



Empowering the understanding of wellness through Mind Genomics: A cartography of a wellness club in Pakistan and India

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Abstract

Female respondents (primarily 18-20 years old, divided equally between Pakistan and India) each evaluated 24 unique combinations of messages about a health and exercise club. The scale comprised two parts, a rating of feeling (describes me Yes vs No), and a rating of action (WOULD JOIN Yes vs No). The underlying experimental design, provided by Mind Genomics, allowed the ratings to be deconstructed into the pattern of 16 coefficient showing the contribution of each message element to the overall rating of ME. Clustering of the patterns of coefficients across the 16 elements for 'describes me' and the 120 respondents revealed three mind-sets. The mind-sets are named according to the commonality of the strong-performing elements. MS 1 Focus on better living (n = 52), MS 2 Focus on feeling better about oneself (n = 32) MS3 Focus on negatives and problems (n = 36). Although it appears at a macro level that the rating of JOIN correlates with the rating of ME, a closer look by total and mind-sets suggests that the correlation is determined by a few elements. The granular level analysis by elements suggests different rules for ME vs for JOIN.

Keywords: Empowering; Wellness; Mind Genomics; Club

Introduction

The focus of this paper is on a way to understand people through simple experiments with messages about a topic, losing weight by joining a program. Rather than developing a world view of what works, what should be communicated, and perhaps how, this paper begins with the modest effort to discover what bothers people. The idea is to explore a simple way to come up with a sense of a person, namely, to use experimental design of messages, and have people from two countries (India, Pakistan) evaluate these messages. The analysis of the data will quickly show how any researcher can quickly discover what people think, and perhaps what people believe may work.

Much has been written on persuasion, indeed so much that it is impossible provide even an abbreviated review. Rather, this paper will present an approach, Mind Genomics, which works with systematically crafted combinations of messages to identify the opinions that people hold, and the way to convince them [1]. The use of Mind Genomics to understand effective messaging has been reported for a many different areas, ranging from products to services [2]. In each application the effort focuses on the granular aspects of the everyday, putting these aspects into a structured format wherein they can be studied and the responses to them quantified. This pattern of research will be the case in the study reported here on joining an exercise gym in search of weight loss.

The medical world generally focuses on what the person must do to keep healthy. Depending upon the proclivities of the individual and the advisor, the information provided to the individual may vary drastically both in content and in tone. The literature is replete with observations, advice, hypotheses, data, discussions of what works and what does not, just to name a few aspects. One would have a very difficult time summarizing the data from the literally tens of thousands of relevant journal articles, not to mention the literal fire hydrant of information emerging from the popular press.

Despite the desire for people to have normal weight, the issue of adherence to various structured approaches is filled with the recognition of differences among people [3,4]. Some of the issues may be the way that the weight should come off, diet vs exercise [5]. Other issues may be the nature of the thinking required, viz., whether the goal be simply losing weight or optimizing one's life, which can be called 'mindless' vs mindful practice [6].

The benefits of experimental design and the development of mind genomics know-how

Knowing what to say to people is an ability obvious to anyone who lives in a world where one has to convince others. Whether the knowledge comes from life experience, from courses on rhetoric, from instruction in salesmanship and so forth, the ability to convince a person, to persuade, is of utmost importance when people are free to make their own decisions.

The real question for persuasion is of what one should be persuaded, and how can the person be persuaded. In simple terms, cutting away all the persiflage, the issue becomes something like ‘what are the precise words that should be used to convince a person to take some action?’ In the end, persuasion turns out to be the ability to have a person do something of ‘free will’ because the person is convinced, whether the person was convinced beforehand, or whether the person is convinced from the arguments and behaviors of other.

The process-setting up the study

Step 1

Name the study This is typically not as easy as it seems. One might believe that to name a study one simply has to choose a title. But just exactly what should the title convey? In the world of clinical medicine, biology, as well as the hard sciences choosing a name is fairly straightforward. No one expects the name to be interesting. Rather, the name is the study is the major point of the study. When it comes to the softer sciences, such as psychology and sociology, the paper is not a dry report of an experiment, but often a way of understanding how people think. The study here is called ‘weight loss’ for the computer, but the actual title of the paper as shown above is : Empowering the understanding of wellness through Mind Genomics: A cartography of a wellness club in Pakistan and India.

Figure 1 (left panel) shows the naming of the study for the research. This name and additional identifying information will be put into the booklet presenting the results, as well as put into the data tables as a permanent record.

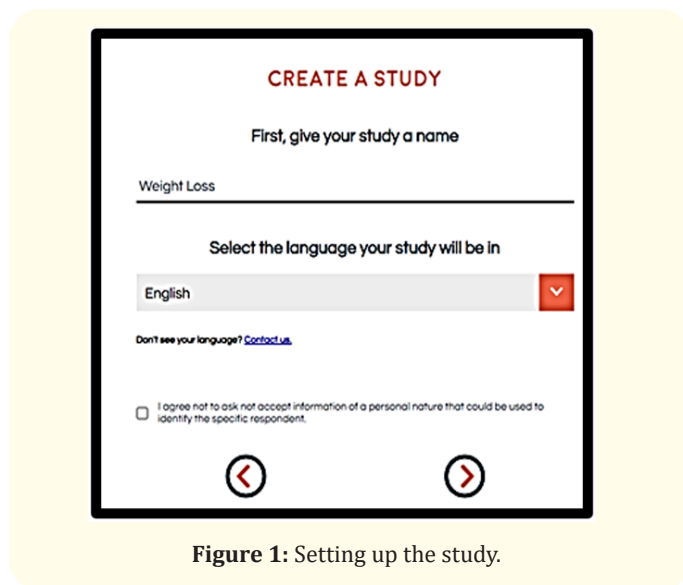


Figure 1: Setting up the study.

Step 2

Create four questions and for each question create four answers The set of four questions are shown in Table 1, each with four answers. The questions were posed by author MF, and the answers provided by MF. Creating the answers was easy once the questions were developed. It was the questions, however, that were difficult, often because the questions require the researcher to structure

a problem in a simple way. People are not taught to think in that manner, and so the effort is strained. Once the questions are selected, however, it becomes easy to answer the question, providing alternative answers.

Table 1 appears to be a polished set of phrases. One should keep in mind that the phrases often emerge in a far more convoluted form, hard to understand. It is with experience that the researcher knows how to edit the questions and the answers, especially the answers. The objective of such editing is to ensure that the answer, the simple phrase, makes sense standing alone by itself. Thus, the answer often requires editing to clarify it, to make sure that it is meaningful when read alone.

	Question A: What are the common reasons that drive people to pursue weight loss?
A1	Required: Improve overall health. reduce the risk of chronic diseases.
A2	Required: Enhance physical appearance. boost self-confidence.
A3	Required: Increase energy. physical and mental health
A4	Required: Meet weight requirements for medical or professional reasons.
	Question B: What are the emotional motivations that can drive people to pursue weight loss?
B1	Emotion: Relieve low self-esteem and body dissatisfaction.
B2	Emotion: Improve mood and psychological well-being.
B3	Emotion: Positive body image.
B4	Emotion: Regain control over body and health.
	Question C: What do you think are the potential drawbacks or negative motivations behind weight loss?
C1	Possible problem: May create disordered eating patterns
C2	Possible problem: Obsession with achieving a specific body shape or size.
C3	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.
C4	Possible problem: Pressure by societal beauty standards... experience body image dissatisfaction.
	Question D: What’s the hardest part of losing weight for you?
D1	Obstacle: Hindered by cravings and food addictions
D2	Obstacle: Hard to fit exercise into busy schedule
D3	Obstacle: Maintain consistent motivation and discipline
D4	Obstacle: Balance nutrition with taste preferences

Table 1: The four questions and the four answers to each question.

Often the topic being studied is new to the researcher, or perhaps even more frequently, the researcher is new to the process. Requiring the researcher to come up with four questions and in turn with four answers to each question can be a frightening task, especially the first few times that one does a Mind Genomics experiment. From two decades of observation working with researchers, younger (grade school) to older (graduate students, professionals), a pattern has emerged. At first the researcher is excited, but then

stymied about creating questions, but after several small studies the researcher who continues with the effort once again becomes excited. It is necessary to introduce the researcher gently to the effort.

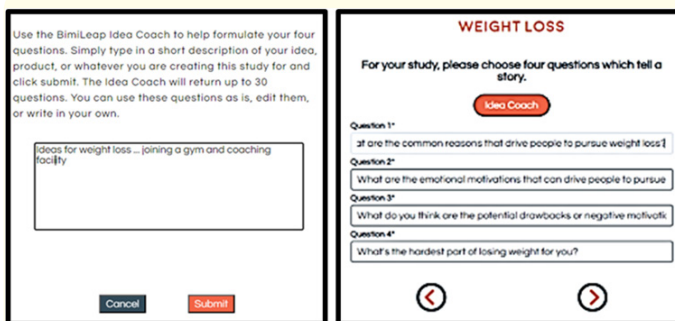


Figure 2: Left panel = Idea Coach (optional use of AI to help create questions (Right panel = questions developed for this study but without using Idea Coach.

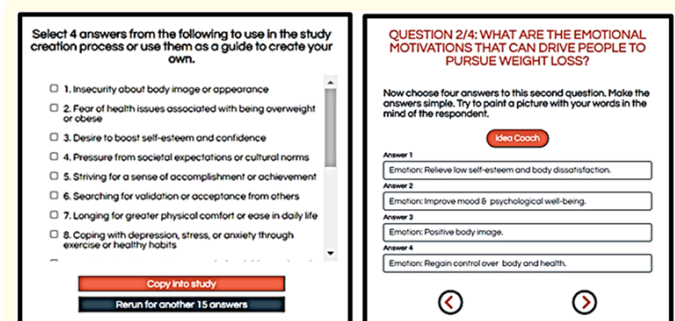


Figure 3: Left Panel = Suggested answers by Idea Coach for question #2. Right Panel = answers created by author Fatima, without using Idea Coach. The Idea Coach is always available to help the researcher but need not be used.

Step 3

Create the orientation page, the rating scale, and additional self-profiling questions. Once the researcher has created the questions and answers, the researcher must orient the respondent about what is to be expected. For most studies experience has shown that it is best to provide a minimalist orientation, without much background, unless that background is relevant to the judgment (e.g., in a legal case). Mind Genomics works best when the information necessary for the rating comes from the test stimuli, the vignettes, as discussed below.

Figure 4 (left panel) shows the orientation. Figure 5 (right panel) shows the rating question (top), and the five anchored scale points (bottom). The researcher has the option to create a scale of five points, seven points, or nine points, as shown by the instruction to choose the highest scale value. The number '5' is shown. The researcher must anchor the top of the scale and the bottom of the scale but need not anchor the middle points of the scale.

The five points answers of the rating scale appear below. The scale points pertain to the respondent’s feeling about the test stimulus that will be presented. The test stimuli described ore completely below comprises combinations of answers, with the respondent evaluating the combination as a single idea.

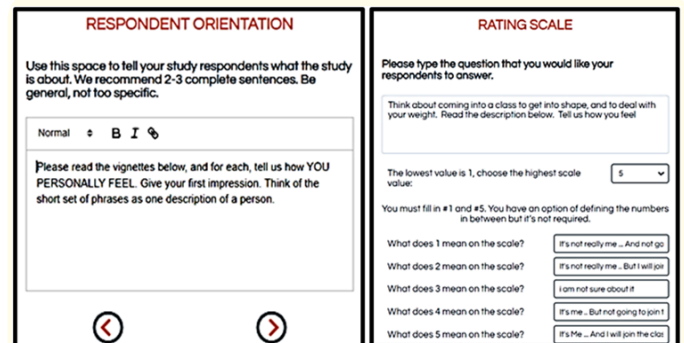


Figure 4: Panel orientation (left panel), and rating question + answer scale (right panel).

Careful reading of the answers shows that this single scale comprises two scales, two dimensions. One is whether the respondent feels that the vignette describes her. (The respondents were all female). The second is whether the respondent felt that the vignette would convince her to join the class. The ability of Mind Genomics studies to work with compound responses allows the researcher to identify the nature of messages, and the degree to which the messages convince as well as being empathic.

Think about coming into a class to get into shape, and to deal with your weight. Read the description below. Tell us how you feel

- 1: It’s not really me ... And not going to join the class
- 2: It’s not really me .. But I will join the class
- 3: i am not sure about it
- 4: It’s me .. But not going to join the class
- 5: It’s Me ... And I will join the class.

The world of consumer research has taught us that we can learn a great deal about people by asking them what they think and how they feel about topics that are considered ‘soft’, such as emotions and behaviors. Although today’s world of research celebrates the availability of large masses of data, so-called Big Data, the reality is that only by asking people about themselves can we actually find out certain things. To help the researcher better understand the respondent, the Mind Genomics program, BimiLeap, has provision for the research to ask up to eight questions, each with up to eight answers. The respondent must choose one answer for each question. This is called ‘single choice’. Figure 5 shows an example of the self-profiling questionnaire presented to the respondent. The respondent answers each of the questions, one question at a time. Two questions are standard, gender and age. The remaining eight questions are left to the researcher. The appendix to this paper presents the actual questions in the language designed by the

researcher. Although there are eight answers allowed, seven of the eight optional questions had four answers, and the eight had five answers.

Figure 5: Self profiling questionnaire as shown to the respondent at the start of the evaluation.

Step 5

Invite the respondent to participate, orient the respondent, present the self-profiling questionnaire, and then present the respondent with 24 test vignettes. The respondents who are chosen to participate come from a group of volunteers. In many cases the respondents come from a population of relevant individuals, such as one’s patients. When the focus is on the general public, however, it continues to be the case that incentivize respondents will provide data faster. During the past twenty years a variety of businesses have emerged from the world of consumer research, these businesses specializing in providing respondents who participate in studies such as the one reported here. These companies can provide respondents ranging from students and random adults to target populations such as health care professionals, and so forth. The requirement is simply that the company’s price be paid to recruit and compensate the respondent, easily fulfilled when dealing with consumers harder to fulfill when dealing with professional and businesspeople of predetermined specification.

The total time for the Mind Genomics session for a respondent range between three minutes at the low end and six minutes at the high end. The test stimuli comprise combinations of answers, but no questions. Figure 6 shows a typical example, with the instructions at the top of the screen, the rating scale, and the anchors in the middle of the screen, and the elements or answers in simple stacked format at the lower part of the screen. The scale is shown at the very bottom. The respondent is instructed to use the keyboard to assign the ratings.

Each respondent evaluated a specific set of 24 vignettes or combinations. To the ordinary person the vignettes appear to throw

together in what might be best called organized confusion, or in the words of Harvard psychologist William James, the vignettes seem to be a blooming buzzing confusion. Indeed, when asked to describe the test vignettes many respondents will say different elements or phrases (the answers) thrown together randomly. After the respondent offers her or his perception of the test stimuli, the respondent often adds that she or he felt that the responses were not accurate, but really guessing because everything seemed so random.

Underneath this apparent randomness is a powerful experimental design, viz., a set of combinations of these answers or elements. The experimental design comprises 24 different vignettes, with the property that each of the 16 answers or elements appears statistically independently of every other answer or element. Furthermore, each element appears five times in 24 combinations, and is missing from the remaining 19 of the 24 combinations. Finally, each vignette has at most one answer or element from a question, but the experimental design ensures that some vignettes (those with three elements) are absent elements or answers from one question, whereas other vignettes (those with two elements) are absent elements or answers from two questions [7].

One final feature of the design is important to mention, that each respondent evaluates a unique set of 24 vignettes, and each set of vignettes evaluated by the respondent constitutes its own experimental design. This is a powerful approach to exploring ideas. In contrast to conventional research which focuses on the most promising set of combinations, implying knowledge ahead of time regarding the promising area, the Mind Genomics strategy of testing different combinations for each respondent makes no such requirement. The researcher need not know anything about the topic. Across the 120 respondents, the researcher in this study, and in general, will be able to explore different messages without any a priori knowledge. The analogy to that of the MRI, magnetic resonance imaging, takes pictures of the tissue from many angles, and reconstructs the 3-dimensional picture afterwards through computer combinations of the two-dimensions. There is no need to know much about the topic.

It is important to mention here that a key benefit of the Mind Genomics process is the ability of the system to avoid being ‘gamed.’ It is impossible for the respondent to guess the so-called ‘right answer’ because there is no discernible pattern. As a consequence, the respondent ends up assigning an answer that seems correct. Many respondents feel that they have ‘guessed’ but the analysis generally shows that the data conform to a clear pattern. Mind Genomics thus ends up allowing the mind of the respondent to take over, but in a way which reduces cognitive bias [8,9].

The Mind Genomics program (www.BimiLeap.com) controls the entire process, presenting the orientation page, then the self-profiling questionnaire with each question having its own pull-

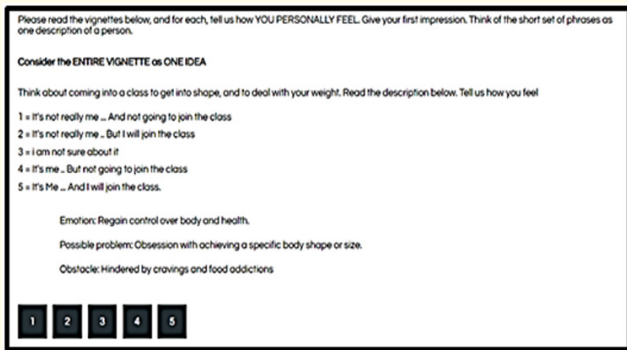


Figure 6: Example of a test vignette, with rating scale and anchors for the scale points.

down menu, and finally presenting the orientation page ad the 24 test vignettes. The program records the rating and the response time, defined as the time between the presentation of the vignette to the respondent and the time to respond. There is an automatic cutoff of 9 seconds, so that any response taking longer than 9 seconds is assumed to represent a lack of attention to the study.

The raw data are available to the researcher at the end of the study, in the form of a simple text file shown in figure 7. The will be inserted into a formatted database for statistical analysis, but figure 7 shows the basic information recorded without any additional processing.

Participant 94	Required: Increase energy- physical & mental health	5	1.115
Participant 95	Emotion: Improve mood & psychological well-being.		
Participant 96	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.		
Participant 97	Obstacle: Hard to fit exercise into busy schedule		
Participant 98			
Participant 99	Required: Increase energy- physical & mental health	1	1.039
Participant 100	Emotion: Positive body image.		
Participant 101	Possible problem: May create disordered eating patterns		
Participant 102	Obstacle: Balance nutrition with taste preferences		
Participant 103			

Figure 7: Part of the raw data before the creation of the database, showing the actual vignettes, the rating, and the response time.

Step 6

Create the database for subsequent statistical analysis. Mind Genomics sets up the study in terms of an experimental design, which prepares the data for powerful statistical analyses. Rather than searching for patterns which may exist, and that may end up emerging by chance, the Mind Genomics programs uses experimental design to explore that different element. As a consequence, it become easy to uncover patterns where they exist.

Before the data are analyzed, two transformations are made, each to isolate a key variable. The first transformation focuses on 'ME'. These are scale points 5 and 4. We created a new variable, ME. This new variable, ME, takes on the value 100 when the respondent rated the vignette either 5 or 4, both of which said that the vignette is ME, and I will join the class (rating 5), or I won't join the class (4).

The second transformation focuses on 'Joining the class.' These are scale points 5 and 2. We create a new variable, JOIN, with a value of 100 when the rating for the vignette was 5 (It's me), or 2 (It's not me).

After creating these two new variables, we add a vanishingly small random number to the transformed value, the variable being less than 10⁻⁵. The random number ensures that the newly transformed binary variables are never of equal value across the set of vignettes. Were these transformed binary variables to be of the exact same magnitude there would be no variation in the dependent variable, leading to a crash in the OLS (ordinary least = squares) regression model explicated below.

The database itself can be visualized as a spreadsheet. Each row of the spreadsheet corresponds to one of the 24 vignettes evaluated by a respondent. With each respondent evaluating 24 vignettes, and with 120 respondents the database comprises 24x120 or xxx rows. Each row will, in turn, belong to one respondent, and one of the 24 vignettes.

The columns of the database correspond to the variables

- **First Set of Columns:** The study, the respondent identifier,
- **Second Set of Columns:** The eight self-profiling questions, along with age and gender
- **Third Set of Columns:** Order of vignette, and 16 columns corresponding to the 16 elements. The order of the vignette ranges from a low of 01 for the first vignette evaluated to a high of 24 for the last vignette evaluated. KN turn, the 16 columns corresponding to the elements contain a 1 when the element is present in the vignette, and a 0 when the element is absent from the vignette.
- **Fourth Set of Columns:** Rating assigned to the vignette, and response time
- **Fifth Set of Columns:** Transformed data. The new variable ME (ratings 5,4 transformed to 100, ratings 1-3 transformed to 0), and the new variable JOOIN (ratings 5 and 2 transformed to 100, ratings 1,3,4 transformed to 0). The newly created variables are slightly modified by the addition of a vanishingly small random number to avoid having all of the values of the newly created dependent variable end with the same binary rating were the respondent to assign ratings 4 or 5, or conversely 1,2 or 3 to all vignettes. This statistically prophylactic step will be most critical when the OLS regression is done at the level of the individual respondent.

Step 7

Deconstruct the dependent variables into the contributions of the 16 elements using OLS (ordinary least = squares) regression. The effort made in the design stage of the study pays out handsomely in the analysis. The experimental design ensures that all 16 elements will be statistically independent of each other and appear equally often. Thus, we can feel safe that the research design is

correct, and likely to point out patterns, even when the researcher does not suspect the patterns.

The equation used for OLS modeling is expressed as $DV = k_1(A1) + k_2(A2) + \dots + k_{16}(D4)$.

The foregoing equation is written without an additive constant, meaning that the equation goes through the origin. By omitting the additive constant, the analysis forces all of the variability to be accounted for by the elements themselves. Thus, the coefficients for the elements can be directly compared across subgroups, and from study to study. The experimental design further ensures that the coefficients have ratio scale properties, so that a 2 is twice as much as a 1, and half as much as a four.

The regression modeling is the same for the two binary variables, ME and JOIN, as well as for the response time, RT. The interpretations differ. The element shows the percentage of vignettes going from a rating of 1-3 to a rating a 4-5 (Not ME vs ME) when the element is inserted into the vignette.

The interpretation of the coefficient for response time is along the same lines, but relevant to the idea of speed of response. For example, a coefficient of 1.0 for response time means that 1.0 seconds of response time can be attribute to that element being in the vignette. In contrast, a coefficient of 0.5 means that only 0.5 seconds or response time can be attributed to that element being in the vignette.

Once again it is important to stress that across the 120 sets of 24 vignettes each it is virtually impossible create a biased combination, since each respondent evaluated a different set of combinations. Very few of the combinations were the same, despite the fact that the elements numbered only 16.

What we learn from the total panel and from the way individuals describe themselves

Table 2 shows the summary models for the total panel, first for ME, then for JOIN, then for response time. The 16 elements are sorted in descending order by the coefficient for dependent variable ‘ME’. The strong performing elements for Mind Genomics are operationally defined here as having coefficients of 20 or higher, or response times of 1.2 seconds or longer. Table 2 shows that only two elements ever satisfy that objective: B1 (Emotion: Relieve low self-esteem and body dissatisfaction, for response time), and A4 (Required: Meet weight requirements for medical or professional reasons: for JOIN and for response time).

Figure 8 shows the scatterplot for JOIN as the dependent variable versus ME as the independent, answering the question ‘if it describes them, will they join?’ The answer, overall, is Yes, albeit with a great deal of unexplained variability.

We may see stronger performing elements when we divide the respondents by what they say about themselves. The self-profiling

	Total Panel	ME	JOIN	RT
B1	Emotion: Relieve low self-esteem and body dissatisfaction.	19	16	1.0
A4	Required: Meet weight requirements for medical or professional reasons.	18	17	1.2
B4	Emotion: Regain control over body and health.	17	21	1.3
B2	Emotion: Improve mood and psychological well-being.	15	18	1.0
C1	Possible problem: May create disordered eating patterns	15	9	1.0
C4	Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	15	12	1.1
A1	Required: Improve overall health. reduce the risk of chronic diseases.	14	15	1.1
A2	Required: Enhance physical appearance. boost self-confidence.	14	15	0.8
D2	Obstacle: Hard to fit exercise into busy schedule	14	13	0.9
C3	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	13	8	0.9
A3	Required: Increase energy. physical and mental health	12	9	0.9
B3	Emotion: Positive body image.	12	13	1.0
D4	Obstacle: Balance nutrition with taste preferences	12	13	1.1
C2	Possible problem: Obsession with achieving a specific body shape or size.	10	8	1.0
D3	Obstacle: Maintain consistent motivation and discipline	10	12	1.1
D1	Obstacle: Hindered by cravings and food addictions	9	14	0.9

Table 2: Coefficients for ME and for JOIN, as well as for Response Time (RT), for the 16 elements, based upon OLS (ordinary least-squares) regression. Data from the Total Panel, sorted by ME.

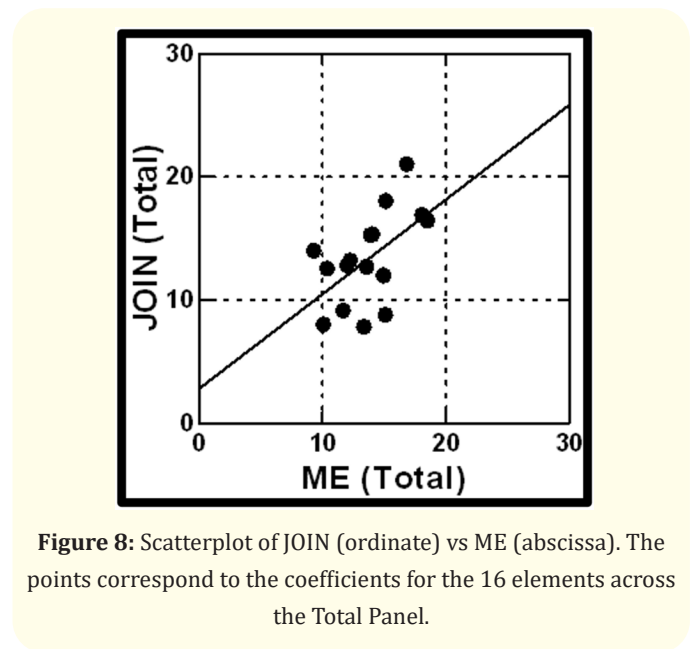


Figure 8: Scatterplot of JOIN (ordinate) vs ME (abscissa). The points correspond to the coefficients for the 16 elements across the Total Panel.

classification enables us to look at the 120 respondents in different ways. Rather than looking at the entire set of coefficients by all self-profiling classifications, it will be easier to choose a few questions and create a model for ME, to determine whether we can find new patterns which make sense.

Table 3 shows the coefficients for the subgroups defined by their answers to these three questions.

How long have you been thinking about your weight issues Which approach do you find most motivating for weight loss?

Country

Cells left blank are those with coefficients having values of 0 or below. Table 3 reveals more strong performing elements as well as more performing elements. What is missing, however, is the pattern which ‘tells the story.’ Dividing the total population of young women into these groups fails to reveal underlying patterns which give us a sense of the ‘ring of truth’. Without, however, any other way to divide people other than who they are and what they say, we may expect enhanced differences among people, but at the same time we may fail to discover underlying patterns in nature which tell the story.

Describes ME (R54)	Total	Never	Just recently	About a half year to a year	A year to 5 years	Follow a structured diet plan	Engage in regular exercise routines	Combine diet and exercise for a balanced approach	Pakistan	India
									How long have you been thinking about your weight issues	
Base Size	120	43	37	27	13	32	52	34	62	58
Question A: What are the common reasons that drive people to pursue weight loss?										
Required: Improve overall health .. reduce the risk of chronic diseases.	14	9	22	8	20	14	11	16	13	15
Required: Enhance physical appearance .. boost self-confidence.	14	13	18	10	11	16	13	12	16	12
Required: Increase energy.. physical & mental health	12	14	16	1	9	9	16	6	12	12
Required: Meet weight requirements for medical or professional reasons.	18	13	25	14	23	20	14	22	20	16
Question B: What are the emotional motivations that can drive people to pursue weight loss?										
Emotion: Relieve low self-esteem and body dissatisfaction.	18	14	18	28	20	17	18	22	20	17
Emotion: Improve mood & psychological well-being.	15	12	19	20	2	13	16	19	17	13
Emotion: Positive body image.	12	8	21	10	10	9	11	19	13	11
Emotion: Regain control over body and health.	17	14	19	24	8	14	16	23	19	15
Question C: What do you think are the potential drawbacks or negative motivations behind weight loss?										
Possible problem: May create disordered eating patterns	15	13	12	18	29	17	14	14	15	15
Possible problem: Obsession with achieving a specific body shape or size.	10	9	10	10	18	9	9	11	6	15
Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	13	14	10	15	20	16	10	17	12	15
Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	15	16	14	16	15	19	12	14	12	19
Question D: What’s the hardest part of losing weight for you?										
Obstacle: Hindered by cravings and food addictions	9	11	5	15	1	7	9	12	7	11

Obstacle: Hard to fit exercise into busy schedule	14	13	11	17	17	14	12	17	16	11
Obstacle: Maintain consistent motivation and discipline	10	17	3	7	14	2	14	15	11	9
Obstacle: Balance nutrition with taste preferences	12	14	8	13	14	9	12	18	11	13

Table 3: Coefficients for the dependent variable ME, emerging from three different ways that the respondents describe themselves.

Mind-sets at the granular level of the everyday Three Mind-Sets based on clustering ME (R54)

A fundament of Mind Genomics is that within our daily experience we differ among ourselves in the way that we make decisions. The decisions do not have to be well thought out, the so-called System 2 elaborated by psychologist Daniel Kahneman in 2011, building on psychological thinking of the previous decades. These differences among people occur with the world of the immediate decisions, information and messages that we typically regard as important, and of which we may not be aware.

The origin of mind-sets, these different groups of people, comes from the work on food by author Moskowitz over decades [2]. The published observations are even older. It is obvious from everyday life that when offered a choice of foods, people gravitate towards different types of the same product. For instance, some people like sour pickles others like dill pickles, and so forth. People may think a bit about their coffee, but do not perseverate, do not focus. People may focus on more important topics such as risk preference, where knowledge of individual differences in what people like can lead to a profitable sale.

The Mind Genomics paradigm moves beyond looking at the total panel and beyond looking at self-defined subgroups of people to a search for true differences in the way people think about the topic. For our study here on joining a club for weight loss and better living, the issue is how to discover these basic differences in the way people make decisions, especially in the absence of science-worthy literature. For the most part, our daily patterns of living are of interest to industries which make products and offer services, but these industries do not contribute to our scientific knowledge about the specific topic. Occasionally, the interested researcher may publish one more paper of good scientific quality about a topic of daily life when that topic is of scientific relevance.

The data presented here lend themselves to focus on one set of coefficients, those which the respondent feels describes them. Viz ME (R54). With 120 respondents the objective is to divide the respondents into a set of non-overlapping groups, so that the pattern of the respondents inside the group are similar to each other, whereas the pattern of the centroids of the three groups are dissimilar to each other. The notion of ‘dissimilar’ is (1-Pearson R). This value we call ‘D’ for distance between two patterns. The k-means clustering method, a well-accepted method for statistical analysis, tries to allocate respondents to a minimum number of groups or

clusters, here three clusters, with the values of D small for pair of respondents within a cluster; but large across the centroid pf the clusters [10].

Clustering is not an exact method, but rather a heuristic to define groups that are ‘different.’ The motion of different can take on many definitions. Furthermore. There is so much noise in the data that we can only for a reasonable solution with the clusters ‘making intuitive sense. The clustering program does not know anything about the meaning of the clusters, but simply knows the mathematics. It is the job of the researcher to make sense of the clusters.

Table 4 shows the results after segmenting the total panel into three clusters or mind-sets, based upon the pattern of coefficients for the rating of ‘ME’. The actual clustering was done on the patterns of coefficients, not on the magnitude of the coefficients. Respondents with different patterns end up in different mind-sets. What is important to observe in Table 4 is the increased number of strong performing elements, defined as elements having coefficients of 21 or higher. The greater number of strong performing elements is due to the ability of the clustering to separate individuals into groups with similar patterns. As a consequence, within a group there is a greater likelihood of strong performing elements to be similar to each other, rather than these strong performing elements to be different from each other, and thus end up having their contributions attenuated.

The three mind-sets are only one of many ways to divide the 120 respondents. Appendix II shows the division of the respondents and the mind-sets by the self-profiling classifications. What makes mind-sets so important in light of the many ways to divide the respondents is only with mind-sets are we likely to learn about the topic more deeply, as we discover groups with seemingly different ways of thinking about the topic. Of course, in all pursuits of mind-sets there will always remain some weak elements which do not appeal to any mind-set.

Once the clustering program assigns each of the respondents to a mind-set based upon the pattern of their coefficients for dependent variable #1 (ME), we can further explore the pattern of coefficients for these mind-sets, first when we look at the coefficient for dependent variable #2 JOIN (Table 5) and the coefficients for Response Time (Table 6). For the ratings of JOIN, we see a few strong performers for Mind-Sets 1 and 2, and no strong performing elements for Mind-Set 3. For Response Time, we find a few engaging elements with long response time again for Mind-Sets 2 and 3.

	Dependent variable = ME (ratings 5 and 4 transformed to 100))	Total	Mind-Set 1 of 3	Mind-Set 2 of 3	Mind-Set 3 of 3
	Base Size	120	52	32	36
	Mind-Set 1 (Focus on Better Living)				
B1	Emotion: Relieve low self-esteem and body dissatisfaction.	18	27	21	4
B2	Emotion: Improve mood and psychological well-being.	15	24	21	
B4	Emotion: Regain control over body and health.	17	24	20	3
B3	Emotion: Positive body image.	12	22	15	
C4	Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	15	22		22
	Mind-Set 2 (Focus on Feeling Better about Oneself)				
D3	Obstacle: Maintain consistent motivation and discipline	10		22	17
B1	Emotion: Relieve low self-esteem and body dissatisfaction.	18	27	21	4
B2	Emotion: Improve mood and psychological well-being.	15	24	21	
	Mind-Set 3 (Focus on negatives, e.g., problems)				
A4	Required: Meet weight requirements for medical or professional reasons.	18	15	18	23
C4	Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	15	22		22
D2	Obstacle: Hard to fit exercise into busy schedule	14	4	19	22
A1	Required: Improve overall health .. reduce the risk of chronic diseases.	14	7	17	21
	Not strong for any mind-set				
A2	Required: Enhance physical appearance .. boost self-confidence.	14	11	17	16
A3	Required: Increase energy.. physical and mental health	12	6	14	17
C1	Possible problem: May create disordered eating patterns	15	19	5	19
C2	Possible problem: Obsession with achieving a specific body shape or size.	10	16		13
C3	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	13	19		19
D1	Obstacle: Hindered by cravings and food addictions	9		15	18
D4	Obstacle: Balance nutrition with taste preferences	12	4	16	20

Table 4: Performance of the elements for the Total Panel and for the three emergent Mind-Sets. The names of the mind-sets are assigned by the researcher.

	Dependent variable = Join a club (ratings 5 and 2 transformed to 100)	Total	Mind-Set 1	Mind-Set 2	Mind-Set 3
	Strong for Mind-Set 1 (Focus on Better Living)				
B4	Emotion: Regain control over body and health.	21	23	24	15
A4	Required: Meet weight requirements for medical or professional reasons.	17	21	12	16
B1	Emotion: Relieve low self-esteem and body dissatisfaction.	16	21	11	15
B2	Emotion: Improve mood & psychological well-being.	18	21	23	9
	Strong for Mind-Set 2 (Focus on Feeling Better about Oneself)				
B3	Emotion: Positive body image.	13	15	25	1
B2	Emotion: Improve mood & psychological well-being.	18	21	23	9
	Not strong for any mind-sets				
A2	Required: Enhance physical appearance .. boost self-confidence.	15	19	13	12
A1	Required: Improve overall health .. reduce the risk of chronic diseases.	15	17	15	14
C4	Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	12	12	12	13
D1	Obstacle: Hindered by cravings and food addictions	14	11	16	15
D2	Obstacle: Hard to fit exercise into busy schedule	13	11	11	16
D4	Obstacle: Balance nutrition with taste preferences	13	11	10	16
A3	Required: Increase energy.. physical & mental health	9	9	7	11
D3	Obstacle: Maintain consistent motivation and discipline	12	7	16	16
C1	Possible problem: May create disordered eating patterns	9	7	13	8
C2	Possible problem: Obsession with achieving a specific body shape or size.	8	4	10	12
C3	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	8	3	8	13

Table 5: How the 'mind-sets differ in what drives them to say they will join a club.

In order to generate more strong performing elements, we have to either uncover more mind-sets for a specific dependent variable, or we have to do the clustering on the relevant dependent variable, viz., JOIN or Response Time for our study.

	Response time for element	Total	Mind-Set 1	Mind-Set 2	Mind-Set 3
	Long Response Time for Mind-Set 1 (Focus on Better Living)				
B4	Emotion: Regain control over body and health.	1.3	1.6	1.1	0.8
A4	Required: Meet weight requirements for medical or professional reasons.	1.2	1.3	1.0	1.1
B2	Emotion: Improve mood & psychological well-being.	1.0	1.3	0.8	0.7
B3	Emotion: Positive body image.	1.0	1.3	0.8	0.7
A1	Required: Improve overall health .. reduce the risk of chronic diseases.	1.1	1.2	0.9	1.0
C2	Possible problem: Obsession with achieving a specific body shape or size.	1.0	1.2	1.2	0.7
B1	Emotion: Relieve low self-esteem and body dissatisfaction.	1.0	1.2	1.0	0.8
C1	Possible problem: May create disordered eating patterns	1.0	1.2	0.8	0.9
	Strong for Mind-Set 2 (Focus on Feeling Better about Oneself)				
D3	Obstacle: Maintain consistent motivation and discipline	1.1	1.1	1.3	0.9
D4	Obstacle: Balance nutrition with taste preferences	1.1	1.1	1.3	0.8
C2	Possible problem: Obsession with achieving a specific body shape or size.	1.0	1.2	1.2	0.7
	Not a Long Response Time for Any Mind-Set				
C4	Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	1.1	1.0	1.1	1.1
C3	Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	0.9	0.9	1.1	0.8
D1	Obstacle: Hindered by cravings and food addictions	0.9	0.9	1.0	0.8
D2	Obstacle: Hard to fit exercise into busy schedule	0.9	1.1	0.8	0.7
A3	Required: Increase energy.. physical & mental health	0.9	0.9	0.7	1.0
A2	Required: Enhance physical appearance .. boost self-confidence.	0.8	0.8	0.7	1.1

Table 6: How the ‘mind-sets differ in the response time to elements.

Index of divergent thought-how well did we do?

Over time, researchers working with Mind Genomics have wanted to know whether they did the study ‘correctly’, and in some cases

did they do well? It is in the nature of people to want to measure their performance, whether that measurement is against their previous performance in a similar task, or against the performance of others. It is to this objective that the IDT, Index of Divergent Thought was developed.

By itself, the Mind Genomics exercise allows the researcher to evaluate messages with respect to a topic. It is not clear, however, whether these are good messages or poor messages, nor even how one would be able to quantify message performance. One might compare the messages of a professional experienced in a topic to the messages of an amateur to see where they differ, and by so doing let the comparison uncover the subtleties in the messaging which correspond to strong messages. Such effort is not hard, but requires experience, a careful eye, and a way to communicate the findings without making the recipient feel that she or he has ‘failed’ or ‘passed’.

An alternative way is to sum up the positive coefficients for the Total Panel, the two-mind-set solution, and the three- mindset solution, weighing each sum by the proportion of the respondents in the group. Furthermore, by weighting the results using the relative number of respondents in the group, the IDT can ‘reward’ good thinking applying to a large group of respondents (the total), rather than rewarding thinking that may be very good, but only for a small group of individuals. In other words, good thinking should be across many people, not just among a small group of individuals who are attuned to one kind of message.

Table 7 shows this IDT computed for the data in this study. The number by itself, 221, has little meaning for one study, but may have meaning as the researcher gains more experience with the topic, or when a different population of respondents is use, or even when a different dependent variable is used as the criterion variable.

	Total	Mind-Set 1 of 2	Mind-Set 2 of 2	Mind-Set 1 of 3	Mind-Set 2 of 3	Mind-Set 3 of 3
Base (number of respondents in this group)	120	60	60	52	32	36
Required: Improve overall health .. reduce the risk of chronic diseases.	14	7	21	7	17	21
Required: Enhance physical appearance .. boost self-confidence.	14	9	19	11	17	16
Required: Increase energy.. physical & mental health	12	5	18	6	14	17
Required: Meet weight requirements for medical or professional reasons.	18	12	26	15	18	23
Emotion: Relieve low self-esteem and body dissatisfaction.	18	28	9	27	21	4
Emotion: Improve mood & psychological well-being.	15	23	7	24	21	

Emotion: Positive body image.	12	20	4	22	15	
Emotion: Regain control over body and health.	17	25	9	24	20	3
Possible problem: May create disordered eating patterns	15	17	13	19	5	19
Possible problem: Obsession with achieving a specific body shape or size.	10	14	6	16		13
Possible problem: Neglect mental health or self-care, in pursuit of weight loss.	13	19	7	19		19
Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.	15	20	10	22		22
Obstacle: Hindered by cravings and food addictions	9	2	17		15	18
Obstacle: Hard to fit exercise into busy schedule	14	7	20	4	19	22
Obstacle: Maintain consistent motivation and discipline	10	2	18		22	17
Obstacle: Balance nutrition with taste preferences	12	7	18	4	16	20
Sum Total of All Positive Coefficients	218	217	222	220	220	234
Average of All Positive Coefficients (sum coefficients/base)	1.8	3.6	3.7	4.2	6.9	6.5
Number of respondents in the column (in the subgroup)	120	60	60	52	32	36
Weight = Proportion of the respondents in the subgroup	0.33	0.17	0.17	0.14	0.09	0.1
Weighted Total (Weight x Sum Total of All Positive Coefficients)	71.9	36.9	37.7	30.8	19.8	23.4
Final Score = sum of weighted totals	221					

Table 7: The Index of Divergent Thought (IDT) for this study.

Discussion and Conclusions

The study presented here represents the second effort by the senior researcher (MF) with the Mind Genomics system. The objective of the study was to explore different issues emerging in a mundane situation, viz., joining a club to control one’s own hunger, and lose weight. The process of developing the study was deliberately shortened in order to work with ‘top of mind’ ideas. The seemingly casual approach to understanding people stands in direct contrast to the well thought out hypotheses about topics which are the hallmark of a scientific practitioner. The contrast is not accidental, but rather deliberate. It is the view of those who work with Mind Genomics that learning about the mind of people need not be constrained to the well-respected method of hypothetico-deductive research, where the researcher formulates a hypothesis, and then

executes the appropriate study to try to falsify the hypothesis. Falsified hypotheses are discarded until all which remain are hypotheses which seem to have the ring of truth, and the track record of resisting efforts to disprove them.

The world of the everyday is too granular, too massive, too small in the nature of the everyday to warrant the full effort of research. Yet, how can the researcher discover what to do, what works? By the time the effort has been made to formulate the hypothesis, to design the study, to implement the study, the phenomenon may have disappeared in the vast morass of preparation. Mind Genomics is set up to capture the excitement of the moment, to provide solid data about the way people think, and to provide data that can be compared across groups, times, situations, etc. In other words, Mind Genomics is a science both for the moment, and for the long journey into knowledge.

At the level of specifics, it important to realize that the key learning emerging from this study is the nature of the messages which perform strongly, and the Kahneman division of thinking into two systems, System 1 (fast, intuitive), vs System 2 (Slow, reasoning). At the level of the total panel, there is the suggestion that there may be a correlation between the messages to which respondent feels a kinship (ME), and the messages which drive joining. That relationship disappear when we look at the individual elements. There is little relationship between the coefficients of ‘me’ and the coefficients for ‘JOIN’, for the total panel, and for the mind-sets. Any apparent relationship is driven by a few elements which show similar extremes for ME and JOIN. Absent those elements, the relationship is random, confirming that System 1 (ME) and System 2 (JOIN) are dramatically different.

The final point to be made is the practical one underlying Mind Genomics, viz., that this emerging science is meant to be a tool for anyone to use. For many years science has evolved into what might be called, in unkindly terms, a priesthood replete with the requirement that one have a hypothesis, that the research answer ‘calls from the literature’, and that the data be treated in a way which allows for confirmation of the hypothesis or better, for the disproof of the hypothesis. This is called the hypothetico-deductive method. Mind Genomics presents an alternative approach, one equally stringent, but designed to explore topics of decision making in a structure manner with the goal to create a database of the mind. (Appendix 1-3).

	The Mind Genomics system is templated both in the set-up and in the reporting. The information about the study is summarized in the report to the researcher Appendix I shows the information about the study which comes with every report. The format is current as of June 2023.
Study Title	Motiv. Weight. Loss
Identification Number of the study:	06042023.Motiv.

Date when the study was run:	(06/04/2023-06/14/2023)
Number of respondents:	120
Purpose of the study:	Many people apparently believe that losing weight is good for their health and improves the quality of their life however deep down the motive is to be accepted by the society and avoid the social pressure and look attractive.
Keywords:	social stigma of losing weight, body image dissatisfaction, motivation behind weight loss
Study info:	<p>Please read the vignettes below, and for each, tell us how YOU PERSONALLY FEEL. Give your first impression. Think of the short set of phrases as one description of a person. </p>

Appendix 1: The specifics of the study, provided as a standard part of the report provided to the researcher.

	MS1	MS2	MS3	Total
Number of respondents in the mind-set	52	32	36	120
How long have you been thinking about your weight issues				
1 = Never	17	13	13	43
2 = Just recently	16	10	11	37
3 = About a half year to a year	13	8	6	27
4 = A year to 5 years	6	1	6	13
Which approach do you find most motivating for weight loss?				
1 = Follow a structured diet plan	18	7	7	32
2 = Engage in regular exercise routines	17	16	19	52
3 = Combine diet and exercise for a balanced approach	16	9	9	34
4 = Take artificial fibers and sweeteners, medicines for weight	1	0	1	2
What strategies or techniques do you find most effective in staying motivated to lose weight?				
1 = Set small achievable goals	14	12	12	38
2 = Reward myself for reaching milestones	11	5	11	27
3 = Engage in enjoyable physical activities	25	12	11	48
4 = Compare my performance with my peers	2	3	2	7

Do you experience any challenges or barriers that hinder your exercise routine?				
1 = Lack of time	23	11	12	46
2 = Lack of motivation	16	13	15	44
3 = Physical limitations or health issues	7	1	7	15
4 = Insufficient knowledge or guidance	6	7	2	15
How would weight loss affect you most?				
1 = Enhances energy levels	18	9	10	37
2 = Perception of a positive body image	16	14	12	42
3 = Increased sense of accomplishment and self esteem	12	5	5	22
4 = Reduced emotional stress	6	4	9	19
What are the negative effects of weight loss on your mind?				
1 = Sense of body image dissatisfaction	11	4	10	25
2 = Social pressures and comparisons	21	6	6	33
3 = Fear of weight regain	14	18	17	49
4 = Emotional challenges and mindset shifts	6	4	3	13
How would you describe your level of physical activity?				
1 = Sedentary lifestyle (little to no physical activity)	7	7	4	18
2 = Light exercise (occasional walks, light household chores)	29	15	22	66
3 = Moderate exercise (regular workouts, brisk walks, sports)	16	9	9	34
4 = Intense exercise (high-intensity workouts, sports training)	0	1	1	2
How important is social support in maintaining your motivation to lose weight?				
1 = Not important at all	11	7	8	26
2 = Somewhat important	17	11	17	45
3 = Moderately important	15	13	8	36
4 = Extremely important	9	1	3	13
Where do you live right now				
1 = Pakistan	29	17	16	62
2 = India	23	15	20	58

Appendix 2: The number of respondents answering each

Total Panel "ME" (R54)
The following is a description of attributes from the total sample of a research study.
Interested in: Required: Improve overall health. reduce the risk of chronic diseases.; Required: Enhance physical appearance. boost self-confidence.; Required: Increase energy. physical and mental health; Required: Meet weight requirements for medical or professional reasons.; Emotion: Relieve low self-esteem and body dissatisfaction.; Emotion: Improve mood and psychological well-being.; Emotion: Positive body image.; Emotion: Regain control over body and health.; Possible problem: May create disordered eating patterns ; Possible problem: Obsession with achieving a specific body shape or size.; Possible problem: Neglect mental health or self-care, in pursuit of weight loss.; Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.; Obstacle: Hindered by cravings and food addictions; Obstacle: Hard to fit exercise into busy schedule; Obstacle: Maintain consistent motivation and discipline; Obstacle: Balance nutrition with taste preferences;
Create a label for this segment: Health and Body Image Improvement Seekers with Possible Challenges

Describe this segment:

The total sample in this research study is characterized by a range of attributes related to the desire to improve overall health and physical appearance, increase energy, and meet weight requirements for medical or professional reasons. Emotionally, individuals in this segment are motivated by relief from low self-esteem and body dissatisfaction, positive body image and improved mood and psychological well-being. However, there are possible problems that may arise from this pursuit, including the creation of disordered eating patterns, obsession with achieving a specific body shape or size, neglect of mental health or self-care, and pressure from societal beauty standards that lead to body image dissatisfaction. Additionally, there are obstacles to achieving these goals, such as cravings and food addictions, difficulty fitting exercise into a busy schedule, maintaining consistent motivation and discipline, and balancing nutrition with taste preferences.

Describe the attractiveness of this segment as a target audience:

This segment is a highly attractive target audience for health, wellness, fitness and nutrition-related products and services. They are motivated by a variety of factors including improving overall health, reducing the risk of chronic diseases, enhancing physical appearance, boosting self-confidence, increasing energy, meeting weight requirements for medical or professional reasons, relieving low self-esteem and body dissatisfaction, as well as improving mood and psychological well-being. They are also looking to regain control over their body and health.

However, there are some potential issues to consider, including the possibility of creating disordered eating patterns, obsessing over achieving a specific body shape or size, neglecting mental health or self-care, and feeling pressure from societal beauty standards which can lead to body image dissatisfaction. Additionally, some may struggle with obstacles such as cravings and food addictions, finding it hard to fit exercise into their busy schedule, maintaining consistent motivation and discipline, and balancing nutrition with taste preferences.

Despite these possible challenges, targeting this segment can be highly lucrative as they are actively seeking solutions to improve their health and well-being. Marketers can position their products and services to address the individual needs of this segment, and can provide education on sustainability, moderation, and the importance of mental and emotional health in achieving overall wellness.

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

This segment might not be attractive as a target audience because of the various possible problems and obstacles associated with their goals. The potential for creating disordered eating patterns, obsession with achieving a specific body shape or size, and neglecting mental health or self-care in pursuit of weight loss could lead to negative consequences. Additionally, societal pressure to conform to beauty standards and the hindrance of cravings and food addictions may make it difficult for this segment to achieve their goals. Overall, the potential for negative outcomes and obstacles may not make this segment an appealing target audience.

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

- What specific chronic diseases are individuals in this sample at risk for?
- What are the current physical appearances and self-confidence levels of individuals in this sample?
- How much energy do individuals in this sample currently have?
- What are the specific weight requirements for medical or professional reasons that individuals in this sample are trying to meet?
- What are the specific factors contributing to low self-esteem and body dissatisfaction in individuals in this sample?
- What are the current mood and psychological well-being levels of individuals in this sample?
- What factors contribute to a positive body image in individuals in this sample?
- What factors contributed to a loss of control over body and health for individuals in this sample?
- How prevalent are disordered eating patterns in individuals in this sample?
- How much pressure do societal beauty standards exert on individuals in this sample?
- What specific cravings and food addictions do individuals in this sample struggle with?
- What are the specific barriers that make it difficult for individuals in this sample to fit exercise into their schedules?
- What current motivations and discipline levels do individuals in this sample have?
- What taste preferences do individuals in this sample have, and how do they typically balance nutrition with these preferences?

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

- Personalized Nutrition Plans - offering customized meal plans based on individual needs and preferences to help achieve weight loss goals without compromising taste preferences.
- Health Coaching - providing guidance and support through the weight loss journey, focusing on self-care and mental well-being alongside physical health.
- Fitness Apps - apps that offer quick and easy workouts that can be done at home or during a busy schedule, making it easier to incorporate exercise into daily routines.
- Body Positive Campaigns - promoting self-love and showing diversity in body shapes and sizes to help individuals in this segment embrace their bodies and overcome body image dissatisfaction.
- Mindful Eating Programs - teaching individuals to listen to their body's hunger signals and understand the emotional triggers behind eating habits to help prevent disordered eating patterns.
- Wellness Retreats - offering immersive experiences focused on relaxation, mindfulness, and healthy habits.
- Health Insurance Incentives - offering discounts or rewards for maintaining a healthy weight and participating in physical activity programs.
- Healthy Meal Delivery Services - providing pre-made meals that are both nutritious and delicious, making it easier for busy individuals to maintain a healthy diet.

<p>Which messages will interest this segment?</p> <p>Our program can help improve overall health and reduce the risk of chronic diseases. Achieving your weight goals with our program can enhance physical appearance and boost self-confidence. Our program will increase your energy and improve both physical and mental health. We can help you meet weight requirements for medical or professional reasons. Our program is designed to relieve low self-esteem and body dissatisfaction and improve mood and psychological well-being. Our program promotes a positive body image and helps you regain control over your body and health. We understand the possible problems that may arise, such as disordered eating patterns, obsession with achieving a specific body shape or size, neglect of mental health or self-care, and societal beauty standards that can create body image dissatisfaction. Our program provides support to address these concerns. We recognize the obstacles of cravings and food addictions, fitting exercise into a busy schedule, maintaining consistent motivation and discipline, and balancing nutrition with taste preferences, and offer personalized solutions to overcome them.</p>
<p>Mind-Set 1 of 3 "ME" (R54)</p>
<p>The following is a description of attributes from the total sample of a research study Interested in: Emotion: Relieve low self-esteem and body dissatisfaction.; Emotion: Improve mood and psychological well-being.; Emotion: Positive body image.; Emotion: Regain control over body and health.; Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.;</p>
<p>Create a label for this Mind-Set</p> <p>Emotional benefits of body image improvement and potential societal pressure.</p>
<p>Explain why this Mind-Set might not be attractive as a target audience</p> <p>This Mind-Set might not be attractive as a target audience because they may not be motivated enough to take action towards improving their self-esteem and body image. Although they have expressed a desire to alleviate their negative emotions, they may not be willing to invest time or money into seeking out resources for self-improvement. Additionally, their potential sense of pressure from societal beauty standards may make them more resistant to change. As a result, this Mind-Set may require more targeted and personalized messaging to effectively engage them in a meaningful way.</p>
<p>List what is missing or should be known about this Mind-Set, in question form</p> <p>What is the specific demographic profile of the sample? How was low self-esteem and body dissatisfaction measured in the study? What interventions or techniques were used to improve mood and psychological well-being? How was positive body image defined and measured in the study? What strategies were used to help participants regain control over their body and health? How was societal pressure and beauty standards assessed in the study? Were there any significant differences in emotion and body image outcomes based on participant characteristics such as gender or age?</p>
<p>List and briefly describe attractive new or innovative products, services, experiences, or policies for this Mind-Set</p> <p>Online Therapy Services: Offering professional counseling services online for individuals who are struggling with low self-esteem and body dissatisfaction can be an effective way to help them work through their emotions in the privacy of their own homes. Positive Body Image Workshops: Hosting workshops that teach people how to develop and maintain a positive body image can be a great way to provide support and inspiration to individuals who experience body image dissatisfaction. Wellness Retreats: Providing retreats that focus on promoting well-being and self-care can help individuals regain control over their body and health in a relaxing and nurturing environment. Social Media Body Positive Campaigns: Creating social media campaigns that celebrate diverse body types and promote positive body image can help counteract the pressure imposed by societal beauty standards. Self-Care Apps: Developing mobile applications that provide users with tools and resources to improve their mood and psychological well-being can be an effective way to promote self-care practices and increase emotional resilience.</p>
<p>Which messages will interest this Mind-Set?</p> <p>Messages that emphasize the potential emotional benefits of the product or service, such as improving mood, psychological well-being, and promoting a positive body image, are likely to be effective for this Mind-Set. Messages that suggest the product or service can help individuals regain control over their body and health may also be appealing. Additionally, messages that address the societal pressure to conform to beauty standards and offer a solution to body image dissatisfaction may be of interest.</p>
<p>Mind-Set 2 of 3 "ME" (R54)</p>
<p>The following is a description of attributes from the total sample of a research study.</p> <p>Interested in: Emotion: Relieve low self-esteem and body dissatisfaction.; Emotion: Improve mood and psychological well-being.; Obstacle: Maintain consistent motivation and discipline;</p>
<p>Create a label for this Mind-Set:</p> <p>Emotional and Motivational Challenges in Body Image Improvement.</p>

<p>Describe this Mind-Set:</p> <p>This Mind-Set of the research study appears to focus on individuals who struggle with low self-esteem and body dissatisfaction and are looking for ways to improve their emotional well-being. They may have a need for motivation and discipline to maintain consistent progress towards their goals. Overall, this Mind-Set may be seeking solutions to emotional obstacles that are hindering their personal growth and happiness.</p>
<p>Describe the attractiveness of this Mind-Set as a target audience:</p> <p>This Mind-Set is highly attractive as a target audience because they are seeking emotional relief from low self-esteem and body dissatisfaction, as well as improvement in their mood and psychological well-being. This indicates that they are motivated to address their emotional needs and are open to seeking solutions to improve their overall well-being. The obstacle of maintaining consistent motivation and discipline also suggests that they may be receptive to guidance and support in achieving their goals. Overall, this Mind-Set presents a valuable opportunity for products or services that address emotional and psychological needs.</p>
<p>Which messages will interest this Mind-Set?</p> <p>The following messages may interest this Mind-Set</p> <p>“Boost your confidence and feel better about your body with our product/service.” (Emotion: Relieve low self-esteem and body dissatisfaction)</p> <p>“Experience a positive shift in your mood and overall well-being with our product/service.” (Emotion: Improve mood and psychological well-being)</p> <p>“Stay motivated and disciplined with our product/service to reach your goals.” (Obstacle: Maintain consistent motivation and discipline)</p>
<p>Mind-Set 3 of 3 “ME (R54)</p>
<p>The following is a description of attributes from the total sample of a research study Interested in:</p> <p>Required: Improve overall health .. reduce the risk of chronic diseases.; Required: Meet weight requirements for medical or professional reasons.; Possible problem: Pressure by societal beauty standards ...experience body image dissatisfaction.; Obstacle: Hard to fit exercise into busy schedule;</p>
<p>Create a label for this Mind-Set</p> <p>“Health-conscious Individuals with Time Constraints and Body Image Concerns”</p>
<p>Describe the attractiveness of this Mind-Set as a target audience</p> <p>This Mind-Set of the total sample appears to be a highly attractive target audience for organizations or businesses focused on improving overall health and reducing the risk of chronic diseases. These individuals are also motivated to meet weight requirements for medical or professional reasons, indicating a high level of commitment to their health goals. However, there may be a possible problem in regard to pressure from societal beauty standards, which could impact their body image satisfaction. Additionally, the obstacle of fitting exercise into a busy schedule could pose a challenge, but this could also be an opportunity for businesses to offer convenient and flexible fitness solutions. Overall, this Mind-Set appears to be a motivated and health-conscious group, with some potential challenges that can be addressed with the right messaging and strategies.</p>
<p>Explain why this Mind-Set might not be attractive as a target audience</p> <p>This Mind-Set might not be attractive as a target audience because even though they have a clear desire to improve their overall health and meet weight requirements for medical or professional reasons, they may still face obstacles such as pressure by societal beauty standards and finding it hard to fit exercise into their busy schedules. This suggests that they may not be fully committed to making the necessary lifestyle changes to achieve their health goals. Additionally, individuals who experience body image dissatisfaction may be more focused on cosmetic goals rather than overall health and wellness. As a result, it may be more difficult to engage and motivate this Mind-Set towards long-term behavior change, making them less attractive as a target audience.</p>
<p>List what is missing or should be known about this Mind-Set, in question form</p> <p>What specific chronic diseases are the participants at risk for?</p> <p>What medical or professional requirements dictate weight requirements?</p> <p>How much pressure do participants feel from societal beauty standards?</p> <p>To what extent do participants experience body image dissatisfaction?</p> <p>What is the typical schedule of participants?</p> <p>What are the specific obstacles that prevent participants from fitting exercise into their schedule?</p> <p>Are there any medical conditions or injuries that limit participants’ ability to exercise?</p> <p>What is the current level of physical activity among participants?</p> <p>What dietary habits do participants have?</p> <p>Are there any psychological factors that may influence participants’ ability to improve their health and meet weight requirements?</p>

<p>List and briefly describe attractive new or innovative products, services, experiences, or policies for this Mind-Set</p> <p>Personalized nutrition plans: Offer customized meal plans based on individual health needs, preferences, and restrictions to help participants achieve optimal health and reduce the risk of chronic diseases.</p> <p>Virtual health and fitness coaching: Provide remote coaching and support to participants to help them incorporate physical activity into their busy schedules and meet weight requirements for medical or professional reasons.</p> <p>Body positivity and self-love programs: Create programs and experiences that promote positive body image and self-confidence, thereby reducing the pressure of societal beauty standards and body dissatisfaction.</p> <p>Stress management services: Offer stress-reduction techniques like mindfulness, meditation, and counseling, which can help participants take control of their emotional and physical well-being and reduce the risk of chronic diseases.</p> <p>Worksite wellness programs: Implement programs like fitness challenges, gym memberships, health screenings, and healthy food options that encourage healthy habits among employees, thereby promoting overall health and reducing the risk of chronic diseases.</p>
<p>Which messages will interest this Mind-Set?</p> <p>“Improving your health can significantly reduce the risk of chronic diseases.”</p> <p>“Meeting weight requirements can ensure better health and professional success.”</p> <p>“Don’t let societal beauty standards affect your body image; focus on your health instead.”</p> <p>“We understand that finding time for exercise can be difficult, but prioritizing your health is worth it.”</p>

Appendix 3: Insights from artificial intelligence, with specific prompts (bold), for Total Panel and the three mind-sets. The insights come from the strong performing elements (coefficients 21 or higher), for the dependent variable ME.

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