I always wonder how it will work on me. 3=I am very concerned about caring for my skin. 4=I only buy organic, and products untested on animals. 5=I am very interested in skin hydration; it is the most important thing for me. 6=Sun protection is the most important thing for me. 7=When I think of these products, it's all about me and how I look to the world. 8=I want to be youthful forever.
Preliminary question: What would my significant other think of this? **Possible answers:** 1=They'd want it to smell good. 2=They don't want it to be excessively sticky or oily. 3=They would want it to be reasonably-priced.
Rating question after reading each vignette: How do you feel when you read the vignette? Choose one rating point. **Scale:** 1=I don't want to buy it...AND I don't believe it will deliver all that it promises. 2=I don't want to buy it… BUT I do believe it will deliver all it promises. 3=I really don't know. 4=I really want to buy it...BUT I am not sure it will deliver all that it promises. 5=I really want to buy it...AND I believe it will deliver all that it promises.

a. Buy (DV = Buy R54). Rating of 5 or 4 coded as 100, rating of 3, 2, or 1 coded as 0.

b. Believe (DV = Believe R52). Rating of 5 or 2 coded as 100, rating of 4, 3, or 1 coded as 0.

c. Not Buy (DV = Not Buy, R21). Rating of 2 or 1 coded as 100, rating of 5, 4, 3 coded as 0.

d. Not Believe (DV = Not Believe R41). Rating of 4 or 1 coded as 100, rating of 5, 3, 2 coded as 0.

4. To all newly created binary variables is added a vanishingly small random number ($<10^{-5}$). This prophylactic step ensures that newly created binary variables have some marginal degree of variability even when the re-coding ends up being all 0 or 100. The addition of variability ensures that the Ordinary Least Squares (OLS) regression will not fail. Response Time (RT) is the measurement provided by the Mind Genomics platform. Response times of 8 or more seconds are brought to 8 seconds with the assumption that the long response time suggested that the respondent was multitasking and not paying attention to the task.

5. The equation used to fit the data is expressed as: Dependent Variable $k_1A1 + k_2A2.. k_{16}D4$.

6. The equation does not have an additive constant. The rationale for this is the desire to force all the explanation of the variation onto the elements.

7. A separate analysis looking at the t-statistic of the coefficients when estimated without an additive constant vs. with an additive constant was used to identify the level of the coefficient in the model without an additive constant corresponding to a significant coefficient (t-statistic > 2.0). A coefficient around 20 emerged as corresponding to a significant coefficient. All of the coefficients with buys values of 21 or higher are highlighted.

8. For the analysis of the response time coefficients, a coefficient of 1.3 or higher was deemed to reflect the respondent focusing on the element. In turn, a response time coefficient of 0.2 or lower was assumed to represent that the respondent barely considered the element when making a decision and therefore did not pay attention.

Table 3 shows the coefficients of the five equations for the total panel (Buy, Believe, Not Buy, Not Believe, and Response Time all vs. the presence/absence of the 16 elements).

The results are straightforward to read:

The element performed reasonably well among the total panel. Three elements that performed significantly well specifically for interest in buying:

C1 *A dance of fragrant notes that stir the soul.*

D1 *Cloaks blemishes in a soft embrace of light.*

C2 *A sweet lullaby sung by wildflowers under moonlight.*

D1 is not believed at all, however: this reads "Cloaks blemishes in a soft embrace of light" and calls into question the belief that the product can actually cloak blemishes the way as promised.

Finally, one element truly captures the imagination, as shown by the long response time attributed to that element: 1.3 seconds. The element is: "C1: A dance of fragrant notes that stir the soul."

If one were to draw any conclusions, one would say that these

Table 3: Performance of the 16 elements on the dependent variables, as represented by the coefficient of the element estimated by OLS regression.

		Buy R54	Believe R52	Not Buy R 21	Not Believe R41	Response Time
C1	A dance of fragrant notes that stirs the soul.	28	15	0	13	1.3
D1	Cloaks blemishes in a soft embrace of light.	23	3	6	27	0.7
C2	A sweet lullaby sung by wildflowers under moonlight.	23	10		9	0.4
D3	Coverage that feels like a delicate silk kiss.	20	6	3	17	0.5
C4	The essence of a secret garden hidden from the world.	19	12	1	8	0.4
C3	A kiss of mystery that lingers long after application.	19	14	5	10	0.9
A1	Smooth, supple, and radiant, like a second skin.	18	10	9	16	0.7
D2	Smooths away flaws with a gentle, luminous touch.	17	13	7	10	0.6
B3	Delicately smooth, like a gentle caress for your body.	16	11	4	8	1.0
D4	Like a soft-focus lens, it perfects with grace.	14	15	11	10	1.0
B1	Luxuriously creamy like a decadent dessert for your skin.	14	12	5	7	0.7
B4	Sumptuously smooth, like a lavish feast for your skin.	13	10	8	10	0.8
A3	Indulgent luxury that feels like a pampering spa treatment.	12	8	6	10	0.7
A4	Like a gentle kiss of sunshine, warming your complexion.	11	13	9	7	0.9
A2	A soft, velvety embrace that lasts all day.	11	10	9	9	0.6
B2	Creamy richness, like a velvety indulgence for your skin.	9	9	13	13	0.8

elements in particular perform very well, but there are no truly strong general patterns.

Moving from the Total Panel to Mind-Sets

The second analysis performed by Mind Genomics groups into clusters based upon the pattern of the 16 coefficients generated by each respondent when the newly created binary dependent variable "buy" (R54 -Buy) becomes the dependent variable. The approach is known as k-means clustering [9].

Each respondent has a distance from every other respondent based on the pattern of the 16 coefficients. The distance is defined by the newly created variable (D = 1- Pearson R). R is the Pearson correlation coefficient. R takes on the value 2 when the correlation R is -1. The lowest possible correlation, -1, corresponds to two people whose 16 elements go in opposite directions and is described by the highest possible distance D between two patterns (D = 2). In contrast, when the two respondents show a perfect linear correlation, +1, the distance is 0 (D 1 – 1 = 0). This is logical because the patterns are parallel to each other, perfectly related. Once we have assigned each respondent to one of the two mind-sets, we revisit the OLS regression and rerun the regression twice, one for Mind-Set 1, and the other for Mind-Set 2.

The story now becomes clearer. Table 4 compares the coefficients for Buy, Believe, and Response Time for Mind-Set 1 vs. Mind-Set 2. Mind-Set 1 comprised 8 of the 25 respondents, while Mind-Set 2 comprised 17 of the 25 respondents. Mind-Set 1 appears to focus on elements presenting information about touch and skin, as well as covering blemishes (elements D1, D2, A1, D3, A4, D4). Mind-Set 1 believes strongly only in one message, D2 (smooths away flaws with a gentle, luminous touch). Mind-Set 1 pays attention to two messages: "Like a gentle kiss of sunshine, warming your complexion," and "Like a soft focus lens, it perfects with grace." We might call Mind-Set 1 "Focus on touch and skin."

Mind-Set 2 appears to focus on all four elements describing fragrance (C1, C2, C3, C4). However, Mind-Set 2 believes strongly only in one element (a kiss of mystery that lingers long after application). Finally, Mind-Set 2 does not appear to be "captivated" by the phrases because the response times for the elements are all lower than the cut-off point of 1.3 seconds, operationally defined as the level an element has to reach in order to be considered an element that holds the respondent's attention.

AI Analysis of Strong Performing Elements

With the incorporation of AI into BimiLeap through the Idea Coach feature, the Mind Genomics platform now offers a standardized analysis of strong performing elements, using Chat GPT 3.5. The analysis occurs after the platform has created the full report. The underlying motivation for the analysis is to determine whether AI can pull out additional information about the respondents (viz., Mind-Sets 1 and 2) by further analyzing the strong performing elements.

Table 5 shows the analysis of strong performing elements on the "Buy" scale for Mind-Sets 1 and 2, respectively. Each analysis uses seven queries. The result generates a machine-created interpretation of the data. The important thing here is that Mind Genomics now has a coach that truly provides additional insights. AI now becomes a collaborator with Mind Genomics to add dimensionality and depth to the results describing the attractiveness of the mindset as a target audience, etc.

Table 4: Coefficients for the 16 elements for Buy, Believe, and Response Time by mind-set. Blank cells correspond to elements with coefficients that are 0 or negative.

		R54X BUY		R52X BELIEVE		RT SECONDS	
		MS1x	MS2x	MS1x	MS2x	MS1x	MS2x
	Strong for Mind-Set1 - Focus on Touch and Skin						
D1	Cloaks blemishes in a soft embrace of light.	36	19	17		1.1	0.5
D2	Smooths away flaws with a gentle, luminous touch.	28	12	20	8	0.6	0.6
A1	Smooth, supple, and radiant, like a second skin.	26	14	12	11	1.1	0.5
D3	Coverage that feels like a delicate silk kiss.	25	19	9	5	0.5	0.4
A4	Like a gentle kiss of sunshine, warming your complexion.	24	5	6	18	1.8	0.4
D4	Like a soft-focus lens, it perfects with grace.	21	10	11	17	1.5	0.7
	Strong for Mind-Set 2 - Focus on Fragrance						
C1	A dance of fragrant notes that stirs the soul.	16	32	19	12	1.5	1.2
C3	A kiss of mystery that lingers long after application.		32	27	7	1.0	0.8
C2	A sweet lullaby sung by wildflowers under moonlight.	4	31	19	4	0.0	0.7
C4	The essence of a secret garden hidden from the world.		30	16	9		0.6
	Not Strong for Either Mind-Set						
B3	Delicately smooth, like a gentle caress for your body.	13	18	16	9	1.4	0.9
B1	Luxuriously creamy like a decadent dessert for your skin.	8	18	1	17	1.1	0.6
B4	Sumptuously smooth, like a lavish feast for your skin.	9	16		16	0.9	0.6
A3	Indulgent luxury that feels like a pampering spa treatment.	17	10		16	1.3	0.4
A2	A soft, velvety embrace that lasts all day.	11	9		17	1.7	0.2
B2	Creamy richness, like a velvety indulgence for your skin.	12	8	5	11	1.2	0.6

Table 5: High-level AI analysis of the strong performing element for the question "Buy" (viz. R54), by Mind-Sets 1 and 2.

MIND-SET 1 (SKIN-ORIENTED)

LOOKING AT STRONG PERFORMING ELEMENTS

Interested in: Smooth, supple, and radiant, like a second skin; like a gentle kiss of sunshine, warming your complexion; cloaks blemishes in a soft embrace of light; smooths away flaws with a gentle, luminous touch; coverage that feels like a delicate silk kiss; like a soft-focus lens, it perfects with grace.

Create a label for this segment: "Radiant Silk Coverage"

Describe this segment: This segment of the total sample appears to prioritize a natural and radiant appearance in their makeup preferences. They value products that provide smooth and supple coverage, akin to a second skin. They appreciate makeup that enhances their complexion with a gentle and luminous touch, delicately cloaking blemishes and flaws. These individuals seek products that offer a soft-focus effect, perfecting their look with grace and subtlety. Overall, they seem to gravitate towards makeup that enhances their natural beauty rather than overpowering it.

Describe the attractiveness of this segment as a target audience: This segment of the total sample seems to prioritize a natural, radiant, and flawless appearance. They value products that provide smooth and supple coverage, almost like a second skin. The language used to describe the attributes suggests a focus on gentle, luminous, and graceful effects, highlighting a desire for a soft and effortless beauty. This target audience appears to appreciate products that enhance their complexion in a subtle and elegant way, rather than heavy or dramatic looks. Overall, the attractiveness of this segment lies in their appreciation for a natural and luminous glow, making them a desirable target for beauty and skincare brands that emphasize lightweight and radiant makeup.

Explain why this segment might not be attractive as a target audience: This segment might not be attractive as a target audience because the language used in the attributes is overly poetic and flowery, which could be perceived as exaggerated or unrelatable to some consumers. Additionally, the descriptions focus heavily on appearance and aesthetics, which may not resonate with individuals who prioritize practicality or are seeking specific benefits or features in their skincare or makeup products. Furthermore, the emphasis on smoothness, radiance, and flawlessness may cater to a narrow, beauty-focused demographic, potentially alienating those who prioritize other qualities in their beauty products or who have diverse beauty preferences.

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

– What is the size and demographic makeup of the total sample?
– What specific product or brand is being tested in the research study?
– Are there any potential side effects or drawbacks associated with the product?
– How long-lasting is the coverage provided by the product?
– How does the product compare to similar products on the market in terms of effectiveness and price?
– Have any participants reported any allergic reactions or skin sensitivities to the product?

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

1. A new foundation with a lightweight, silky texture that provides smooth, supple coverage like a second skin. This product would be perfect for those looking for a natural, radiant finish.
2. A bronzer or highlighter infused with light-reflecting pigments that give a gentle kiss of sunshine to the complexion, adding warmth and radiance.
3. Concealers or color correctors that effectively cloak blemishes in a soft embrace of light, blurring imperfections and creating a flawless finish.
4. A primer or setting spray that smooths away flaws with a gentle, luminous touch, creating a soft-focus effect for a perfected look.
5. Tinted moisturizers or BB creams that offer coverage with a delicate silk kiss, providing a light and breathable finish for everyday wear.
6. Makeup setting powders or sprays that act like a soft-focus lens, blurring imperfections and perfecting the complexion with grace and finesse.

Which messages will interest this mind-set? This segment of individuals may be interested in messages that highlight the following attributes: smooth, supple, radiant, gentle kiss of sunshine, warming complexion, cloaking blemishes in a soft embrace of light, smoothing away flaws with a gentle touch, coverage that feels like a delicate silk kiss, and perfecting with grace like a soft-focus lens. They may be drawn to beauty products that offer a natural and luminous finish, provide light coverage for a flawless look, and enhance their complexion with a gentle and soft touch. Messages that emphasize the luxurious and gentle qualities of the product may resonate with this segment.

MIND-SET 2 (FRAGRANCE-ORIENTED)

LOOKING AT STRONG PERFORMING ELEMENTS

Interested in: A dance of fragrant notes that stir the soul; a sweet lullaby sung by wildflowers under moonlight; a kiss of mystery that lingers long after application; the essence of a secret garden hidden from the world

Create a label for this segment: "Mystical Elixir Collection"

Describe this segment: This segment represents individuals who are drawn to sensory experiences and are deeply attuned to the power of scent. They find beauty and meaning in the natural world, finding solace and inspiration in the delicate fragrances of flowers and the enchanting mysteries of hidden gardens. They are likely to appreciate art, music, and other forms of creative expression that evoke emotions and transport them to another world. They have a romantic and imaginative spirit, cherishing the moments that leave a lasting impact on their hearts and souls.

Describe the attractiveness of this segment as a target audience: This segment of individuals can be described as being drawn to sensual, enchanting, and mysterious experiences. They appreciate beauty and artistry, as evidenced by their love for dance, music, and nature. The mention of fragrant notes, wildflowers, mystery, and secret gardens suggests a romantic and whimsical nature. They likely enjoy indulging in sensory experiences and finding beauty in hidden gems. Overall, this segment would be attracted to products or experiences that evoke emotions and transport them to a magical realm. They would be an ideal target audience for luxury brands, beauty products, fragrances, and immersive experiences that cater to their desire for enchantment and allure.

Explain why this segment might not be attractive as a target audience: This segment may not be attractive as a target audience because the attributes described are very abstract and poetic, making it difficult to clearly understand what specific preferences or characteristics this group may have. Additionally, these descriptions are very subjective and may appeal to a niche group of individuals who value poetic language and mystique in their products. This could make it challenging for marketers to effectively target and appeal to this segment with specific products or services.

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

– What is the specific research study or topic being investigated?
– How were these attributes identified and measured in the total sample?
– What is the demographic information of the participants in the total sample?
– How do these attributes relate to the larger research question or hypothesis?
– Were there any common themes or patterns among the participants in relation to these attributes?
– How were these attributes interpreted or analyzed in the context of the research study?

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

1. **Perfume inspired by the dance of fragrant notes:** A new line of perfumes that captures the essence of different dance styles through unique scent combinations. Each perfume would be designed to evoke the feeling of dancing in a field of flowers or twirling under the stars.
2. **Botanical skincare products infused with wildflower lullabies:** A beauty brand that incorporates wildflower extracts and natural ingredients to create soothing skincare products. The products could feature calming scents inspired by the sweet lullabies sung by wildflowers under moonlight.
3. **Long-lasting mystery-themed lipsticks:** A makeup brand that offers lipsticks with long-lasting formulas that leave a mysterious kiss of color on the lips. The lipsticks could be named after secrets and hidden treasures, adding an element of intrigue to the beauty routine.
4. **Secret garden-inspired retreats:** A travel company that offers luxury retreats in hidden gardens around the world. Guests can escape from the hustle and bustle of everyday life and experience the serenity and beauty of secret gardens, complete with spa treatments, meditation sessions, and gourmet dining experiences.

Which messages will interest this mind-set?

This segment of individuals may be interested in products or experiences that are luxurious, enchanting, and evoke a sense of mystery and enchantment. They may be drawn to fragrances, beauty products, or experiences that transport them to a whimsical and magical place. Messages that highlight the sensory and emotional qualities of a product or experience, such as the ability to stir the soul, evoke a lullaby sung by wildflowers, or linger like a mysterious kiss, may resonate with this segment. Additionally, messages that tap into the idea of escapism and the allure of a secret garden hidden from the world may also pique their interest.

Discussion and Conclusions

The use of AI in market research, particularly in the context of studying consumer responses to new beauty products, may accelerate the way companies gather feedback and make informed business decisions. In this study on the responses to a new skin lotion product among females in the UK ages 18-25, AI played a crucial role in both generating the key elements about the product and running the Mind Genomics experiment. Within just three hours, the three-pronged effort provided insights into how this specific demographic perceived and reacted to the product. One of the major benefits of using AI in this capacity is the speed at which insights can be generated. Traditional market research methods can be time-consuming and costly, but with the help of AI, the researchers were able to collect and analyze data in a fraction of the time. This rapid turnaround time enables companies to make quick adjustments to their marketing strategies and product offerings, keeping them ahead of the competition.

Additionally, AI has the ability to identify patterns and generate hypotheses that may not be immediately apparent to human researchers. By using Mind Genomics analytical capabilities, the study project uncovered two distinct mind-sets among the female participants in our study, providing a deeper understanding of their preferences and behaviors. Overall, the integration of AI and Mind Genomics in market research offers a powerful combination of speed, accuracy, and depth of insights that can be invaluable to companies looking to stay competitive in today's fast-paced business landscape.

Acknowledgments

The authors gratefully acknowledge the foresight of Dr. Nenad Filipovic to bring this approach of Mind Genomics to Serbia and to encourage its use among students and professionals, as well as to publish the results of papers in the scientific, technical and business literatures. The authors would like to thank Vanessa Marie B. Arcenas and Angela Aton for their ongoing help in preparing this manuscript and its companion papers.

Abbreviations

ChatGPT: Chat Generative Pre-Trained Transformer; OLS: Ordinary Least Squares; RT: Response Time

References

1. Beresniak A, de Linares Y, Krueger GG, Talarico S, Tsutani K, et al. (2012) Validation of a new international quality-of-life instrument specific to cosmetics and physical appearance: BeautyQoL questionnaire. *Archives of dermatology* 148: 1275-1282.
2. Eze, UC, Tan CB, Yeo ALY (2012) Purchasing Cosmetic Products: A Preliminary Perspective of Gen-Y. *Contemporary Management Research* 8: 1.
3. Segot-Chicq E, Compan-Zaouati, D, Wolkenstein P, Consoli S, Rodary C, et al, (2007) Development and validation of a questionnaire to evaluate how a cosmetic product for oily skin is able to improve well-being in women. *Journal of the European Academy of Dermatology and Venereology: JEADV* 21: 1181-1186.
4. Gofman A, Moskowitz HR (2012) Rule Developing Experimentation: A Systematic Approach to Understand & Engineer the Consumer Mind (p. 473) Bentham Science Publishers.
5. Moskowitz, HR, Gofman A, Beckley J, Ashman H (2006) Founding a New Science: Mind Genomics. *Journal of Sensory Studies* 21: 266-307.
6. Moskowitz H, Rappaport S, Moskowitz D, Porretta S, Velema B, et al. (2017) Product design for bread through mind genomics and cognitive economics. In Developing New Functional Food and Nutraceutical Products (pp. 249-278) Academic Press.
7. Moskowitz H, Rappaport S, Wingert S (2024) IDEA COACH: Using Generative AI and Mind Genomics Thinking to Drive Questions and Answers in Industrial Design. In Innovative Industrial Design - Principles and Practices.
8. Gofman A, Moskowitz H (2010) Isomorphic permuted experimental designs and their application in conjoint analysis. *Journal of Sensory Studies* 25: 127-145.
9. Likas A, Vlassis N, Verbeek JJ (2003) The Global k-Means Clustering Algorithm. *Pattern Recognition* 36: 451-461.

Citation:

Thompson N, Kovac B, Rappaport SD, Wingert S, Moskowitz HR (2025) Developing a New Skin Cosmetic Product: Rapid, Efficient Insights from AI Coupled with Mind Genomics Thinking with the Product Selected, and the Evaluation of Relevant Communications by Actual Prospective Consumers in the UK. *Mind Genom Stud Psychol Exp* Volume 5(3): 1-8.