

AI and the Advent of the Cyborg Behavioral Scientist

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Green highlighted text indicates that this is a comment from the authors.

Blue highlighted text indicates that this is a prompt presented by the authors to an AI.

Ideation Stage

In this stage, we wanted to get a sense for the relevance and quality of idea that these AI models could put forth. We found that they understood the scope of Consumer Behavior research fairly well, posing questions around emotion in decision making, social media, etc. Their initial responses were quite broad. That said, we were fairly satisfied with their ability to drill down to more specific ideas. We did not find any of the more specific ideas to be of exceptionally high quality, but also many of them were passable enough where, with some expertise and attention, they could be developed into interesting projects.

Bard/Gemini

Please give me ten research topics from the field of Consumer Behavior that meet the following criteria: 1) The idea is important, with a lot of attention paid to it from a theoretical and empirical perspective.; 2) There are a lot of independent variables which could be relevant to this idea, but have yet to be explored.; 3) There are a lot of big unanswered questions in line with the idea.

Here are ten research topics from the field of Consumer Behavior that meet the following criteria:

1. The role of emotions in consumer decision-making

Emotions play a major role in consumer decision-making, but there is still much to learn about how they work and how they can be influenced by marketers. For example, researchers could explore the following questions:

- How do different types of emotions (e.g., positive, negative, neutral) affect consumer decision-making?
- How can marketers use emotional appeals to influence consumer behavior?
- How do emotions interact with other factors, such as cognitive factors and social factors, to influence consumer decision-making?

2. The impact of social media on consumer behavior

Social media has become a major part of many people's lives, and it is having a significant impact on consumer behavior. Researchers could explore the following questions:

- How do consumers use social media to learn about and purchase products and services?
- How do social media influencers influence consumer behavior?

- How do social media communities affect consumer behavior?
- What are the ethical implications of using social media to influence consumer behavior?

3. The role of artificial intelligence in consumer behavior

Artificial intelligence (AI) is rapidly changing the world, and it is also having an impact on consumer behavior. Researchers could explore the following questions:

- How are consumers using AI to learn about and purchase products and services?
- How are businesses using AI to personalize their marketing and sales strategies?
- What are the ethical implications of using AI to influence consumer behavior?

4. The impact of sustainability on consumer behavior

Consumers are becoming increasingly concerned about the environmental and social impact of their purchases. Researchers could explore the following questions:

- What factors influence consumers to purchase sustainable products and services?
- How can businesses encourage consumers to make more sustainable choices?
- What are the challenges and opportunities for businesses in the sustainable consumption market?

5. The role of culture in consumer behavior

Culture plays a major role in shaping consumer behavior. Researchers could explore the following questions:

- How do different cultural values and norms influence consumer behavior?
- How can businesses adapt their marketing and sales strategies to different cultures?
- What are the challenges and opportunities for businesses in the global marketplace?

6. The impact of scarcity on consumer behavior

Scarcity is a powerful motivator of consumer behavior. Researchers could explore the following questions:

- How do consumers respond to different types of scarcity (e.g., limited quantity, limited time, social proof)?
- How can businesses use scarcity to increase product sales?
- What are the ethical implications of using scarcity to influence consumer behavior?

7. The role of personalization in consumer behavior

Consumers are increasingly expecting personalized experiences from the brands they interact with. Researchers could explore the following questions:

- How do consumers respond to personalized marketing and sales messages?

- How can businesses use personalization to improve the customer experience and increase sales?
- What are the challenges and opportunities for businesses in the personalized marketing landscape?

8. The impact of behavioral economics on consumer behavior

Behavioral economics is the study of how people make decisions in real-world settings. Researchers could explore the following questions:

- How can marketers use behavioral economics principles to influence consumer behavior?
- What are the ethical implications of using behavioral economics to influence consumer behavior?

9. The role of neuroscience in consumer behavior

Neuroscience is the study of the brain and nervous system. Researchers could use neuroscience methods to study how consumers make decisions and how they respond to marketing messages. For example, researchers could explore the following questions:

- Which parts of the brain are activated when consumers make different types of purchase decisions?
- How do different types of marketing messages (e.g., emotional appeals, rational appeals, social proof) activate the brain?
- How can businesses use neuroscience findings to develop more effective marketing campaigns?

10. The impact of the future of work on consumer behavior

The future of work is changing rapidly, and this is having an impact on consumer behavior. For example, the rise of the gig economy and the increasing number of people working from home is changing the way people shop and consume products and services. Researchers could explore the following questions:

- How is the future of work changing consumer spending habits?
- How can businesses adapt their marketing and sales strategies to the changing workforce?
- What are the challenges and opportunities for businesses in the future of work?

These are just a few examples of research topics in the field of Consumer Behavior that are important, have a lot of potential for new insights, and have big unanswered questions. Researchers are encouraged to explore these topics and to develop new

Suppose that you are an academic at a Tier 1 research university, and you would like to do consumer behavior research for publication in top consumer behavior journals. Please give us ten novel predictions in this area:

The Ethical Consumer: Factors Influencing Ethical Buying Decisions

Importance: Ethical consumption is on the rise, with consumers becoming more conscious of their purchases.

Independent Variables: Brand's ethical stance, product's environmental impact, country of origin, etc.

Unanswered Questions: How much premium are consumers willing to pay for ethical products? What drives some consumers to prioritize ethics over price or convenience?

Ten novel predictions for consumer behavior research on ethical consumption:

1. Consumers will be willing to pay a higher premium for ethical products that are perceived to be more convenient. This is because consumers are increasingly time-poor and value convenience highly. Ethical brands can leverage this by offering convenient ways for consumers to purchase ethical products, such as through online delivery or subscription services.
2. Consumers will be more likely to prioritize ethics over price for products that they perceive to be essential or high-impact. For example, consumers may be more willing to pay a premium for ethical food or clothing than for ethical electronics or luxury goods.
3. Consumers will be more likely to prioritize ethics over convenience for products that they perceive to be more visible or conspicuous. For example, consumers may be more willing to wear ethical clothing than to eat ethical food, because their clothing is more visible to others.
4. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase for their children. Parents are often willing to make sacrifices for their children, and they may be more motivated to purchase ethical products for them than for themselves.
5. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase as gifts. Consumers may want to send a message with their gift choices, and they may be more likely to choose ethical products that reflect their values.
6. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase for social occasions. Consumers may be more conscious of their

impact on others when they are attending social events, and they may be more likely to choose ethical products that they believe will be appreciated by their guests.

7. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase online. Online shopping offers consumers more information about products and brands than traditional brick-and-mortar stores. This allows consumers to make more informed ethical purchasing decisions.

8. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase from social media. Social media platforms are increasingly being used by brands to promote their ethical credentials. This exposure may make consumers more likely to consider ethical factors when making purchasing decisions.

9. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase from peer-to-peer marketplaces. Peer-to-peer marketplaces offer consumers a way to buy and sell directly from each other. This can make it easier for consumers to find ethical products from small businesses and individuals.

10. Consumers will be more likely to prioritize ethics over price and convenience for products that they purchase through subscription services. Subscription services offer consumers a convenient way to purchase products on a regular basis. This can make it easier for consumers to incorporate ethical products into their regular routines.

These predictions are based on the following assumptions:

- Consumers are becoming increasingly aware of the ethical implications of their purchases.
- Consumers are willing to pay a premium for products that align with their values.
- Consumers are looking for convenient ways to make ethical purchases.
- Social media and peer-to-peer marketplaces are becoming increasingly important channels for ethical consumption.
- Subscription services can make it easier for consumers to purchase ethical products on a regular basis.

These predictions are novel in that they go beyond the traditional focus on price and convenience as the primary drivers of ethical consumption. They suggest that other factors,

such as product visibility, social occasions, and purchase channels, may also play a role in consumers' decision-making.

Future research could test these predictions by using a variety of methods, such as surveys, experiments, and observational studies. This research could help brands to better understand the factors that influence consumers' ethical buying decisions and develop more effective strategies for reaching ethical consumers.

Bing Chat/CoPilot

Please give me ten research topics from the field of Consumer Behavior that meet the following criteria: 1) The idea is important, with a lot of attention paid to it from a theoretical and empirical perspective.; 2) There are a lot of independent variables which could be relevant to this idea, but have yet to be explored.; 3) There are a lot of big unanswered questions in line with the idea.

Here are ten research topics from the field of Consumer Behavior that meet your criteria:

1.

The impact of social media on consumer behavior

: Social media has become an integral part of our daily lives, and its influence on consumer behavior is a topic of great interest to researchers. This topic has a lot of unanswered questions, such as how social media affects consumer decision-making and how it can be used to influence consumer behavior.

2.

The role of emotions in consumer decision-making

: Emotions play a significant role in consumer decision-making, but there is still much to learn about how different emotions affect consumer behavior. This topic could explore how emotions such as happiness, sadness, and anger influence consumer behavior.

3.

The effect of culture on consumer behavior

: Culture is an important factor that influences consumer behavior, but there are still many unanswered questions about how culture affects consumer decision-making. This topic could explore how cultural differences affect consumer behavior and how companies can adapt their marketing strategies to different cultures.

4.

The impact of product packaging on consumer behavior

: Product packaging is an important factor that influences consumer behavior, but there are still many unanswered questions about how packaging affects consumer decision-making. This topic could explore how different types of packaging affect consumer behavior and how companies can use packaging to influence consumer decision-making.

5.

The role of trust in e-commerce

: Trust is an important factor that influences e-commerce transactions, but there are still many unanswered questions about how trust affects consumer decision-making in the context of e-commerce. This topic could explore how trust affects online purchasing decisions and how companies can build trust with their customers.

6.

The effect of brand loyalty on consumer behavior

: Brand loyalty is an important factor that influences consumer behavior, but there are still many unanswered questions about how brand loyalty affects consumer decision-making. This topic could explore how brand loyalty affects purchasing decisions and how companies can build brand loyalty with their customers.

7.

The impact of environmental factors on consumer behavior

: Environmental factors such as weather, time of day, and location can all influence consumer behavior, but there are still many unanswered questions about how these factors affect consumer decision-making. This topic could explore how environmental factors affect purchasing decisions and how companies can use this information to influence consumer behavior.

8.

The role of self-identity in consumer decision-making

: Self-identity is an important factor that influences consumer decision-making, but there are still many unanswered questions about how self-identity affects purchasing decisions. This topic could explore how self-identity affects purchasing decisions and how companies can use this information to influence consumer behavior.

9.

The effect of price on consumer behavior

: Price is an important factor that influences consumer behavior, but there are still many unanswered questions about how price affects purchasing decisions. This topic could explore how different pricing strategies affect purchasing decisions and how companies can use pricing to influence consumer behavior.

10.

The impact of social norms on consumer behavior

: Social norms play an important role in shaping our behaviors, including our purchasing decisions. However, there are still many unanswered questions about how social norms affect purchasing decisions and how companies can use social norms to influence consumer behavior.

I hope these topics help you get started with your research!

Suppose that you are an academic at a Tier 1 research university, and you would like to do consumer behavior research for publication in top consumer behavior journals. Please give us ten novel predictions in this area:

The Ethical Consumer: Factors Influencing Ethical Buying Decisions

Importance: Ethical consumption is on the rise, with consumers becoming more conscious of their purchases.

Independent Variables: Brand's ethical stance, product's environmental impact, country of origin, etc.

Unanswered Questions: How much premium are consumers willing to pay for ethical products? What drives some consumers to prioritize ethics over price or convenience?

Thank you for your question. Here are ten novel predictions for consumer behavior research in the area of ethical consumption:

1. **The impact of social media on ethical consumption:** Social media has become a powerful tool for consumers to share information and opinions about brands and products. Research could explore how social media influences ethical consumption, such as how consumers use social media to learn about ethical issues and how social media can be used to promote ethical consumption.
2. **The role of emotions in ethical consumption:** Emotions play a significant role in consumer behavior, and research could explore how emotions influence ethical consumption. For example, how do emotions such as guilt, empathy, and anger affect ethical buying decisions?
3. **The effect of product labeling on ethical consumption:** Product labeling can provide consumers with information about a product's ethical stance, such as whether it is environmentally friendly or fair trade. Research could explore how product labeling affects ethical consumption, such as how consumers interpret different types of labels and how labeling can influence buying decisions.
4. **The impact of price on ethical consumption:** Ethical products are often more expensive than non-ethical products, and research could explore how price affects ethical consumption. For example, how much of a premium are consumers willing to pay for ethical products, and what factors influence this decision?
5. **The role of trust in ethical consumption:** Trust is an important factor in consumer behavior, and research could explore how trust influences ethical consumption. For example, how does trust in a brand or product affect ethical buying decisions?
6. **The effect of country of origin on ethical consumption:** The country of origin can influence consumer perceptions of a product's ethical stance, and research could explore how country of origin affects ethical consumption. For example, how do consumers perceive products from different countries, and how does this perception influence buying decisions?

7. **The impact of corporate social responsibility on ethical consumption:** Corporate social responsibility (CSR) has become an important issue for many companies, and research could explore how CSR affects ethical consumption. For example, how does a company's CSR initiatives influence consumer perceptions of its ethical stance, and how does this influence buying decisions?
8. **The role of personal values in ethical consumption:** Personal values can influence consumer behavior, and research could explore how personal values affect ethical consumption. For example, how do values such as environmentalism, social justice, and animal welfare influence ethical buying decisions?
9. **The effect of product availability on ethical consumption:** Product availability can influence buying decisions, and research could explore how product availability affects ethical consumption. For example, how does the availability of ethical products in a particular market influence consumer behavior?
10. **The impact of convenience on ethical consumption:** Convenience is an important factor in consumer behavior, and research could explore how convenience influences ethical consumption. For example, how does the convenience of purchasing ethical products online versus in-store affect buying decisions?

I hope these predictions help you in your research. Please let me know if you have any other questions.

ChatGPT 4

Please give me ten research topics from the field of Consumer Behavior that meet the following criteria: 1) The idea is important, with a lot of attention paid to it from a theoretical and empirical perspective.; 2) There are a lot of independent variables which could be relevant to this idea, but have yet to be explored.; 3) There are a lot of big unanswered questions in line with the idea.

Certainly! Here are ten research topics from the field of Consumer Behavior that meet the given criteria:

Digital Consumption and Mental Health

- *Importance:* As digital consumption grows, concerns about its impact on mental health have been raised.
- *Independent Variables:* Types of digital platforms, frequency of use, nature of content consumed, device type, duration of use, etc.
- *Unanswered Questions:* How do various digital platforms differently impact mental health? What is the threshold for healthy versus unhealthy consumption?

Influence of Artificial Intelligence on Purchase Decisions

- *Importance:* AI has become a significant tool in e-commerce, personalized advertising, and recommendation systems.

- *Independent Variables*: Trust in AI, personalization level, frequency of AI interactions, transparency of AI, etc.
- *Unanswered Questions*: How does the overt presence of AI influence trust and purchase intentions? Does transparency about how AI works increase or decrease its influence?

Consumer Behavior in Virtual Reality (VR) Shopping Environments

- *Importance*: VR is emerging as a new shopping platform.
- *Independent Variables*: Realism of VR, presence of other virtual shoppers, level of interactivity, etc.
- *Unanswered Questions*: How do VR shopping experiences compare to real-world shopping? How does the presence of other virtual entities influence purchase behavior?

Post-Pandemic Consumer Behavior Shifts

- *Importance*: The COVID-19 pandemic has fundamentally changed consumer behavior in various sectors.
- *Independent Variables*: Degree of lockdown, pandemic severity in the region, change in disposable income, etc.
- *Unanswered Questions*: Which behavior shifts are temporary versus permanent? How have values and priorities changed in buying behavior?

Neurological Basis of Impulse Buying

- *Importance*: Impulse buying has significant economic implications.
- *Independent Variables*: Neurochemical levels, prior exposure to stimuli, emotional state, etc.
- *Unanswered Questions*: What are the exact neural pathways activated during impulse purchases? How can this be modulated or predicted?

Consumer Trust in Peer Reviews versus Expert Reviews

- *Importance*: Reviews influence buying decisions, but the source of these reviews varies in credibility.
- *Independent Variables*: Presence of fake reviews, familiarity with the reviewer, platform of review, etc.
- *Unanswered Questions*: How do consumers weigh peer versus expert opinions? How can trust be restored in a review ecosystem fraught with misinformation?

The Ethical Consumer: Factors Influencing Ethical Buying Decisions

- *Importance*: Ethical consumption is on the rise, with consumers becoming more conscious of their purchases.
- *Independent Variables*: Brand's ethical stance, product's environmental impact, country of origin, etc.
- *Unanswered Questions*: How much premium are consumers willing to pay for ethical products? What drives some consumers to prioritize ethics over price or convenience?

Consumer Reactions to Brand Activism and Social Justice Initiatives

- *Importance*: Many brands are actively taking stances on social and political issues.

- *Independent Variables*: Authenticity of the brand's stance, prior brand reputation, cultural context, etc.

- *Unanswered Questions*: How does perceived authenticity of a brand's activism influence consumer loyalty? When does brand activism backfire?

The Role of Nostalgia in Purchase Intentions

- *Importance*: Brands often use nostalgia in their marketing strategies.

- *Independent Variables*: Age of the consumer, cultural relevance of nostalgic elements, personal past experiences, etc.

- *Unanswered Questions*: What elements evoke the strongest nostalgic reactions? How does nostalgia interact with other emotional factors in buying decisions?

Consumer Behavior in Sharing Economy Platforms

- *Importance*: Platforms like Airbnb, Uber, and others have revolutionized traditional markets.

- *Independent Variables*: Trust in the platform, previous experiences, cultural attitudes towards sharing, etc.

- *Unanswered Questions*: What drives trust in peer-to-peer platforms versus traditional services? How does the sharing economy change the value we place on ownership versus access?

Each of these topics holds significant theoretical and practical implications, and there are many avenues within them yet to be explored.

Suppose that you are an academic at a Tier 1 research university, and you would like to do consumer behavior research for publication in top consumer behavior journals. Please give us ten novel predictions in this area:

The Ethical Consumer: Factors Influencing Ethical Buying Decisions

Importance: Ethical consumption is on the rise, with consumers becoming more conscious of their purchases.

Independent Variables: Brand's ethical stance, product's environmental impact, country of origin, etc.

Unanswered Questions: How much premium are consumers willing to pay for ethical products? What drives some consumers to prioritize ethics over price or convenience?

Certainly! Here are ten novel predictions regarding the factors that may influence ethical buying decisions of consumers:

1. ****Price Elasticity and Ethical Premium****: Consumers will show higher price elasticity for products with a clear ethical advantage. This means they would be willing to pay a premium, but only up to a certain threshold, beyond which demand will drop sharply.

2. **Brand Transparency Effect**: Brands that transparently communicate their ethical practices will see a stronger consumer trust and loyalty, even if their products are priced higher than competitors' less transparent offerings.
3. **Ethical Brand Association and Consumer Identity**: Consumers are more likely to purchase from brands whose ethical stance aligns with their personal identity. This implies that marketing that highlights ethical congruence with consumer values will be particularly effective.
4. **Impact of Peer Influence**: Consumers will be significantly influenced by their social circle when it comes to ethical consumption, with social media playing a key role in spreading awareness and influencing buying decisions.
5. **Country of Origin as a Quality Heuristic**: Products from countries perceived as having higher ethical standards will be preferred, even if the ethical advantage of the product is not directly observable.
6. **Ethical Fatigue**: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.
7. **Convenience vs. Ethics**: A critical tipping point will exist where convenience will outweigh ethical considerations for the majority of consumers, highlighting the need for ethical options to be as convenient as their conventional counterparts.
8. **Age and Ethical Consumption**: Younger consumers, particularly Gen Z, will be more likely to prioritize ethical considerations over cost when compared to older generations, potentially because of greater environmental awareness and social activism.
9. **Ethical Consumption as a Luxury Good**: Ethical consumption patterns will mimic those of luxury goods, with conspicuous consumption playing a role in the purchase of visibly ethical products.
10. **Effectiveness of Certifications and Seals**: Ethical certifications and seals will increase the likelihood of purchase, but their impact will diminish as the market becomes saturated with various certifications, leading to consumer confusion.

These predictions would be subject to empirical testing and would likely contribute to the academic literature by providing insights into consumer behavior and aiding companies in developing strategies that align with the ethical values of their customers.

Literature Review Stage

We found the literature review stage to be a major weak point for the AI models. Firstly, the hallucinations they made, inventing research that does not exist, make them highly unreliable. While a researcher could take a "trust, but verify" approach to this aspect, the effort it would take to do so very much undermines the time-saving value that these models ought to offer. Moreover, the legitimate research that these models do recommend is often not from relevant, top-tier journals, again making this a poor utility to researchers. Last and most crucial, the relevance of the research these models did raise was frequently only relevant at a superficial level.

Bard/Gemini

In a previous conversation, you gave me the following research idea. Please tell me if this is a novel idea I should pursue: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

The concept of "ethical fatigue" is interesting and has potential for further research, but it's unlikely to be entirely novel. Here's what we can consider:

- Similar terms: There are existing terms like "compassion fatigue" and "moral distress" that describe a similar phenomenon in specific fields.
- Potential validity: The idea of consumers becoming desensitized to ethical marketing due to overexposure is reasonable.

Here's how you can approach the novelty aspect:

- Focus angle: Focus on the specific context of ethical branding and consumer behavior. You can explore how ethical messaging fatigue might differ from general advertising fatigue.
- Consumer research: Conduct surveys or interviews to understand consumer experiences with ethical marketing claims. See if "ethical fatigue" resonates or if there are other terms they use.
- Impact & solutions: Explore the potential consequences of ethical fatigue for businesses and consumers. Look for ways companies can avoid inducing fatigue and still promote ethical practices.

By taking these steps, you can contribute valuable insights to the field of marketing ethics, even if the core concept isn't entirely new.

Can you do that literature search for me, to the best of your abilities?

I can't conduct a full academic literature search myself, but I can definitely help you get started. Here are some ways to find relevant research on "ethical fatigue" in the context of consumer behavior:

Search Engines:

- Use Google Scholar with terms like "ethical fatigue consumer behavior," "ethical marketing overexposure," or "consumer desensitization to ethical claims."

Academic Databases:

- Many universities offer access to academic databases. If you have access through a library or institution, try searching databases like Business Source Premier, EBSCOhost, or JSTOR with similar keywords.

Scholarly Articles:

- Look for existing research on decision fatigue or information overload in consumer behavior. These fields might have explored similar concepts to "ethical fatigue." You can then use the reference sections of these articles to find further research.

Industry Reports:

- Marketing research firms and industry publications might have reports on consumer trends related to ethical branding. Look for terms like "consumer skepticism towards ethical claims" or "ethical marketing effectiveness."

Start with these resources and see what you find. Here are some additional tips:

- Look for articles with titles or abstracts that mention ethical fatigue, consumer skepticism, or ethical marketing overexposure.
- Pay attention to the date of publication. Focus on recent research (past 5-10 years) for the most up-to-date findings.
- Look at the methodology used in the research. Strong research will involve surveys, experiments, or focus groups to gather data from consumers.

By using these strategies, you should be able to find relevant research that will help you develop your idea of "ethical fatigue" in consumer behavior.

Bing Chat/CoPilot

In a previous conversation, you gave me the following research idea. Please tell me if this is a novel idea I should pursue: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

The concept of “**Ethical Fatigue**” is indeed intriguing and worth exploring further. Let’s break it down:

1. **Definition:**

- **Ethical Fatigue** refers to the phenomenon where consumers become weary or desensitized to ethical branding efforts due to an overwhelming exposure to marketing messages centered around ethics.

2. **Potential Factors:**

- **Marketing Overload**: As companies increasingly emphasize their ethical practices, consumers are bombarded with messages about sustainability, fair trade, social responsibility, and environmental consciousness.
- **Diminished Impact**: Over time, consumers may develop a sense of skepticism or indifference because ethical claims become commonplace and lose their impact.
- **Cynicism**: Some individuals might perceive ethical branding as a mere marketing ploy rather than genuine commitment.

3. **Research Questions:**

- **Prevalence**: How widespread is ethical fatigue among consumers? Is it more pronounced in certain demographics or industries?
- **Measurement**: Can we develop a reliable scale to assess ethical fatigue?
- **Effects**: What are the consequences of ethical fatigue? Does it affect purchasing behavior, brand loyalty, or overall trust?
- **Mitigation Strategies**: How can companies combat ethical fatigue? Are there effective communication strategies to maintain authenticity?

4. **Implications:**

- **Marketing Strategies**: Companies need to strike a balance between promoting their ethical practices and avoiding oversaturation.
- **Communication**: Crafting transparent, authentic messages is crucial to prevent ethical fatigue.
- **Long-Term Sustainability**: Brands should focus on consistent ethical actions rather than short-term campaigns.

5. **Novelty:**

- While the concept of consumer fatigue exists in various contexts, the specific lens of ethical fatigue appears relatively novel. Exploring its nuances and impact could contribute to marketing literature.

In summary, I encourage you to delve deeper into this research idea. Investigate its prevalence, effects, and potential strategies for mitigating ethical fatigue. Who knows—you might uncover valuable insights that benefit both consumers and businesses! 🌟🔍

Can you do that literature search for me, to the best of your abilities?

Certainly! Let's explore the existing literature on **compassion fatigue** and its implications. While the concept of **ethical fatigue** is not directly studied, we can draw insights from related research on compassion fatigue. Here are some relevant studies:

1. **“Compassion Fatigue in Healthcare Providers: A Systematic Review and Meta-Analysis”:**

- **Definition:** Compassion fatigue (CF) is distinct from burnout and refers to deep physical, emotional, and spiritual exhaustion resulting from caring for others.
- **Prevalence:** CF impacts healthcare providers across various specialties. Oncology nurses, due to their intense patient interactions, are particularly susceptible.
- **Measurement:** Researchers use tools like the Professional Quality of Life scale to assess CF prevalence.
- **Impact:** CF affects nurses' well-being, job performance, hospitals, and patient care.
- **Future Research:** [Further exploration is needed to understand CF's impact on oncology nurses¹.](#)

2. **“A Comprehensive Review of Compassion Fatigue in Pre-Hospital Emergency Caregivers”:**


- **Antecedents:** Coping ability, self-efficacy, and clinical/occupational hazards contribute to compassion fatigue.
- **Definition:** CF involves holding patients' despair and hopefulness simultaneously.
- **Consequences:** CF affects healthcare workers physically, emotionally, socially, and spiritually.
- **Future Directions:** [Strategies to combat CF and enhance nurses' well-being require further investigation².](#)

3. **“Accounting for Research Fatigue in Research Ethics”:**

- This paper discusses research fatigue among marginalized communities and how the research community should respond to it. [While not directly related to ethical fatigue, it highlights the impact of research on participants³.](#)

4. **“Compassion Fatigue in Healthcare Providers: A Scoping Review”:**

- **COVID-19 Impact:** The pandemic has exacerbated compassion fatigue among healthcare providers.
- **Policy Implications:** A comprehensive review can inform strategies to address the health human resources crisis.
- **Prospective Research: Identifying areas for further study is crucial⁴.**

In summary, while ethical fatigue is a novel concept, exploring related phenomena like compassion fatigue can provide valuable insights. Investigate prevalence, effects, and mitigation strategies to contribute to the literature. Happy researching! 

ChatGPT 4

In a previous conversation, you gave me the following research idea. Please tell me if this is a novel idea I should pursue: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

The concept of "Ethical Fatigue" in consumers, characterized by skepticism or indifference to ethical branding due to overexposure to marketing messages, presents as a potentially novel area of research. This idea intersects consumer behavior, marketing ethics, and psychology. Here's why it could be a worthwhile research pursuit:

1. ****Gap in Existing Research****: While there's extensive research on ethical consumerism and branding, the specific phenomenon of "ethical fatigue" may not have been thoroughly explored. It could provide new insights into consumer behavior dynamics in response to ethical marketing over-saturation.
2. ****Relevance in Contemporary Marketing****: With the rise of ethical and sustainable branding, understanding how consumers react to these over time is crucial. This research could help businesses and marketers better tailor their strategies to avoid consumer skepticism or indifference.
3. ****Psychological and Sociological Implications****: Studying ethical fatigue would contribute to a deeper understanding of how consumers psychologically and sociologically respond to repeated exposure to certain types of messaging. This could have broader implications beyond marketing, touching on aspects of decision-making, belief formation, and social influence.
4. ****Practical Applications****: The findings could have practical implications for marketers and policymakers in designing more effective and less counterproductive ethical marketing campaigns.
5. ****Interdisciplinary Approach****: This research could incorporate elements from marketing, psychology, sociology, and ethics, making it an interdisciplinary endeavor that could appeal to a broad academic audience.

However, before fully committing to this research idea, it would be prudent to conduct a preliminary literature review to confirm the novelty of the concept and to identify any similar studies or theories that might already exist. This will also help in refining your research questions and methodology.

Can you do that literature search for me, to the best of your abilities?

Based on the research and information gathered so far, the concept of "Ethical Fatigue" in consumers, particularly in the context of skepticism or indifference to ethical branding due to overexposure to marketing messages, appears to be a relatively unexplored area. Here are some key findings from the research:

1. ****Ethical Consumer Behavior****: A study by Newcastle University Business School focused on the motivations behind purchasing ethically produced goods, introducing concepts like "conspicuous ethics" and an "ethical index" ([Newcastle University Business School](<https://www.ncl.ac.uk/>)). This research primarily concentrates on the positive aspects of ethical consumption, such as consumer preferences for ethically made goods and the willingness to pay more for such products.
2. ****Consumer Skepticism****: A survey highlighted that a significant proportion of consumers (39%) feel brands are not credible when they take a stand on issues, often perceiving such actions as motivated by PR or marketing rather than genuine ethical concerns ([Marketing Charts](<https://www.marketingcharts.com/>)). This skepticism has increased over time.
3. ****Ad Campaign Overexposure****: Research by IAB Europe's member Sublime indicates that overexposure to ad campaigns can negatively impact brand performance, with optimal exposure being limited to two or three times for effectiveness in brand recall and awareness ([IAB Europe](<https://iab europe.eu/>)). This suggests that overexposure to marketing messages, in general, can lead to diminished returns.
4. ****Impact on Consumer Trust and Mistrust****: There's evidence that ad bombardment and overexposure can promote consumer mistrust in the broader context of advertising, with repeated exposure linked to ad avoidance and blocking activities ([WARC](<https://www.warc.com/>)).

While these studies provide insights into consumer responses to ethical branding and advertising overexposure, there seems to be a gap specifically in the research on "Ethical Fatigue" as a distinct phenomenon. This suggests that your research idea might indeed fill a novel niche, focusing on how overexposure to ethical branding messages could lead to skepticism or indifference among consumers.

However, it's important to note that this search was not exhaustive, and further research, particularly a thorough review of academic literature, might be necessary to fully ascertain the novelty and scope of your proposed research idea.

Research Design Stage

Methods

We found the models to be particularly impressive at developing methods. They exhibited a reasonable degree of knowledge around what makes a prototypical behavioral experiment. Moreover, they adequately adapted this knowledge to the needs of the hypothesis we wished to test. We found the designs they came up with to be fairly close to what we personally would have developed to test this hypothesis although all responses required some degree of adaptation.

Bard/Gemini

In a previous conversation, you gave me the following research idea. Please give me 5 between-subjects, 2-cell online behavioral lab experiments I can run to test this main prediction: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

Sure, here are 5 between-subjects, 2-cell online behavioral lab experiments you can run to test the main prediction:

****Experiment 1: Ethical Message Overload****

****Hypothesis:**** Consumers exposed to a high volume of ethical marketing messages will show increased skepticism and indifference towards ethical branding compared to those exposed to a low volume of ethical marketing messages.

****Design:****

- Participants will be randomly assigned to either a high-ethical-message condition or a low-ethical-message condition.
- Participants in the high-ethical-message condition will be exposed to a series of advertisements and social media posts that emphasize the ethical practices of brands.
- Participants in the low-ethical-message condition will be exposed to a series of advertisements and social media posts that do not emphasize the ethical practices of brands.
- After exposure to the marketing messages, participants will complete a survey measuring their attitudes towards ethical branding.

****Experiment 2: Ethical Message Framing****

****Hypothesis:**** Consumers exposed to negatively framed ethical marketing messages will show increased skepticism and indifference towards ethical branding compared to those exposed to positively framed ethical marketing messages.

****Design:****

- Participants will be randomly assigned to either a negative-ethical-message condition or a positive-ethical-message condition.
- Participants in the negative-ethical-message condition will be exposed to a series of advertisements and social media posts that highlight the negative consequences of unethical practices.
- Participants in the positive-ethical-message condition will be exposed to a series of advertisements and social media posts that highlight the positive benefits of ethical practices.
- After exposure to the marketing messages, participants will complete a survey measuring their attitudes towards ethical branding.

****Experiment 3: Personal Relevance of Ethical Messages****

****Hypothesis:**** Consumers who perceive ethical marketing messages to be personally relevant will show decreased skepticism and increased interest towards ethical branding compared to those who perceive the messages to be irrelevant.

****Design:****

- Participants will be randomly assigned to either a relevant-ethical-message condition or an irrelevant-ethical-message condition.
- Participants in the relevant-ethical-message condition will be exposed to a series of advertisements and social media posts that connect ethical practices to personal values and interests.
- Participants in the irrelevant-ethical-message condition will be exposed to a series of advertisements and social media posts that connect ethical practices to values and interests that are not relevant to them.
- After exposure to the marketing messages, participants will complete a survey measuring their attitudes towards ethical branding.

****Experiment 4: Ethical Message Source****

****Hypothesis:**** Consumers will show decreased skepticism and increased trust towards ethical branding when the messages come from trusted sources compared to less trusted sources.

****Design:****

- Participants will be randomly assigned to either a trusted-source condition or an untrusted-source condition.

- Participants in the trusted-source condition will be exposed to a series of advertisements and social media posts about ethical practices from sources they perceive to be credible, such as non-profit organizations or independent experts.
- Participants in the untrusted-source condition will be exposed to a series of advertisements and social media posts about ethical practices from sources they perceive to be less credible, such as corporations or industry representatives.
- After exposure to the marketing messages, participants will complete a survey measuring their attitudes towards ethical branding.

****Experiment 5: Ethical Message Repetition****

****Hypothesis:**** The effectiveness of ethical marketing messages will decrease over time due to repetition, leading to increased skepticism and indifference towards ethical branding.

****Design:****

- Participants will be randomly assigned to either a high-repetition condition or a low-repetition condition.
- Participants in the high-repetition condition will be exposed to the same ethical marketing message multiple times over a period of time.
- Participants in the low-repetition condition will be exposed to the same ethical marketing message only once over a period of time.
- After exposure to the marketing messages, participants will complete a survey measuring their attitudes towards ethical branding.

These experiments will help to determine whether ethical fatigue is a real phenomenon and how it can be influenced by marketing messages.

Here is a design I want to run on Qualtrics. Please give me a complete set of corresponding stimuli. Just verbal stimuli is fine: Sure, here is a proposed experiment to test the prediction that a brand's ethical messaging will be less impactful if a consumer sees a number of other brands taking similar ethical stances beforehand:

****Experimental Design****

*** **Independent Variable:**** The number of brands with ethical messaging that participants encounter before viewing the target brand's ethical messaging.

*** **Dependent Variable:**** The impact of the target brand's ethical messaging on participants' perceptions of the brand.

****Procedure****

1. ****Recruitment:**** Recruit a sample of participants from the target brand's consumer base.

2. **Pre-test:** Assess participants' initial perceptions of the target brand using a standardized brand perception questionnaire.

3. **Exposure to Ethical Messaging:** Randomly assign participants to one of three conditions:

* **Low Ethical Fatigue Condition:** Participants view a single ethical message from a non-competing brand.

* **Moderate Ethical Fatigue Condition:** Participants view two ethical messages from non-competing brands.

* **High Ethical Fatigue Condition:** Participants view four ethical messages from non-competing brands.

4. **Target Brand's Ethical Messaging:** After viewing the assigned ethical messages, all participants view the target brand's ethical messaging.

5. **Post-test:** Immediately after viewing the target brand's ethical messaging, reassess participants' perceptions of the brand using the same brand perception questionnaire.

Data Analysis

Compare the change in brand perception scores between the three experimental conditions. If the prediction is correct, participants in the High Ethical Fatigue Condition should show a smaller change in brand perception than participants in the Low or Moderate Ethical Fatigue Conditions.

Additional Considerations

* To control for potential order effects, it is recommended to counterbalance the order in which participants view the ethical messages.

* To ensure that the ethical messages are relevant to the target brand's industry and consumer base, it is important to carefully select the non-competing brands and their ethical messages.

* To measure the impact of ethical messaging on purchase intent or other behavioral outcomes, additional measures can be included in the post-test questionnaire.

This experimental design provides a controlled and systematic approach to test the prediction of ethical fatigue. The results of the experiment can inform the target brand's ethical marketing strategies and help them optimize their messaging to maximize its impact on consumers.

Sure, here is a complete set of corresponding stimuli for the proposed experiment:

Pre-test:

Brand Perception Questionnaire

Please rate your perceptions of the target brand using the following scale:

1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

- The target brand is ethical.
- The target brand cares about the environment.
- The target brand is socially responsible.
- I would trust the target brand to do what is right.
- I would recommend the target brand to others.

Exposure to Ethical Messaging:

Low Ethical Fatigue Condition

- Non-competing Brand: Patagonia
- Ethical Message: "Patagonia is dedicated to using sustainable materials and practices. We are committed to protecting the environment and promoting social responsibility."

Moderate Ethical Fatigue Condition

- Non-competing Brand 1: The Body Shop
- Ethical Message: "The Body Shop is committed to cruelty-free testing and ethical sourcing of ingredients. We believe in making a positive impact on the world."
- Non-competing Brand 2: Ben & Jerry's
- Ethical Message: "Ben & Jerry's is committed to using Fairtrade ingredients and supporting social justice initiatives. We believe in making a difference in

the world."

High Ethical Fatigue Condition

- Non-competing Brand 1: TOMS
- Ethical Message: "TOMS is committed to giving away a pair of shoes for every pair purchased. We believe in making a positive impact on the lives of others."
- Non-competing Brand 2: Warby Parker
- Ethical Message: "Warby Parker provides affordable eyeglasses to people in need. We believe in making quality eyewear accessible to everyone."
- Non-competing Brand 3: Method
- Ethical Message: "Method is committed to using plant-based ingredients and sustainable packaging. We believe in making a positive impact on the environment."
- Non-competing Brand 4: Seventh Generation
- Ethical Message: "Seventh Generation is committed to using non-toxic ingredients and environmentally friendly practices. We believe in making a healthier home for everyone."

Target Brand's Ethical Messaging:

Target Brand: Nike

- Ethical Message: "Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels."

Post-test:

Brand Perception Questionnaire

Please rate your perceptions of the target brand using the following scale:

1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree

- The target brand is ethical.
- The target brand cares about the environment.
- The target brand is socially responsible.
- I would trust the target brand to do what is right.
- I would recommend the target brand to others.

Additional Measures

- Purchase intent: Would you be more likely to purchase a product from the target brand after seeing their ethical messaging?
- Brand loyalty: How loyal are you to the target brand?
- Brand favorability: How favorable is your overall impression of the target brand?

Bing Chat/CoPilot

In a previous conversation, you gave me the following research idea. Please give me 5 between-subjects, 2-cell online behavioral lab experiments I can run to test this main prediction: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

Here are some possible experiments you can run to test your research idea:

- Experiment 1: Manipulate the frequency of exposure to ethical branding messages by randomly assigning participants to either a high-exposure condition (where they see 10 ads from different brands that emphasize their ethical values) or a low-exposure condition (where they see 2 ads from different brands that emphasize their ethical values). [Then, measure their skepticism and indifference towards ethical branding using a scale¹](#).
- Experiment 2: Manipulate the consistency of ethical branding messages by randomly assigning participants to either a consistent condition (where they see 5 ads from the same brand that emphasize the same ethical value) or an inconsistent condition (where they see 5 ads from the same brand that emphasize different ethical values). [Then, measure their skepticism and indifference towards ethical branding using a scale¹](#).
- Experiment 3: Manipulate the authenticity of ethical branding messages by randomly assigning participants to either an authentic condition (where they see 5 ads from different brands that provide evidence for their ethical claims) or an inauthentic condition (where they see 5 ads from different brands that make vague or exaggerated ethical claims). [Then, measure their skepticism and indifference towards ethical branding using a scale¹](#).
- Experiment 4: Manipulate the salience of ethical branding messages by randomly assigning participants to either a salient condition (where they see 5 ads from different brands that highlight their ethical values in large fonts and bright colors) or a non-salient condition (where they see 5 ads from different brands that mention their ethical values in small fonts and dull colors). [Then, measure their skepticism and indifference towards ethical branding using a scale¹](#).
- Experiment 5: Manipulate the relevance of ethical branding messages by randomly assigning participants to either a relevant condition (where they see 5 ads from different brands that align their ethical values with the participants' personal values) or an irrelevant condition (where they see 5 ads from different brands that mismatch their ethical values with the participants' personal values). [Then, measure their skepticism and indifference towards ethical branding using a scale¹](#).

¹: You can use the Ethical Branding Skepticism and Indifference Scale (EBSIS) developed by [Fan et al. \(2023\)](#) to measure these constructs. The scale consists of 10 items that capture the extent to which consumers doubt the credibility and sincerity of ethical branding messages and the extent to which they feel detached and unconcerned about ethical branding messages. The scale has good reliability and validity and can be adapted to different contexts and products.

I am going to send you a message in two parts. Do not start responding until you have gotten Part 1 and Part 2.

Part 1: Here is a design I want to run on Qualtrics. Please give me a complete set of corresponding stimuli. Just verbal stimuli is fine:

Sure, here is a proposed experiment to test the prediction that a brand's ethical messaging will be less impactful if a consumer sees a number of other brands taking similar ethical stances beforehand:

****Experimental Design** ***

****Independent Variable:**** The number of brands with ethical messaging that participants encounter before viewing the target brand's ethical messaging. *

****Dependent Variable:**** The impact of the target brand's ethical messaging on participants' perceptions of the brand.

****Procedure****

1. ****Recruitment:**** Recruit a sample of participants from the target brand's consumer base.
2. ****Pre-test:**** Assess participants' initial perceptions of the target brand using a standardized brand perception questionnaire.
3. ****Exposure to Ethical Messaging:**** Randomly assign participants to one of three conditions: *
****Low Ethical Fatigue Condition:**** Participants view a single ethical message from a non-competing brand. *
****Moderate Ethical Fatigue Condition:**** Participants view two ethical messages from non-competing brands. *
****High Ethical Fatigue Condition:**** Participants view four ethical messages from non-competing brands.
4. ****Target Brand's Ethical Messaging:**** After viewing the assigned ethical messages, all participants view the target brand's ethical messaging.
5. ****Post-test:**** Immediately after viewing the target brand's ethical messaging, reassess participants' perceptions of the brand using the same brand perception questionnaire.

Thank you for sharing the details of your proposed experiment! It's an interesting study design that aims to explore the impact of brand ethical messaging on consumer perceptions. Let's break down the verbal stimuli for each condition:

1. Low Ethical Fatigue Condition:
 - Participants will view a single ethical message from a non-competing brand.
 - Verbal Stimulus: "You are about to see an ethical message from another brand."
 - This condition serves as the baseline for comparison.
2. Moderate Ethical Fatigue Condition:
 - Participants will view two ethical messages from non-competing brands.
 - Verbal Stimulus: "Now, you will see two ethical messages from different brands."
 - This condition introduces a moderate level of exposure to ethical messaging.
3. High Ethical Fatigue Condition:
 - Participants will view four ethical messages from non-competing brands.

- Verbal Stimulus: “Next, you’ll encounter four ethical messages from various brands.”
- This condition represents a higher level of exposure to ethical messaging.
- 4. Target Brand’s Ethical Messaging:
 - After exposure to the assigned ethical messages, participants will view the target brand’s ethical messaging.
 - Verbal Stimulus: “Now, let’s take a look at the ethical message from our target brand.”
- 5. Post-test:
 - Immediately after viewing the target brand’s ethical messaging, participants’ perceptions of the brand will be reassessed using the same brand perception questionnaire.
 - Verbal Stimulus: “Please share your thoughts on the target brand based on the ethical message you just saw.”

Remember to randomize the order of presentation for the ethical messages and ensure that participants remain unaware of the study’s purpose. Good luck with your experiment! 🌟

If you need any further assistance or have additional questions, feel free to ask! 😊

Part 2:

****Data Analysis**** Compare the change in brand perception scores between the three experimental conditions. If the prediction is correct, participants in the High Ethical Fatigue Condition should show a smaller change in brand perception than participants in the Low or Moderate Ethical Fatigue Conditions.

****Additional Considerations****

* To control for potential order effects, it is recommended to counterbalance the order in which participants view the ethical messages.

* To ensure that the ethical messages are relevant to the target brand's industry and consumer base, it is important to carefully select the non-competing brands and their ethical messages.

* To measure the impact of ethical messaging on purchase intent or other behavioral outcomes, additional measures can be included in the post-test questionnaire.

This experimental design provides a controlled and systematic approach to test the prediction of ethical fatigue. The results of the experiment can inform the target brand's ethical marketing strategies and help them optimize their messaging to maximize its impact on consumers.

Thank you for providing Part 2 of your experiment! Let’s delve into the data analysis aspect. You’re absolutely right that comparing the change in brand perception scores across the three experimental conditions will be crucial for testing your prediction.

Here’s how you can approach the data analysis:

1. Calculate Change in Brand Perception Scores:
 - For each participant, compute the difference between their post-test brand perception score and their pre-test brand perception score. This will give you the change in perception for each individual.
2. Group Participants by Experimental Condition:
 - Create three groups based on the experimental condition:
 - Low Ethical Fatigue Condition
 - Moderate Ethical Fatigue Condition
 - High Ethical Fatigue Condition
3. Analyze the Data:
 - Compare the mean change in brand perception scores across the three conditions.
 - You can use statistical tests (e.g., ANOVA or t-tests) to determine if there are significant differences.
 - If the prediction is correct, participants in the High Ethical Fatigue Condition should indeed show a smaller change in brand perception compared to the other conditions.
4. Additional Considerations:
 - Counterbalancing Order Effects: As you mentioned, counterbalance the order in which participants view the ethical messages. This helps control for any potential biases due to the order of exposure.
 - Relevance of Ethical Messages: Ensure that the ethical messages align with the target brand's industry and resonate with its consumer base. Relevant messages are more likely to impact perceptions.
 - Behavioral Outcomes: Consider including additional measures in the post-test questionnaire, such as purchase intent or willingness to recommend the brand. These can provide deeper insights into the impact of ethical messaging.

Remember to interpret the results cautiously and consider the practical implications for the target brand. If the prediction holds, it suggests that ethical fatigue indeed plays a role in shaping consumer perceptions. Good luck with your analysis, and I hope your findings contribute to ethical marketing strategies! 🌟

Feel free to ask if you need further assistance or have any other questions! 😊

ChatGPT 4

In a previous conversation, you gave me the following research idea. Please give me 5 between-subjects, 2-cell online behavioral lab experiments I can run to test this main prediction: ****Ethical Fatigue****: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics.

To test the main prediction of "Ethical Fatigue," where a segment of consumers becomes skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics, you can design between-subjects, 2-cell online behavioral lab experiments. Here are five different experiment ideas:

1. **Message Frequency and Perception of Ethical Branding**:
 - **Cell A**: Expose participants to a high frequency of marketing messages emphasizing ethical aspects of a brand.
 - **Cell B**: Expose participants to a low frequency of these messages.
 - **Objective**: Assess the difference in skepticism or indifference towards the brand's ethical claims.
2. **Comparative Analysis of Ethical vs. Traditional Branding**:
 - **Cell A**: Present participants with marketing messages from a brand known for ethical practices.
 - **Cell B**: Present similar messages from a brand not emphasizing ethics.
 - **Objective**: Measure differences in trust, skepticism, and purchase intent between the two groups.
3. **Impact of Ethical Messaging on Brand Loyalty**:
 - **Cell A**: Show participants continuous ethical branding messages over a period.
 - **Cell B**: Show a control group minimal or no ethical branding messages.
 - **Objective**: Evaluate if overexposure to ethical messaging reduces brand loyalty compared to the control group.
4. **Ethical Branding and Consumer Fatigue in Different Age Groups**:
 - **Cell A**: Target a younger demographic with frequent ethical branding messages.
 - **Cell B**: Target an older demographic with the same frequency.
 - **Objective**: Identify if ethical fatigue varies significantly across different age groups.
5. **Influence of Ethical Branding on Perceived Product Quality**:
 - **Cell A**: Present a product with heavy emphasis on its ethical attributes.
 - **Cell B**: Present the same product with emphasis on traditional attributes (e.g., quality, price).
 - **Objective**: Investigate whether ethical branding overexposure leads to skepticism about the product's quality or other non-ethical attributes.

Each of these experiments can provide valuable insights into how consumers respond to ethical branding and whether overexposure can lead to ethical fatigue. These experiments should be designed with appropriate measures to assess attitudes, perceptions, and behavioral intentions of the participants.

Here is a design I want to run on Qualtrics. Please give me a complete set of corresponding stimuli. Just verbal stimuli is fine: Sure, here is a proposed experiment to test the prediction that a brand's ethical messaging will be less impactful if a consumer sees a number of other brands taking similar ethical stances beforehand:

****Experimental Design****

* ****Independent Variable:**** The number of brands with ethical messaging that participants encounter before viewing the target brand's ethical messaging.

* ****Dependent Variable:**** The impact of the target brand's ethical messaging on participants' perceptions of the brand.

****Procedure****

1. ****Recruitment:**** Recruit a sample of participants from the target brand's consumer base.

2. ****Pre-test:**** Assess participants' initial perceptions of the target brand using a standardized brand perception questionnaire.

3. ****Exposure to Ethical Messaging:**** Randomly assign participants to one of three conditions:

* ****Low Ethical Fatigue Condition:**** Participants view a single ethical message from a non-competing brand.

* ****Moderate Ethical Fatigue Condition:**** Participants view two ethical messages from non-competing brands.

* ****High Ethical Fatigue Condition:**** Participants view four ethical messages from non-competing brands.

4. ****Target Brand's Ethical Messaging:**** After viewing the assigned ethical messages, all participants view the target brand's ethical messaging.

5. ****Post-test:**** Immediately after viewing the target brand's ethical messaging, reassess participants' perceptions of the brand using the same brand perception questionnaire.

****Data Analysis****

Compare the change in brand perception scores between the three experimental conditions. If the prediction is correct, participants in the High Ethical Fatigue Condition should show a smaller change in brand perception than participants in the Low or Moderate Ethical Fatigue Conditions.

****Additional Considerations****

* To control for potential order effects, it is recommended to counterbalance the order in which participants view the ethical messages.

* To ensure that the ethical messages are relevant to the target brand's industry and consumer base, it is important to carefully select the non-competing brands and their ethical messages.

* To measure the impact of ethical messaging on purchase intent or other behavioral outcomes, additional measures can be included in the post-test questionnaire.

This experimental design provides a controlled and systematic approach to test the prediction of ethical fatigue. The results of the experiment can inform the target brand's ethical marketing strategies and help them optimize their messaging to maximize its impact on consumers.

Based on your experimental design, here is a complete set of verbal stimuli for the ethical messages, tailored for different conditions of ethical fatigue:

**Target Brand's Ethical Message (For All Conditions)**

- ****Message:**** "At [Target Brand], we believe in creating a sustainable future. Our commitment to the environment includes reducing plastic waste by 70% in our packaging by 2025, ensuring all our products are made with eco-friendly materials."

**Low Ethical Fatigue Condition**

- ****Non-Competing Brand Message:**** "Brand A is dedicated to ethical sourcing. We ensure that all our raw materials are obtained through fair trade practices, supporting local communities and promoting sustainability."

**Moderate Ethical Fatigue Condition**

- ****First Non-Competing Brand Message:**** "Brand B focuses on reducing carbon emissions. Our goal is to achieve carbon neutrality by 2030, implementing renewable energy solutions in all our operations."

- ****Second Non-Competing Brand Message:**** "Brand C is committed to animal welfare. We have eliminated animal testing from all stages of our product development, ensuring cruelty-free products for our customers."

**High Ethical Fatigue Condition**

- ****First Non-Competing Brand Message:**** "Brand D is pioneering in waste reduction. We're innovating to ensure 100% of our product packaging is recyclable or compostable by 2024."

- ****Second Non-Competing Brand Message:**** "Brand E ensures ethical labor practices. We are devoted to providing fair wages and safe working conditions across our global supply chain."

- **Third Non-Competing Brand Message:** "Brand F is a leader in water conservation. Our new initiatives aim to reduce water usage in manufacturing by 50% over the next five years."
- **Fourth Non-Competing Brand Message:** "Brand G supports community development. A portion of our profits is invested in educational and healthcare projects in underprivileged areas."

General Considerations for Stimuli

- **Relevance:** Each message should be relevant to the industry but distinct enough to prevent direct competition with the target brand.
- **Consistency:** Keep the length and complexity similar across all messages.
- **Credibility:** Ensure all messages sound realistic and align with what a brand in that industry could feasibly commit to.
- **Variation:** Diversify the ethical focus in each message to encompass different aspects of social and environmental responsibility.

These messages can be adapted to fit the specific industry and branding of the target company while ensuring a varied yet consistent exposure to ethical messaging across conditions.

Stimulus Design

As with designing general methodologies, we found the AI models highly capable at designing usable stimuli. They demonstrated significant utility as tools for this purpose, especially for experiments that involve variegated stimuli, such as this one.

Bard/Gemini

You generated four brand statements for me on TOMS, Warby Parker, Method, and Seventh Generation. These statements were each two sentences long. Please generate four more brand statements for me, for different brands, which get at their products' attributes. Do not use brands that are known for ethics or mention anything to do with the product's ethics. Also, Nike cannot be one of these brands.

Sure, here are four more brand statements for different brands, which get at their products' attributes:

Tesla: Tesla is the future of transportation. With its sleek design, powerful acceleration, and long range, Tesla cars are the perfect way to experience the thrill of driving without the guilt of emissions.

Apple Watch: The Apple Watch is the perfect companion for your iPhone. With its stylish design, comprehensive health tracking features, and convenient notifications, the Apple

Watch makes it easy to stay connected and informed, all while keeping you on top of your fitness goals.

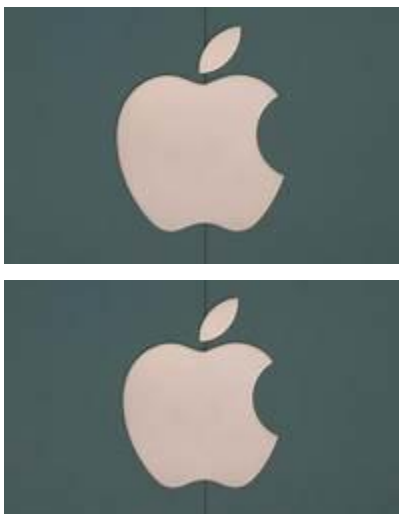
Sony PlayStation 5: The Sony PlayStation 5 is the ultimate gaming experience. With its incredible graphics, powerful processor, and immersive gameplay, the PlayStation 5 takes gaming to the next level.

LEGO: LEGO is more than just a toy. It is a creative tool that allows children and adults alike to express their imaginations and build whatever they can dream of. With its endless possibilities and enduring appeal, LEGO is a timeless classic that continues to inspire generations.

Bing Chat/CoPilot

You generated four brand statements for me on TOMS, Warby Parker, Method, and Seventh Generation. These statements were each two sentences long. Please generate four more brand statements for me, for different brands, which get at their products' attributes. Do not use brands that are known for ethics or mention anything to do with the product's ethics. Also, Nike cannot be one of these brands.

Certainly! Let's create brand statements that focus on the **product attributes** of four different brands. These statements will highlight specific qualities or features related to their products. Remember, we'll avoid mentioning ethics or ethical considerations. Here we go:



1. **Apple:**
 - “Apple’s sleek and minimalist design sets its products apart. From iPhones to MacBooks, their seamless integration of hardware and software ensures a seamless user experience.”



2. **Samsung:**

- “Samsung’s cutting-edge technology powers its devices. Whether it’s their high-resolution displays, powerful processors, or innovative camera systems, Samsung consistently delivers top-tier features.”



3. **Sony:**

- “Sony’s commitment to audio excellence shines through its headphones and speakers. With noise cancellation, crystal-clear sound, and durable build quality, Sony products elevate your music experience.”



4. **Dyson:**

- “Dyson’s vacuum cleaners redefine cleaning efficiency. Their cyclonic technology, lightweight design, and powerful suction make household chores easier and more effective.”

Remember, these statements emphasize the tangible attributes of each brand’s products, showcasing what makes them stand out in the market. If you need more brand statements or have any other requests, feel free to ask! 😊

ChatGPT 4

You generated four brand statements for me on TOMS, Warby Parker, Method, and Seventh Generation. These statements were each two sentences long. Please generate four more brand statements for me, for different brands, which get at their products' attributes. Do not use brands that are known for ethics or mention anything to do with the product's ethics. Also, Nike cannot be one of these brands.

Sure, here are brand statements for four different companies, focusing on their product attributes without referencing ethics or including Nike:

1. ****Canon****: Canon's cameras offer unrivaled precision and clarity, capturing moments with detail that feels almost more real than life. Whether you're a professional photographer or an enthusiastic amateur, Canon's range of DSLRs and mirrorless cameras are designed to inspire creativity and push the boundaries of photographic excellence.
2. ****Bose****: Bose delivers an auditory experience that transcends the ordinary, enveloping you in a landscape of pristine sound. With cutting-edge technology, Bose headphones and speakers blend innovation and artistry to produce unparalleled sound fidelity, whether you're at home, in the office, or on the move.

3. **Lego**: Lego sets unlock a world of imagination, offering endless possibilities for creation, from the simplest structures to intricate masterpieces. Known for their durability and precision interlocking, Lego bricks empower builders of all ages to explore their creativity and bring their visionary ideas to life.

4. **Dyson**: Dyson's line of vacuums and air purifiers epitomize the fusion of design and functionality, offering powerful, efficient cleaning with a sleek, modern aesthetic. Engineered for performance and ease of use, Dyson products are a testament to the brand's commitment to improving everyday life through innovative technology.

Coding

In this task, we provided the AIs with the design and stimuli as previously determined and asked them to provide us with a fully functional Qualtrics QSF file with which to run the study. Bard/Gemini refused to produce a QSF file outright citing unspecified security restrictions, while the other two AIs attempted to provide QSF files but ultimately failed. In lieu of the requested file, the AIs instead provided lengthy walkthroughs for how to set up such a file on our own. This seems like a reasonable substitute on the face of things, but a closer examination of these proposed procedures shows that they are little more than restatements of the design. They have little in the way of specific suggestions regarding *how* to achieve these designs in Qualtrics. We attempted to exploit coding ability further with ChatGPT 4 by asking it to create a QSF file for a very simple survey. It was able to produce this file, but the file was unable to be parsed by Qualtrics. Closer inspection of the file indicated that it was missing many tags and blocks that would be necessary for a QSF file. We repeatedly tried to have ChatGPT 4 reformat the file, but were never able to obtain anything close to a usable QSF file.

Bard/Gemini

In a previous conversation, you designed the following two-cell behavioral experiment to test whether the change in belief about the ethicality of a target brand, Nike, decreased with the number of other brands making ethical claims.

Experimental Design: Pretest: Ask participants to rate Nike's ethical position on the following four measures using a five-point Likert scale anchored at Strongly Disagree and Strongly Agree.

- Nike is ethical.
- Nike cares about the environment.
- Nike is socially responsible.
- I would trust Nike to do what is right.

Independent variable: Number of other-brand ethical statements, three levels:

Control condition: 4 non-ethical statements

Low-Frequency: 2 ethical statements and 2 non-ethical statements

High-Frequency: 4 ethical statements.

The ethical statements are:

- TOMS is committed to giving away a pair of shoes for every pair purchased. We believe in making a positive impact on the lives of others.
- Warby Parker provides affordable eyeglasses to people in need. We believe in making quality eyewear accessible to everyone.
- Method is committed to using plant-based ingredients and sustainable packaging. We believe in making a positive impact on the environment.
- Seventh Generation is committed to using non-toxic ingredients and environmentally friendly practices. We believe in making a healthier home for everyone.

The non-ethical statements are:

- Tesla is the future of transportation. With its sleek design, powerful acceleration, and long range, Tesla cars are the perfect way to experience the thrill of driving.
- The Apple Watch is the perfect companion for your iPhone. With its stylish design, comprehensive health tracking features, and convenient notifications, the Apple Watch makes it easy to stay connected and informed, all while keeping you on top of your fitness goals.
- The Sony PlayStation 5 is the ultimate gaming experience. With its incredible graphics, powerful processor, and immersive gameplay, the PlayStation 5 takes gaming to the next level.
- LEGO is more than just a toy. It is a creative tool that allows children and adults alike to express their imaginations and build whatever they can dream of. With its endless possibilities and enduring appeal, LEGO is a timeless classic that continues to inspire generations.

The order of the statements should be randomized for each participant.

The statements selected from each list in the low-frequency condition should also be randomized for each participant.

Then all participants are exposed to the same target brand ethical statement: Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels.

Post-test: All participants are then asked to reassess Nike using the same four measures as in the pretest.

Please provide me with a Qualtrics QSF file that implements this design.

Unfortunately, I cannot directly generate a Qualtrics QSF file due to security restrictions. However, I can provide you with a detailed outline of the Qualtrics survey logic to implement your experiment. This outline will allow you to build the survey yourself within Qualtrics.

Qualtrics Survey Outline:

1. Introduction & Consent:

- Welcome participants and explain the purpose of the study (briefly).
- Obtain informed consent from participants using the Qualtrics built-in consent feature.

2. Demographics (Optional):

- Include optional demographic questions if desired (e.g., age, gender, etc.).

3. Pretest: Nike Ethical Rating:

- Create a four-question block with Likert scale answer options (1 = Strongly Disagree, 5 = Strongly Agree).
 - Question 1: Nike is ethical.
 - Question 2: Nike cares about the environment.
 - Question 3: Nike is socially responsible.
 - Question 4: I would trust Nike to do what is right.

4. Manipulation (Independent Variable):

- Use a Piping Logic feature in Qualtrics to randomly assign participants to one of the three conditions (Control, Low-Frequency, High-Frequency).
- Based on the assigned condition, display a block with four statements:
 - **Control:** All four statements should be non-ethical (randomly picked from the list provided).
 - **Low-Frequency:** Two statements should be randomly picked from the ethical statement list, and the remaining two should be randomly picked

from the non-ethical statement list. Randomize the order of all four statements.

- **High-Frequency:** All four statements should be randomly picked from the ethical statement list. Randomize the order of all four statements.

5. Target Brand Ethical Statement:

- Display the following statement for all participants:
 - "Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels."

6. Post-test: Nike Ethical Rating (Repeat of Pretest):

- Repeat the same four-question block from the pretest to assess post-test perception of Nike's ethicality.

7. Debriefing:

- Thank participants for their time and briefly explain the purpose of the study (optional).
- You may include a link to further information about the study here (optional).

Additional Considerations:

- Use Qualtrics piping logic to randomize the order of statements within each condition block.
- Set display logic to ensure participants only see the statements corresponding to their assigned condition.
- Use Qualtrics skip logic to ensure participants complete the pretest before the manipulation section and the post-test only after the target brand information.

By following this outline and utilizing Qualtrics features like piping logic, display logic, and skip logic, you can build a functional survey that implements your two-cell behavioral experiment design.

Bing Chat/CoPilot

We tried to submit the same initial prompt as for ChatGPT 4 but encountered a prompt character limit. So we divided the prompt into segments and submitted them:

Please wait until you have received the following three inputs before responding.

Certainly! I'll wait for the additional inputs. Feel free to share them whenever you're ready. 😊

Part 1: In a previous conversation, you designed the following two-cell behavioral experiment to test whether the change in belief about the ethicality of a target brand, Nike, decreased with the number of other brands making ethical claims.

Experimental Design:

Pretest: Ask participants to rate Nike's ethical position on the following four measures using a five-point Likert scale anchored at Strongly Disagree and Strongly Agree.

- Nike is ethical.
- Nike cares about the environment.
- Nike is socially responsible.
- I would trust Nike to do what is right.

Independent variable: Number of other-brand ethical statements, three levels:

Control condition: 4 non-ethical statements

Low-Frequency: 2 ethical statements and 2 non-ethical statements

High-Frequency: 4 ethical statements.

Thank you for providing the experimental design! Let's break down the key components:

1. Pretest:

- Participants rate Nike's ethical position using a five-point Likert scale on four measures.
- The measures include:
 - "Nike is ethical."
 - "Nike cares about the environment."
 - "Nike is socially responsible."
 - "I would trust Nike to do what is right."

2. Independent Variable (IV): Number of Other-Brand Ethical Statements:

- There are three levels of the IV:
 - **Control Condition:** Participants receive 4 non-ethical statements.

- **Low-Frequency Condition:** Participants receive 2 ethical statements and 2 non-ethical statements.
- **High-Frequency Condition:** Participants receive 4 ethical statements.

This design aims to investigate whether participants' beliefs about Nike's ethicality change based on the frequency of other brands making ethical claims. It's an interesting study, and I'm curious to see the results! If you have any further questions or need assistance with the next steps, feel free to ask. 😊

Part 2:

The ethical statements are:

- TOMS is committed to giving away a pair of shoes for every pair purchased. We believe in making a positive impact on the lives of others.
- Warby Parker provides affordable eyeglasses to people in need. We believe in making quality eyewear accessible to everyone.
- Method is committed to using plant-based ingredients and sustainable packaging. We believe in making a positive impact on the environment.
- Seventh Generation is committed to using non-toxic ingredients and environmentally friendly practices. We believe in making a healthier home for everyone.

The non-ethical statements are:

- Tesla is the future of transportation. With its sleek design, powerful acceleration, and long range, Tesla cars are the perfect way to experience the thrill of driving.
- The Apple Watch is the perfect companion for your iPhone. With its stylish design, comprehensive health tracking features, and convenient notifications, the Apple Watch makes it easy to stay connected and informed, all while keeping you on top of your fitness goals.
- The Sony PlayStation 5 is the ultimate gaming experience. With its incredible graphics, powerful processor, and immersive gameplay, the PlayStation 5 takes gaming to the next level.
- LEGO is more than just a toy. It is a creative tool that allows children and adults alike to express their imaginations and build whatever they can dream of. With its endless possibilities and enduring appeal, LEGO is a timeless classic that continues to inspire generations.

Thank you for sharing the ethical and non-ethical statements! Let's proceed with the experiment. Participants will be exposed to different combinations of these statements based on the experimental conditions you outlined earlier:

1. **Control Condition (4 non-ethical statements):**
 - Participants receive only non-ethical statements (e.g., Tesla, Apple Watch, PlayStation 5, LEGO).
2. **Low-Frequency Condition (2 ethical + 2 non-ethical statements):**
 - Participants receive a mix of ethical and non-ethical statements.
 - Ethical statements: TOMS, Warby Parker
 - Non-ethical statements: Tesla, Apple Watch
3. **High-Frequency Condition (4 ethical statements):**
 - Participants receive only ethical statements (TOMS, Warby Parker, Method, Seventh Generation).

By comparing participants' beliefs about Nike's ethicality across these conditions, we can explore how exposure to other brands' ethical claims influences perceptions of Nike. If you have any further questions or need additional assistance, feel free to ask!



Part 3: The order of the statements should be randomized for each participant. The statements selected from each list in the low-frequency condition should also be randomized for each participant.

Then all participants are exposed to the same target brand ethical statement: Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels.

Post-test: All participants are then asked to reassess Nike using the same four measures as in the pretest.

Please provide me with a Qualtrics QSF file that implements this design.

Certainly! I'll create a Qualtrics QSF file based on the experimental design you've outlined. Here are the steps I'll follow:

1. **Randomization:**
 - For each participant, I'll randomize the order of the statements (both ethical and non-ethical).
 - In the low-frequency condition, I'll also randomize the selection of two ethical statements and two non-ethical statements.
2. **Survey Flow:**
 - Pretest:

- Participants rate Nike's ethical position using the Likert scale for the four measures.
 - Experimental Conditions:
 - Control Condition: Participants receive only non-ethical statements (randomized order).
 - Low-Frequency Condition: Participants receive a mix of ethical and non-ethical statements (randomized selection and order).
 - High-Frequency Condition: Participants receive only ethical statements (randomized order).
 - Target Brand Statement:
 - All participants are exposed to Nike's ethical statement.
 - Post-test:
 - Participants reassess Nike using the same four measures.
3. **Ethical Statement for Nike:**
- "Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels."

I'll create the QSF file accordingly. Please give me a moment.

Despite long delays and checking in repeatedly, CoPilot never produced a response of any type.

ChatGPT 4

In a previous conversation, you designed the following two-cell behavioral experiment to test whether the change in belief about the ethicality of a target brand, Nike, decreased with the number of other brands making ethical claims.

Experimental Design: Pretest: Ask participants to rate Nike's ethical position on the following four measures using a five-point Likert scale anchored at Strongly Disagree and Strongly Agree.

- Nike is ethical.
- Nike cares about the environment.
- Nike is socially responsible.
- I would trust Nike to do what is right.

Independent variable: Number of other-brand ethical statements, three levels:

Control condition: 4 non-ethical statements

Low-Frequency: 2 ethical statements and 2 non-ethical statements

High-Frequency: 4 ethical statements.

The ethical statements are:

- TOMS is committed to giving away a pair of shoes for every pair purchased. We believe in making a positive impact on the lives of others.
- Warby Parker provides affordable eyeglasses to people in need. We believe in making quality eyewear accessible to everyone.
- Method is committed to using plant-based ingredients and sustainable packaging. We believe in making a positive impact on the environment.
- Seventh Generation is committed to using non-toxic ingredients and environmentally friendly practices. We believe in making a healthier home for everyone.

The non-ethical statements are:

- Tesla is the future of transportation. With its sleek design, powerful acceleration, and long range, Tesla cars are the perfect way to experience the thrill of driving.
- The Apple Watch is the perfect companion for your iPhone. With its stylish design, comprehensive health tracking features, and convenient notifications, the Apple Watch makes it easy to stay connected and informed, all while keeping you on top of your fitness goals.
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- LEGO is more than just a toy. It is a creative tool that allows children and adults alike to express their imaginations and build whatever they can dream of. With its endless possibilities and enduring appeal, LEGO is a timeless classic that continues to inspire generations.

The order of the statements should be randomized for each participant.

The statements selected from each list in the low-frequency condition should also be randomized for each participant.

Then all participants are exposed to the same target brand ethical statement: Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels.

Post-test: All participants are then asked to reassess Nike using the same four measures as in the pretest.

Please provide me with a Qualtrics QSF file that implements this design.

Creating a Qualtrics QSF file involves a series of steps to ensure the design is accurately translated into the survey platform. Here's a detailed plan for how to set this up in Qualtrics:

1. ****Create Blocks for Pretest and Posttest Measures:****
 - Create a block for the pretest with four Likert scale questions.
 - Create a block for the posttest with the same four Likert scale questions.
2. ****Create Blocks for Independent Variable Conditions:****
 - Create three separate blocks for the control, low-frequency, and high-frequency conditions.

- In each block, add the respective statements (four non-ethical for control, two ethical and two non-ethical for low-frequency, and four ethical for high-frequency).
- Randomize the order of the statements within each block.

3. **Random Assignment to Conditions:**

- Use the Randomizer element in the Survey Flow to randomly assign participants to one of the three conditions.
- Ensure that within the low-frequency condition, the selection of ethical and non-ethical statements is randomized.

4. **Target Brand Ethical Statement:**

- Add a block with the target brand ethical statement for all participants.

5. **Survey Flow:**

- Arrange the blocks in the Survey Flow to reflect the experimental design: Pretest -> Random Assignment to Condition -> Target Brand Statement -> Posttest.

Below is an example of how to set up this experiment. Unfortunately, I cannot directly create or provide QSF files, but I can guide you through the process:

Pretest Block

- Question 1:**
 - Likert Scale Question: "Nike is ethical."
 - Scale: Strongly Disagree (1) to Strongly Agree (5)
- Question 2:**
 - Likert Scale Question: "Nike cares about the environment."
 - Scale: Strongly Disagree (1) to Strongly Agree (5)
- Question 3:**
 - Likert Scale Question: "Nike is socially responsible."
 - Scale: Strongly Disagree (1) to Strongly Agree (5)
- Question 4:**
 - Likert Scale Question: "I would trust Nike to do what is right."
 - Scale: Strongly Disagree (1) to Strongly Agree (5)

Control Condition Block

- Statements:**
 - Tesla, Apple Watch, Sony PlayStation 5, LEGO (non-ethical statements)
 - Randomize order of statements.

Low-Frequency Condition Block

- Statements:**
 - Randomly select 2 ethical statements (e.g., TOMS, Warby Parker) and 2 non-ethical statements (e.g., Tesla, Apple Watch)
 - Randomize order of statements.

High-Frequency Condition Block

1. **Statements:**
 - TOMS, Warby Parker, Method, Seventh Generation (ethical statements)
 - Randomize order of statements.

Target Brand Statement Block

1. **Statement:**
 - "Nike is committed to using sustainable materials and practices. We are also committed to promoting social responsibility and empowering athletes of all levels."

Posttest Block

- Repeat the four Likert scale questions from the pretest block.

Survey Flow

1. **Pretest Block**
2. **Randomizer:**
 - Add Control Condition Block
 - Add Low-Frequency Condition Block
 - Add High-Frequency Condition Block
3. **Target Brand Statement Block**
4. **Posttest Block**

Steps to Create the QSF File

1. **Log in to Qualtrics and Create a New Survey:**
 - Navigate to the Qualtrics dashboard and create a new survey.
2. **Create Blocks and Questions:**
 - Add the pretest, condition-specific, target brand statement, and posttest blocks as described.
3. **Set Up Randomization:**
 - Use the Survey Flow to randomize participants into different conditions.
4. **Export the QSF File:**
 - Once your survey is fully set up, go to the survey options and export the QSF file.

If you follow these steps in the Qualtrics interface, you will have a survey that matches your experimental design. If you need more detailed guidance on any specific part of the process, feel free to ask!

No, I want you to generate the QSF file for me so that I can download it.

I attempted to create a Qualtrics QSF file for your experimental design. However, the process was interrupted due to some syntax errors in the code while building the file.

Here's a summary of what I have outlined for the QSF file:

1. **Pretest Block**: Four Likert scale questions assessing Nike's ethicality, environmental care, social responsibility, and trustworthiness.
2. **Condition Blocks**:
 - **Control Condition**: Four non-ethical statements.
 - **Low-Frequency Condition**: Two ethical and two non-ethical statements.
 - **High-Frequency Condition**: Four ethical statements.
3. **Target Brand Statement Block**: The ethical statement about Nike.
4. **Posttest Block**: The same four Likert scale questions as in the pretest.

Each question was structured to ensure it matches your experimental design. The next steps involve uploading these questions into Qualtrics and setting up the randomization in the Survey Flow.

Despite many stops and starts, the AI was not able to produce any file. Instead it produced the following:

Since I couldn't complete the QSF file, I recommend the following steps:

1. **Log in to Qualtrics and Create a New Survey**.
2. **Create Blocks and Questions**:
 - Add the pretest, condition-specific, target brand statement, and posttest blocks as described.
3. **Set Up Randomization**:
 - Use the Survey Flow to randomize participants into different conditions.
4. **Export the QSF File**:
 - Once your survey is fully set up, go to the survey options and export the QSF file.

If you follow these steps in the Qualtrics interface, you will have a survey that matches your experimental design. If you need any specific guidance on setting up any part of the survey, feel free to ask!

Results Stage

In this stage, we provided the AIs with a CSV file of the results of Study 1 exported directly from Qualtrics and asked the AIs to analyze the data to produce appropriate statistical tests and charts. We found it impossible to upload CSV files to Bard/Gemini at that time making further analysis impossible. Bing/CoPilot allowed us to upload the CSV file, but was unable to process the file. We repeated the same prompt adding that if it was unable to analyze the data, that it should provide a python script that could. It provided a reasonable script for the basic analysis. In contrast, ChatGPT 4 was able to perform the analysis itself, but when we asked for specific reportable statistics, we found that it had inexplicably used only a subset of the data for the analysis.

Notably, all three AI's recognized that ANOVA was the appropriate default model for performing the analysis. We were curious about whether the analyses suggested/performed considered potential violations of the model, so we asked for follow-up analyses from ChatGPT 4. It recognized a subset of the applicable assumptions, but was unable to perform those tests for us. It also struggled to provide us with appropriate test statistics for reporting our results, which also limited our ability to detect its analytic errors.

Analysis

Bard/Gemini

Bard was unable to accept uploaded CSV data files at the time we asked. We explored whether it was possible to do this in a special instance of Bard, but were unable to find any way to make this work in the customer-facing version of Bard.

Bing Chat/CoPilot

The file Study1.csv contains data from an experiment in which we tested to see how the frequency of other brands advertising an ethical position alters a person's response to a target brand's ethical position. We exposed participants to one of three conditions:
condition=0: control (4 non-ethical statements)

condition=1: low-frequency (2 ethical and 2 non-ethical statements)

condition=2: high-frequency (4 ethical statements)

The effect was assessed using four statements about the target brand presented before the manipulation (Before_1 through Before_4) and the same four statements presented after the manipulation (After_1 through After_4).

We predicted that participants' belief in the target brand's ethical nature would increase after exposure to that brand's ethical statement, but that the magnitude of this change would be less when more of the other brand statements were ethical. Please analyze the data to test our hypothesis and provide a full report of the results with appropriate statistical tests and charts.

I apologize, but I'm unable to analyze the data from the file "Study1.csv" and provide a full report with statistical tests and charts. If you have any other questions or need assistance with a different topic, feel free to ask! 🙏

The file Study1.csv contains data from an experiment in which we tested to see how the frequency of other brands advertising an ethical position alters a person's response to a target brand's ethical position. We exposed participants to one of three conditions:

condition=0: control (4 non-ethical statements) condition=1: low-frequency (2 ethical and 2 non-ethical statements) condition=2: high-frequency (4 ethical statements) The effect was assessed using four statements about the target brand presented before the manipulation (Before_1 through Before_4) and the same four statements presented after the manipulation (After_1 through After_4). We predicted that participants' belief in the target brand's ethical nature would increase after exposure to that brand's ethical statement, but that the magnitude of this change would be less when more of the other brand statements were ethical. Please analyze the data to test our hypothesis and provide a full report of the results with appropriate statistical tests and charts. If you cannot analyze the data, please write a Python script that will.

I'm sorry for the inconvenience, but I'm unable to directly analyze the data from the uploaded file. However, I can certainly help you write a Python script that can analyze the data based on your hypothesis. Here's a basic script that you can use as a starting point:

```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from scipy import stats

# Load the data
df = pd.read_csv('Study1.csv')

# Calculate the change in belief for each participant
df['Change'] = df.loc[:, 'After_1':'After_4'].mean(axis=1) - df.loc[:,
'Before_1':'Before_4'].mean(axis=1)

# Group by condition and calculate the mean change
grouped = df.groupby('condition')['Change'].mean()

# Perform a one-way ANOVA
f_val, p_val = stats.f_oneway(df['Change'][df['condition'] == 0],
                              df['Change'][df['condition'] == 1],
                              df['Change'][df['condition'] == 2])

print('Results of one-way ANOVA:')
print('F-value:', f_val)
```

```

print('p-value:', p_val)

# Plot the results
plt.figure(figsize=(8, 6))
sns.barplot(x='condition', y='Change', data=df, ci=None)
plt.xlabel('Condition')
plt.ylabel('Change in Belief')
plt.title('Change in Belief by Condition')
plt.show()

```

This script first calculates the change in belief for each participant by subtracting the average of the 'Before' statements from the average of the 'After' statements. It then groups the data by condition and calculates the mean change in belief for each condition. A one-way ANOVA is performed to test if the means of the three conditions are significantly different. Finally, the results are plotted in a bar chart.

Please note that you'll need to adjust the column names and condition labels according to your actual data. Also, this script assumes that you have the necessary Python libraries installed (`pandas`, `matplotlib`, `seaborn`, and `scipy`). If not, you can install them using pip:

```
pip install pandas matplotlib seaborn scipy
```

I hope this helps! Let me know if you have any questions or need further assistance.

The file Study1.csv contains data from an experiment in which we tested to see how the frequency of other brands advertising an ethical position alters a person's response to a target brand's ethical position. We exposed participants to one of three conditions: condition=0: control (4 non-ethical statements) condition=1: low-frequency (2 ethical and 2 non-ethical statements) condition=2: high-frequency (4 ethical statements) The effect was assessed using four statements about the target brand presented before the manipulation (Before_1 through Before_4) and the same four statements presented after the manipulation (After_1 through After_4). We predicted that participants' belief in the target brand's ethical nature would increase after exposure to that brand's ethical statement, but that the magnitude of this change would be less when more of the other brand statements were ethical. Please analyze the data to test our hypothesis and provide a full report of the results with appropriate statistical tests, every necessary test

statistic so that we can report these results, and charts. Please give me this analysis in a Python script.

Sure, I can help you with that. Here's a Python script that uses the pandas and matplotlib libraries to load the data, perform the necessary statistical tests, and generate charts. This script assumes that your data is in a CSV file named 'Study1.csv' and that the columns are named as you described.

```
import pandas as pd
import matplotlib.pyplot as plt
from scipy.stats import ttest_ind

# Load the data
df = pd.read_csv('Study1.csv')

# Calculate the mean response before and after for each condition
before_cols = ['Before_1', 'Before_2', 'Before_3', 'Before_4']
after_cols = ['After_1', 'After_2', 'After_3', 'After_4']

df['Before_Mean'] = df[before_cols].mean(axis=1)
df['After_Mean'] = df[after_cols].mean(axis=1)

# Perform t-tests
control = df[df['condition'] == 0]
low_freq = df[df['condition'] == 1]
high_freq = df[df['condition'] == 2]

ttest_control = ttest_ind(control['Before_Mean'], control['After_Mean'])
ttest_low_freq = ttest_ind(low_freq['Before_Mean'], low_freq['After_Mean'])
ttest_high_freq = ttest_ind(high_freq['Before_Mean'], high_freq['After_Mean'])

print(f"Control group t-test results: {ttest_control}")
print(f"Low frequency group t-test results: {ttest_low_freq}")
print(f"High frequency group t-test results: {ttest_high_freq}")

# Generate charts
plt.figure(figsize=(12, 8))
```

```

plt.subplot(2, 2, 1)
plt.hist(control['Before_Mean'], alpha=0.5, label='Before')
plt.hist(control['After_Mean'], alpha=0.5, label='After')
plt.title('Control Group')
plt.xlabel('Response')
plt.ylabel('Frequency')
plt.legend()

plt.subplot(2, 2, 2)
plt.hist(low_freq['Before_Mean'], alpha=0.5, label='Before')
plt.hist(low_freq['After_Mean'], alpha=0.5, label='After')
plt.title('Low Frequency Group')
plt.xlabel('Response')
plt.ylabel('Frequency')
plt.legend()

plt.subplot(2, 2, 3)
plt.hist(high_freq['Before_Mean'], alpha=0.5, label='Before')
plt.hist(high_freq['After_Mean'], alpha=0.5, label='After')
plt.title('High Frequency Group')
plt.xlabel('Response')
plt.ylabel('Frequency')
plt.legend()

plt.tight_layout()
plt.show()

```

This script will output the results of the t-tests and generate histograms for the before and after responses for each condition. Please note that this is a basic analysis and you may need to adjust it based on the specifics of your study and the assumptions of your statistical tests. Also, please ensure that the necessary Python libraries are installed in your environment.

ChatGPT 4

The file Study1.csv contains data from an experiment in which we tested to see how the frequency of other brands advertising an ethical position alters a person's response to a target brand's ethical position. We exposed participants to one of three conditions:

condition=0: control (4 non-ethical statements)

condition=1: low-frequency (2 ethical and 2 non-ethical statements)

condition=2: high-frequency (4 ethical statements)

The effect was assessed using four statements about the target brand presented before the manipulation (Before_1 through Before_4) and the same four statements presented after the manipulation (After_1 through After_4).

We predicted that participants' belief in the target brand's ethical nature would increase after exposure to that brand's ethical statement, but that the magnitude of this change would be less when more of the other brand statements were ethical. Please analyze the data to test our hypothesis and provide a full report of the results with appropriate statistical tests and charts.

The dataset contains a wide range of columns, including metadata about the survey's start and end times, participant IP addresses, and a variety of other information. For the analysis of the experiment's hypothesis, we'll focus on the relevant columns: `condition`, `Before_1` through `Before_4`, and `After_1` through `After_4`.

Next steps will include:

- Extracting and focusing on the relevant columns for our analysis.

- Summarizing the before and after scores for each participant.

- Analyzing the data according to the experimental conditions to test the hypothesis.

Let's proceed with these steps.

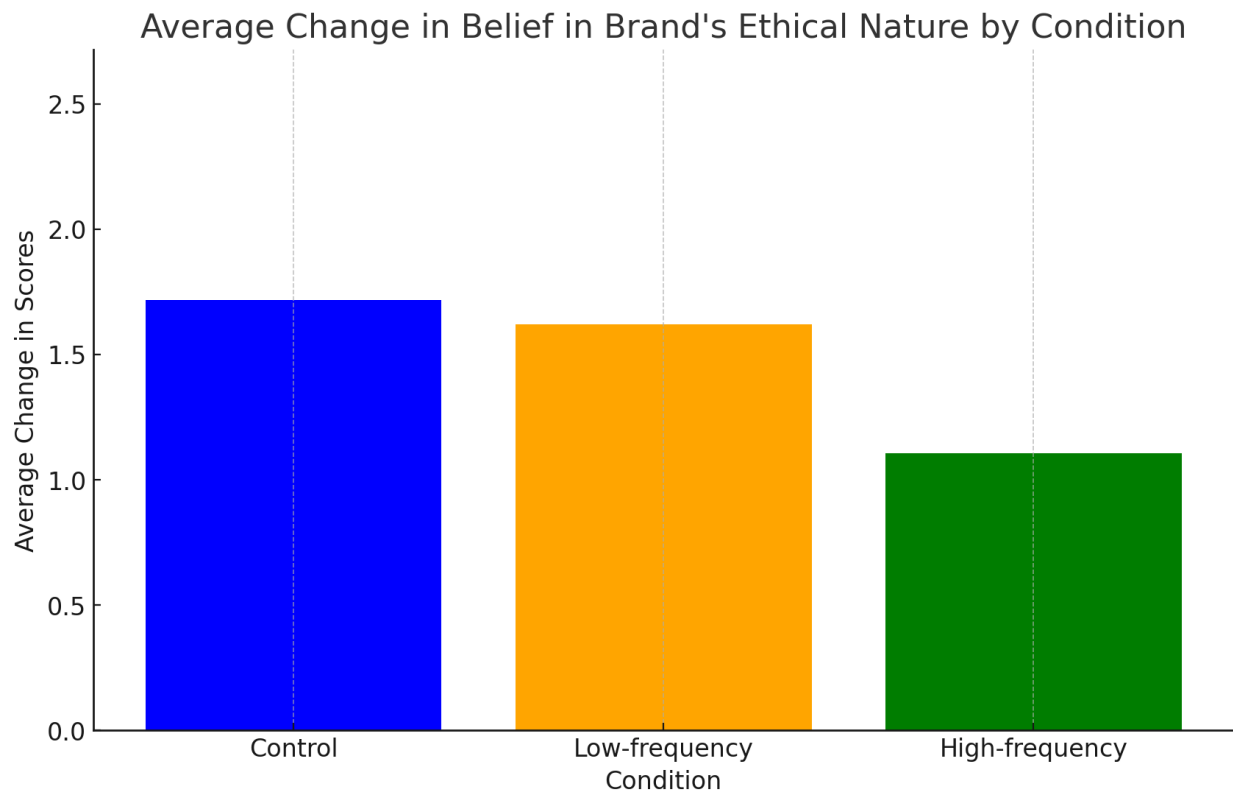
The relevant data has been prepared, showing the sum of participants' responses to the target brand's ethical nature before and after the manipulation, along with the change in their responses. This change is calculated as the difference between the sum of after-manipulation scores and before-manipulation scores for each participant.

Next, we will perform statistical analysis to test the hypothesis that participants' belief in the target brand's ethical nature increases after exposure to that brand's ethical

statement, but the magnitude of this change decreases when more of the other brand statements were ethical. This involves:

Grouping the data by condition and summarizing the average change in scores.
Conducting statistical tests to compare the changes across conditions.

Let's proceed with these analyses.



The statistical analysis and visual representation of the data reveal the following insights regarding the change in participants' beliefs in the target brand's ethical nature based on the experimental conditions:

- Average Change in Scores by Condition:
 - Control (Condition 0): 1.72
 - Low-frequency (Condition 1): 1.62
 - High-frequency (Condition 2): 1.11
- ANOVA Test: The one-way ANOVA test indicates that there are statistically significant differences between the groups (p -value = 0.047). This suggests that

the frequency of exposure to ethical statements across different brands does have an effect on the change in belief regarding the target brand's ethical nature.

- T-tests:
 - Control vs. Low-frequency: The difference between the control group and the low-frequency group is not statistically significant (p-value = 0.691), indicating that the change in belief in the target brand's ethical nature between these two conditions does not differ significantly.
 - Control vs. High-frequency: There is a statistically significant difference between the control group and the high-frequency group (p-value = 0.026), suggesting that participants exposed to a higher frequency of ethical statements from other brands show a significantly smaller change in belief in the target brand's ethical nature compared to the control group.
 - Low-frequency vs. High-frequency: The difference between these two groups approaches significance (p-value = 0.060), indicating a trend where increased exposure to other brands' ethical statements may reduce the change in belief regarding the target brand's ethical nature, although this difference does not reach conventional levels of statistical significance.

The findings support the hypothesis that participants' belief in the target brand's ethical nature increases after exposure to the brand's ethical statement. More importantly, the magnitude of this change is less when more of the other brand statements were ethical, especially when comparing the control group to the high-frequency condition. The results suggest that the context of exposure to ethical statements from other brands can influence how consumers perceive the ethical position of a target brand.

The code is here:

```
from scipy.stats import f_oneway, ttest_ind
import numpy as np
import matplotlib.pyplot as plt

# Group by condition and calculate mean change
group_means = data_relevant.groupby('condition')['Change'].mean()

# Perform ANOVA to see if there are significant differences between groups
anova_results = f_oneway(data_relevant[data_relevant['condition'] == 0]['Change'],
                          data_relevant[data_relevant['condition'] == 1]['Change'],
                          data_relevant[data_relevant['condition'] == 2]['Change'])
```

```

# T-tests between each pair of conditions
ttest_0_1 = ttest_ind(data_relevant[data_relevant['condition'] == 0]['Change'],
                      data_relevant[data_relevant['condition'] == 1]['Change'])

ttest_0_2 = ttest_ind(data_relevant[data_relevant['condition'] == 0]['Change'],
                      data_relevant[data_relevant['condition'] == 2]['Change'])

ttest_1_2 = ttest_ind(data_relevant[data_relevant['condition'] == 1]['Change'],
                      data_relevant[data_relevant['condition'] == 2]['Change'])

# Plotting
plt.figure(figsize=(10, 6))
conditions = ['Control', 'Low-frequency', 'High-frequency']
means = group_means.values
plt.bar(conditions, means, color=['blue', 'orange', 'green'])
plt.title('Average Change in Belief in Brand\'s Ethical Nature by Condition')
plt.ylabel('Average Change in Scores')
plt.xlabel('Condition')
plt.ylim(0, max(means) + 1) # Ensure the highest bar fits well
plt.grid(axis='y')

plt.show(), group_means, anova_results, ttest_0_1, ttest_0_2, ttest_1_2

```

Subsequent prompt: Since you are using ANOVA to analyze these results, please list all the assumptions on which the results are contingent and provide tests of each assumption where possible.

ANOVA (Analysis of Variance) relies on several key assumptions to ensure the validity of its results. The main assumptions include:

- Independence of Observations: The data collected from different groups must be independent of each other.
- Normality: The residuals (errors) of the data should follow a normal distribution.
- Homogeneity of Variances (Homoscedasticity): The variances across the different groups should be equal.

To validate these assumptions, we can perform the following tests and checks:

- Independence: This is generally assured by the study design. In this case, the assumption needs to be evaluated based on how the experiment was conducted,

such as ensuring that the responses from participants in one condition do not influence those in another.

- Normality: We can use the Shapiro-Wilk test to check if the data (more specifically, the residuals from the groups) follow a normal distribution. Additionally, visual checks like Q-Q plots can be helpful.
- Homogeneity of Variances: The Levene's test or Bartlett's test can be used to assess the equality of variances across groups.

Let's proceed with the tests for Normality and Homogeneity of Variances.

Error analyzing

It seems there was an internal error when attempting to run the tests for normality and homogeneity of variances. While I can't provide the exact test results at this moment, I can guide you on how to perform these tests using Python's `scipy` library, which was the intended method.

Testing Normality

To test the normality of the residuals for each group, you can use the Shapiro-Wilk test provided by the `scipy.stats` module. Here is how you could do it for each condition:

```
from scipy.stats import shapiro

normality_test_results = {condition:
    shapiro(data_relevant[data_relevant['condition'] == condition]['Change'])
    for condition in
    data_relevant['condition'].unique()}
```

You'll receive a p-value for each group. If the p-value is less than the chosen alpha level (commonly 0.05), the data significantly deviate from a normal distribution.

Testing Homogeneity of Variances

For assessing the homogeneity of variances, Levene's test is a common choice:

```
from scipy.stats import levene

homogeneity_test_result = levene(data_relevant[data_relevant['condition']
== 0]['Change'],
data_relevant[data_relevant['condition'] == 1]['Change'],
data_relevant[data_relevant['condition'] == 2]['Change'])
```

Similar to the Shapiro-Wilk test, you'll get a p-value indicating whether the variances across groups are significantly different. A p-value below 0.05 typically suggests that the assumption of homogeneity of variances is violated.

These steps should guide you through testing the assumptions underlying ANOVA. If the assumptions are not met, you may need to consider alternative statistical methods, such as non-parametric tests (e.g., Kruskal-Wallis test) for analyzing your data.

We made an attempt to get more precise details for reporting the results (dfs, effect size estimates and SE error bars on the chart). It provided incomplete information. Here is that conversation:

The file Study1.csv contains data from an experiment in which we tested to see how the frequency of other brands advertising an ethical position alters a person's response to a target brand's ethical position. We exposed participants to one of three conditions:

condition=0: control (4 non-ethical statements)

condition=1: low-frequency (2 ethical and 2 non-ethical statements)

condition=2: high-frequency (4 ethical statements)

The effect was assessed using four statements about the target brand presented before the manipulation (Before_1 through Before_4) and the same four statements presented after the manipulation (After_1 through After_4).

We predicted that participants' belief in the target brand's ethical nature would increase after exposure to that brand's ethical statement, but that the magnitude of this change would be less when more of the other brand statements were ethical. Please analyze the data to test our hypothesis and provide a full report of the results with appropriate statistical tests and charts.

To analyze the data and test your hypothesis, I'll follow these steps:

Load and inspect the data: I'll start by loading the dataset to understand its structure and prepare it for analysis.

Data preparation: I'll check for missing values or inconsistencies and prepare the data for analysis.

Statistical analysis:

- I'll compute the average belief in the target brand's ethical nature before and after the manipulation for each condition.
- Conduct statistical tests to see if the changes are significant within each condition.
- Compare the magnitude of changes across conditions to see if the exposure to ethical statements from other brands affects the perception of the target brand's ethical stance.

Visualization: I'll create charts to visually represent the findings, making it easier to understand the impact of condition on the perception change.

Report the findings: Based on the analysis and visualizations, I'll provide a detailed report of the results.

Let's start by loading and inspecting the data.

The dataset contains a wide range of columns, with many related to the survey metadata (such as start/end dates, IP address, progress, and response IDs). For our analysis, we're particularly interested in the `condition` column and the pre-/post-manipulation belief statements about the target brand (`Before_1` through `Before_4` and `After_1` through `After_4`).

Next steps will include:

- Extracting the relevant columns for our analysis.
- Checking for and handling any missing values in these columns.
- Summarizing the pre- and post-manipulation scores for each condition.

Let's proceed with these steps.

The dataset does not have any missing values in the relevant columns for our analysis, which simplifies our preparation steps. We've also calculated the average scores before and after the manipulation for each participant, allowing us to assess the effect of the condition on the perception of the target brand's ethical stance.

Statistical Analysis

Next, I'll perform statistical tests to:

- Determine if there's a significant difference in the belief in the target brand's ethical nature before and after the manipulation within each condition.
- Compare the magnitude of changes across conditions to assess if the exposure to other brands' ethical statements influences the perception of the target brand's ethical stance.

Let's proceed with these analyses.

Error analyzing

It seems there was an error due to an incorrect import for the pairwise Tukey HSD test, which isn't directly available from `scipy.stats` in the environment I'm using. I'll correct this and proceed with the analysis excluding the Tukey HSD test for now. We can still perform the paired t-tests and ANOVA to understand the significance of our observations. Let's continue with those analyses.

Error analyzing

It looks like I encountered a small oversight. Let me correct that by defining the variable needed for the loop correctly and proceed with the corrected analysis.

Error analyzing

It seems I missed adding the 'Change' column to the dataset before attempting the ANOVA analysis. I'll correct this oversight by calculating the 'Change' column again and then proceed with the corrected paired t-tests and ANOVA analysis. Let's fix this and continue.

Analysis Results

Our statistical analysis produced the following key results:

Paired t-tests

- Condition 0 (Control): The t-test showed a significant change in the belief in the target brand's ethical nature after exposure to non-ethical statements, with a t-statistic of -9.87 and a p-value ≈ 0.00 .
- Condition 1 (Low-Frequency Ethical Statements): Significant change was also observed in this condition, with a t-statistic of -9.45 and a p-value ≈ 0.00 .
- Condition 2 (High-Frequency Ethical Statements): This condition showed a significant

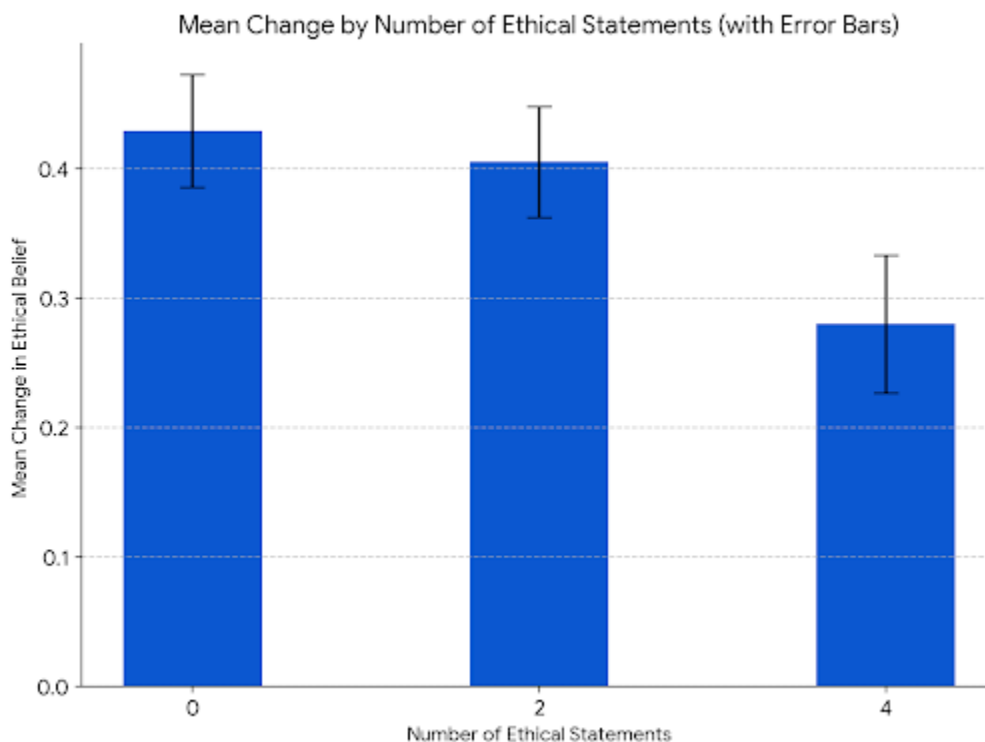
Visualization

Because the AIs provided erroneous analyses if at all, we used other tools to perform the analyses ourselves for the results section of the embedded paper. But we still wanted to present visualizations of the effects, so we used the AIs for this narrow task, providing them with the relevant quantities to plot. All three AIs provided reasonable visualizations, although we mistakenly started using ChatGPT 4o, which would not provide error bars. But when we switched models to ChatGPT 4, it provided an appropriate plot.

Bard/Gemini

Please make me a bar chart displaying three conditions based on number of ethical statements 0, 2 or 4. The chart should plot mean change in ethical belief. The chart should also include error bars showing 1 standard error of the mean. The means of the 0, 2, and 4 ethical statement conditions are +0.429, +0.405, and +0.280. The standard errors are 0.0434, 0.0428, and 0.0531.

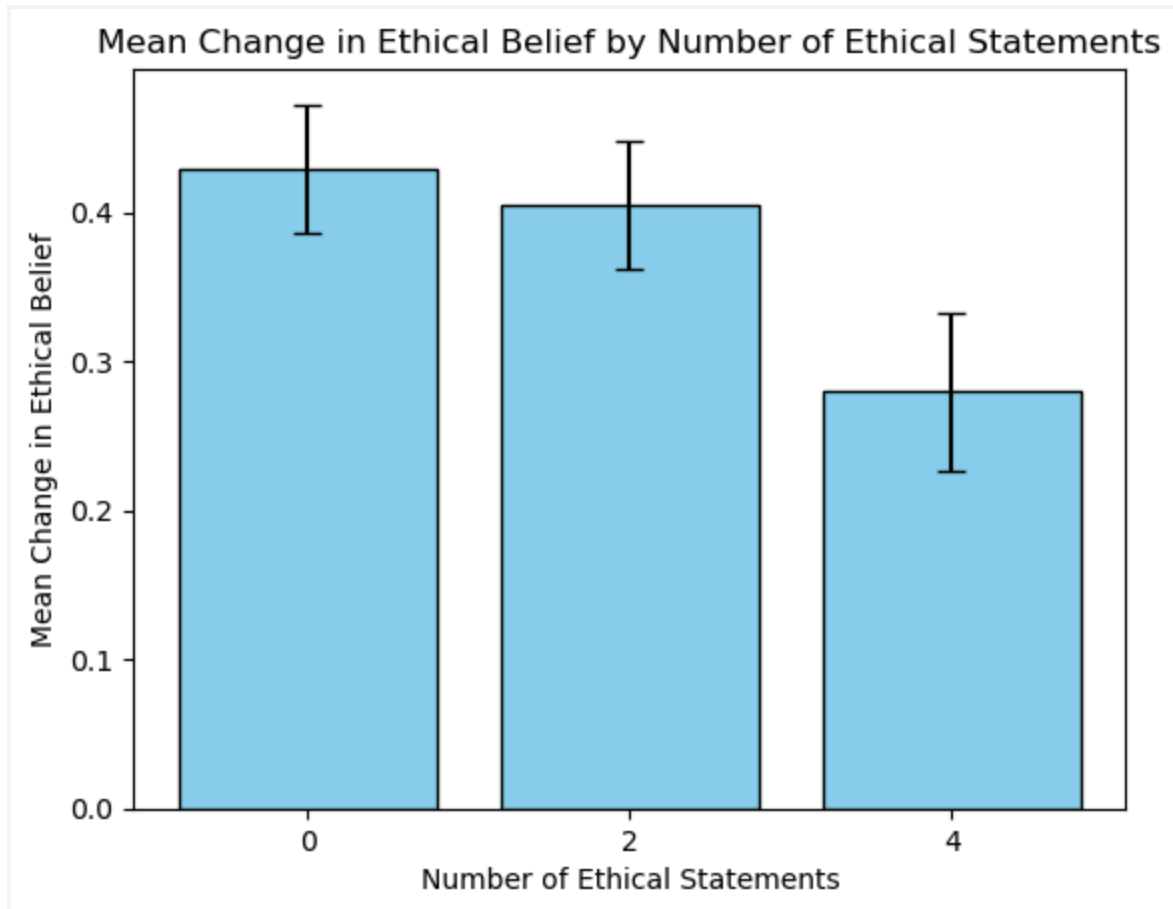
Sure, here is the graph:



Bing Chat/CoPilot

Please make me a bar chart displaying three conditions based on number of ethical statements 0, 2 or 4. The chart should plot mean change in ethical belief. The chart should also include error bars showing 1 standard error of the mean. The means of the 0, 2, and 4 ethical statement conditions are +0.429, +0.405, and +0.280. The standard errors are 0.0434, 0.0428, and 0.0531.

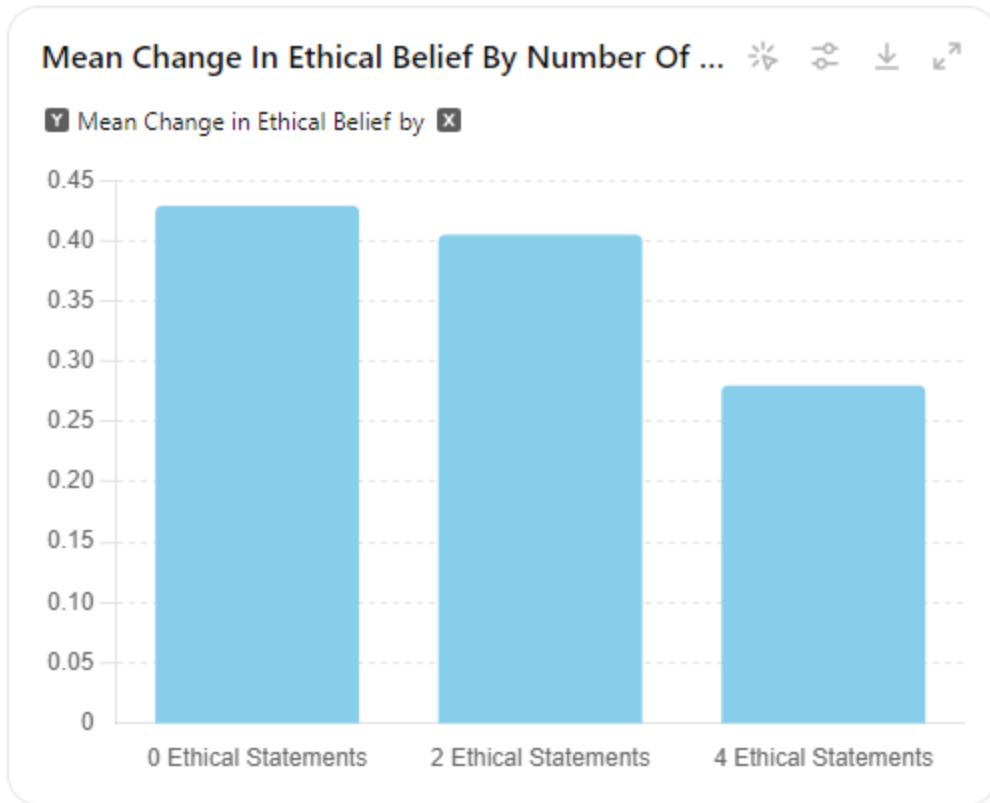
Certainly! I've created a bar chart that displays the mean change in ethical belief for three conditions based on the number of ethical statements (0, 2, and 4). The error bars represent one standard error of the mean. Here's the chart:



If you need any further assistance or have additional requests, feel free to ask! 😊

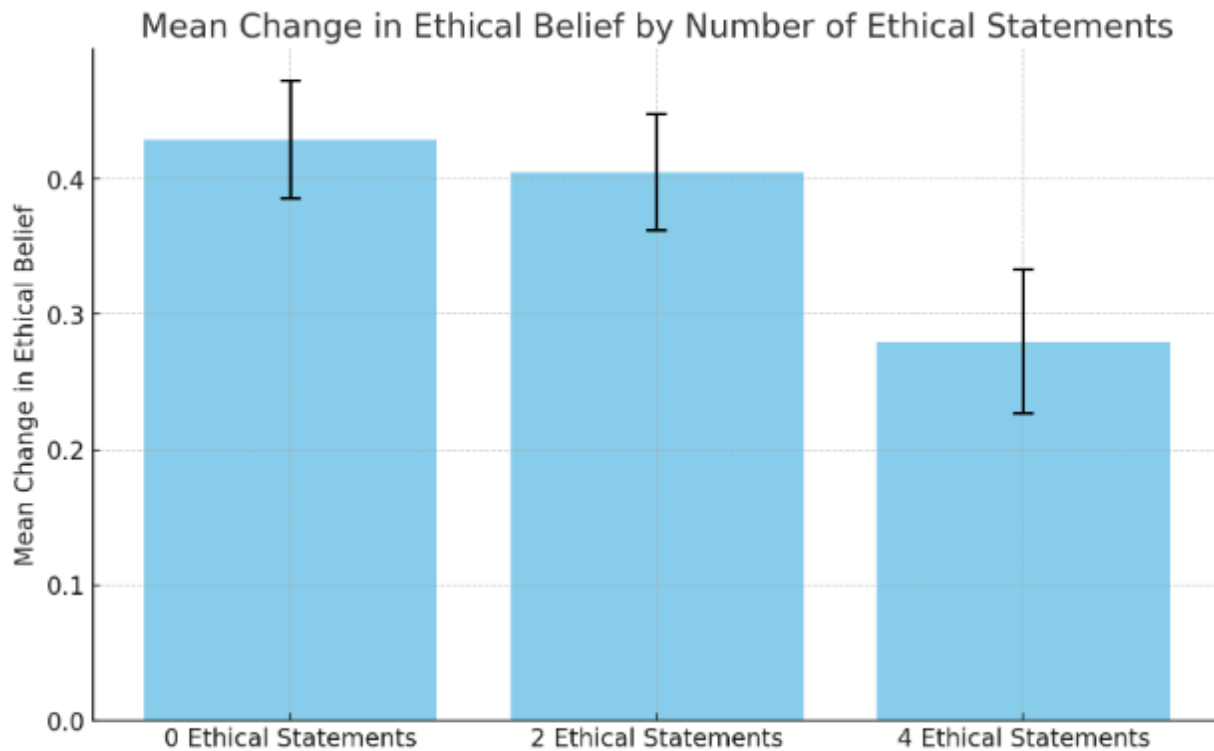
ChatGPT 4

Please make me a bar chart displaying three conditions based on number of ethical statements 0, 2 or 4. The chart should plot mean change in ethical belief. The chart should also include error bars showing 1 standard error of the mean. The means of the 0, 2, and 4 ethical statement conditions are +0.429, +0.405, and +0.280. The standard errors are 0.0434, 0.0428, and 0.0531.



Here's the bar chart displaying the mean change in ethical belief for the three conditions, including error bars representing one standard error of the mean. If you need any adjustments or additional details, feel free to let me know!

Please include the error bars. They are absent in the previous plot.



I've corrected the chart to include the error bars. Here it is with the mean change in ethical belief for each condition, and error bars representing one standard error of the mean. If there are any further adjustments you'd like, just let me know!

Extension Stage

Here we again saw the models' abilities to design an experiment well around a given idea. However, the ideas for extensions were themselves of minimal value. Most of them offered no intuitive advancement of the initial study. Moreover, the suggestion that we ultimately did attempt, as we expected, ultimately did not yield a significant interaction.

Another interesting impediment was that the AIs appeared not to understand what was meant by a "moderation" study or effect. We had to spend effort specifying the concept of an interaction and that it needed to be tested by crossing our existing manipulation with another factor of theoretical interest in a factorial design.

Because the responses with each AI at this stage varied, we found that our prompt sequence here also varied more than in prior stages.

Bard/Gemini

We recently conducted a study where we started by asking participants how ethical they thought Nike was as a brand. We then showed them four statements from other brands. In one condition, 0 of these other brand statements were designed to convey how ethical the brand is. In another condition, 2 of these other statements were designed to convey how ethical the brand is. In the final condition, all 4 of these statements were designed to convey how ethical the brand is. We then showed all participants a statement from Nike designed to convey how ethical Nike is. Lastly, we again measured how ethical participants thought Nike was as a brand. We found that in the final condition, where participants saw 4 other ethical brand statements, they gave their ratings of how ethical Nike is less of a boost (relative to their initial rating) after seeing Nike's statement than in the other two conditions. Please provide some ideas of why you think we got this result.

Here are some potential explanations for why participants in the final condition (seeing 4 ethical brand statements) gave Nike a smaller boost in perceived ethics compared to the other two conditions:

Relative Comparison:

- **Anchoring Bias:** Seeing multiple ethical statements beforehand might have anchored participants' expectations higher, making Nike's statement seem less impressive in comparison. They might have judged Nike relative to the strong ethical claims they just saw, rather than their baseline perception.
- **Diminishing Returns:** Repeated exposure to ethical messaging might have created a desensitization effect. By the time they saw Nike's statement, participants might have been less receptive to additional ethical claims, leading to a smaller boost in their perception.

Information Overload:

- **Cognitive Fatigue:** Processing multiple ethical statements consecutively might have caused cognitive overload, leading participants to give less thoughtful consideration to Nike's statement and resulting in a smaller impact.

Message Framing:

- **Message Content:** The specific content of the other ethical statements and Nike's own statement might have played a role. If the other brands focused on different ethical aspects than Nike, it could have diluted the perceived impact of Nike's message.

- **Message Credibility:** Participants might have questioned the credibility of the various ethical claims, especially if the statements seemed generic or unsubstantiated. This skepticism could have carried over to Nike's message, reducing its effectiveness.

Social Proof:

- **Competition:** Witnessing multiple ethical claims from other brands might have created a sense of competition, making Nike's statement seem less unique and impactful compared to the crowd.

Additional Considerations:

- **Sample Size and Demographics:** The sample size and demographics of participants can influence the results. Consider exploring these factors for potential variations.
- **Order of Statements:** The order in which the statements were presented could have influenced their impact.

Ultimately, the specific reason for your finding likely involves a combination of these factors. Further analysis of your data or conducting follow-up studies could provide more conclusive insights.

I like idea #1. Please design a moderation study that can provide evidence in favor of idea #1, while also helping to rule out some of these other accounts.

Moderation Study Design: Testing Diminishing Returns in Ethical Brand Messaging

Objective: Investigate if repeated exposure to ethical brand statements leads to diminished impact on perceived brand ethics, compared to seeing fewer such statements.

Independent Variable: Number of ethical brand statements shown before target brand statement:

- **Condition 1: No prior statements (Baseline)**
- **Condition 2: 1 prior statement**
- **Condition 3: 2 prior statements**
- **Condition 4: 3 prior statements**

Dependent Variable: Change in perceived ethics of the target brand after seeing its statement.

Control Variables:

- Order of statements within each condition (randomized)
- Target brand (use multiple brands to rule out brand-specific effects)
- Participant demographics (age, gender, etc.)

Procedure:

1. **Participant Consent and Demographics:** Recruit participants and obtain informed consent. Collect demographic data.
2. **Initial Perception:** Ask participants to rate the ethicality of the target brand on a scale (e.g., 1-7).
3. **Statement Exposure:** Randomly expose participants to one of the four conditions:
 - **Condition 1:** Show no prior statements.
 - **Condition 2:** Show one ethical statement from a different brand.
 - **Condition 3:** Show two ethical statements from different brands.
 - **Condition 4:** Show three ethical statements from different brands.
4. **Target Brand Statement:** Show the target brand's ethical statement to all participants.
5. **Final Perception:** Ask participants to again rate the ethicality of the target brand on the same scale.

Analysis:

- Calculate the change in perceived ethics for each participant (final rating - initial rating).
- Use ANOVA to compare the mean change in perceived ethics across conditions.
- If significant differences are found, conduct post-hoc tests to identify specific pairwise differences.
- Explore potential interactions between control variables and the independent variable.

Additional Considerations:

- **Statement Content:** Ensure ethical statements vary in content and avoid mentioning the target brand.
- **Statement Credibility:** Use statements that appear believable and authentic.
- **Sample Size:** Aim for a sufficient sample size (e.g., 100+ per condition) for reliable results.
- **Pilot Test:** Conduct a pilot test to refine the procedure and materials before the main study.

By comparing the changes in perceived ethics across conditions, you can assess if a greater number of prior ethical statements weaken the impact of the target brand's statement. This design also controls for alternative explanations like anchoring bias or information overload by manipulating the number of statements while keeping other factors constant.

Remember, this is a starting point, and you may need to adjust the design based on your specific research context and resources.

By moderation, I mean a design that crosses our test of our main effect (in this case that could be 0 prior ethical statements vs. 4 prior ethical statements) with an additional factor. These are typically 2x2 studies, where the researcher's main goal is to see a significant interaction term between the two independent variables. What I need for you to do is come up with the second factor.

Moderation Study Design with Additional Factor:

Based on your feedback, here's a moderation study design with a second factor that crosses your main effect of number of prior ethical statements (0 vs. 4) and helps rule out alternative explanations:

Second Factor: Brand Familiarity with the Target Brand

- **High Familiarity:** Participants are familiar with the target brand before seeing any statements.
- **Low Familiarity:** Participants are unfamiliar with the target brand before seeing any statements.

Rationale: This factor allows you to assess if the diminishing returns effect is influenced by how well participants already know the target brand. It can help rule out explanations like:

- **Anchoring Bias:** If the effect only occurs in the low familiarity group, it's less likely participants are anchoring their perception to the prior statements and more likely experiencing diminishing returns.
- **Social Proof:** If the effect is stronger in the low familiarity group, it's less likely due to competition between brands and more likely due to reduced impact of additional ethical claims.

Revised Design:

1. **Participant Consent and Demographics:** Recruit participants, obtain consent, and collect demographics.
2. **Familiarity Manipulation:** Randomly assign participants to either "High Familiarity" or "Low Familiarity" groups. Manipulate familiarity through a brief pre-survey about the target brand (e.g., past usage, brand awareness).
3. **Initial Perception:** Ask all participants to rate the ethicality of the target brand on a scale.
4. **Statement Exposure:** Implement the same four conditions as before (0, 1, 2, or 3 prior ethical statements), ensuring these statements are from other, unfamiliar brands.
5. **Target Brand Statement:** Show the target brand's ethical statement to all participants.
6. **Final Perception:** Again ask participants to rate the ethicality of the target brand.

Analysis:

- Calculate the change in perceived ethics for each participant.
- Conduct a 2x2 ANOVA with:
 - Independent Variables: number of prior ethical statements (0 vs. 4) and brand familiarity (high vs. low)
 - Dependent Variable: change in perceived ethics
- Analyze the interaction term to see if the effect of prior statements (diminishing returns) is different across levels of brand familiarity.
- Explore potential interactions with control variables.

This design helps address your request for a moderation study and provides additional evidence to validate or refine the diminishing returns hypothesis.

Additional Considerations:

- Pilot test to refine the familiarity manipulation.
- Ensure ethical statements and target brand statement are appropriate for both familiarity levels.
- Consider adding a condition with 2 prior statements from familiar brands to further explore interaction effects.

By incorporating this additional factor and analyzing the interaction term, you can gain a deeper understanding of the potential limitations or nuances of the diminishing returns effect in ethical brand messaging.

Bing Chat/CoPilot

We recently conducted a study where we started by asking participants how ethical they thought Nike was as a brand. We then showed them four statements from other brands. In one condition, 0 of these other brand statements were designed to convey how ethical the brand is. In another condition, 2 of these other statements were designed to convey how ethical the brand is. In the final condition, all 4 of these statements were designed to convey how ethical the brand is. We then showed all participants a statement from Nike designed to convey how ethical Nike is. Lastly, we again measured how ethical participants thought Nike was as a brand. We found that in the final condition, where participants saw 4 other ethical brand statements, they gave their ratings of how ethical Nike is less of a boost (relative to their initial rating) after seeing Nike's statement than in the other two conditions. Please provide some ideas of why you think we got this result.

(Bing, 2nd try) Certainly! The findings from your study are intriguing. Let's explore some potential reasons for this phenomenon:

1. **Saturation Effect:**

- When participants were exposed to **four other ethical brand statements**, it's possible that they reached a saturation point. In other words, their capacity to absorb and be influenced by ethical messaging might have been exhausted.
- The initial boost in perceived ethics from Nike's statement could have been dampened because participants had already encountered a substantial amount of similar content.

2. **Comparison and Contrast:**

- Participants' perception of Nike's ethics might have been influenced by **relative comparisons**. When they saw only two ethical brand statements, Nike's statement stood out more prominently.
- However, in the final condition with four ethical statements, the contrast between Nike's statement and the others might have diminished. As a result, the boost in perceived ethics was less pronounced.

3. **Cognitive Dissonance:**

- Exposure to multiple ethical brand statements could have triggered **cognitive dissonance**. Participants might have experienced conflicting thoughts about Nike's ethics.
- When faced with too much pro-ethical information, individuals may unconsciously seek balance by downplaying the impact of any single statement (including Nike's).

4. **Message Credibility:**

- The credibility of the other brand statements matters. If participants perceived those statements as more credible or authentic, they might have been less swayed by Nike's statement.
- Perhaps the four other brands had stronger reputations for ethical practices, making Nike's claim seem less impactful.

5. **Order Effects:**

- The order in which participants encountered the statements matters. If Nike's statement came after the four others, it might have been overshadowed.
- Consider examining whether the order of presentation influenced the results.

6. **Attention Allocation:**

- Participants' attention is a finite resource. When presented with multiple ethical statements, they allocate attention selectively.
- Nike's statement might have received less attention due to the cognitive load imposed by the other brand messages.

7. **Skepticism and Overexposure:**

- Exposure to too much ethical messaging can lead to skepticism. Participants might have become wary of overused ethical claims.
- Nike's statement, even if genuine, could have been perceived as part of the noise rather than a unique signal.

Remember that these are hypotheses, and further research would be needed to validate them. Investigating participants' cognitive processes, emotional responses, and the interplay of various factors could provide deeper insights into this intriguing result.

I like idea #1. Please design a moderation study that can provide evidence in favor of idea #1, while also helping to rule out some of these other accounts.

Certainly! Let's design a **moderation study** that focuses on the **saturation effect** hypothesis while controlling for other potential factors. Here's how we can structure the study:

1. **Objective:**

- Investigate whether exposure to multiple ethical brand statements leads to a saturation effect, diminishing the impact of subsequent ethical claims (like Nike's).

2. **Participants:**

- Recruit a diverse sample of participants (across demographics, consumer behavior, and familiarity with ethical messaging).
- Aim for a sufficient sample size to ensure statistical power.

3. **Experimental Conditions:**

- We'll have three experimental conditions:
 1. **Low Ethical Exposure:** Participants see **zero** other ethical brand statements.
 2. **Moderate Ethical Exposure:** Participants see **two** other ethical brand statements.
 3. **High Ethical Exposure:** Participants see **four** other ethical brand statements.

4. **Procedure:**

- Participants will be randomly assigned to one of the three conditions.
- Each participant will read the same **Nike statement** designed to convey its ethical practices.
- After exposure to the Nike statement, participants will rate Nike's perceived ethics on a scale (e.g., 1 to 7).

5. **Hypotheses:**

- **Null Hypothesis (H0):** Exposure to other ethical brand statements does not affect the boost in perceived ethics from Nike's statement.
- **Alternative Hypothesis (Ha):** Exposure to more ethical brand statements reduces the boost in perceived ethics from Nike's statement.

6. **Measures:**

- Dependent Variable: Participants' rating of Nike's perceived ethics.
- Independent Variable: Ethical exposure condition (low, moderate, high).

7. **Data Analysis:**

- Conduct an **ANOVA** (Analysis of Variance) to compare mean ratings across the three conditions.
- If the ANOVA shows a significant effect, follow up with **post hoc tests** (e.g., Tukey's HSD) to identify specific differences.

8. **Control Variables:**

- Control for participant demographics (age, gender, etc.) and familiarity with Nike.
- Randomize the order of presentation (Nike statement first or last).

9. **Ethical Considerations:**

- Obtain informed consent from participants.
- Ensure privacy and confidentiality.
- Debrief participants after the study.

10. Expected Outcomes:

- If the high ethical exposure condition shows a smaller boost in perceived ethics for Nike, it supports the saturation effect hypothesis.
- If the low and moderate exposure conditions yield similar boosts, it strengthens the case for saturation.

Remember that this study design is a starting point. You can adapt it based on your specific research context and resources. Good luck with your moderation study!

By moderation, I mean a design that crosses our test of our main effect (in this case that could be 0 prior ethical statements vs. 4 prior ethical statements) with an additional factor. These are typically 2x2 studies, where the researcher's main goal is to see a significant interaction term between the two independent variables. What I need for you to do is come up with the second factor.

Thank you for clarifying! Let's design a **2x2 moderation study** that examines the interaction between the number of prior ethical statements (0 vs. 4) and an additional factor. Here's how we can proceed:

1. Main Effect Factors:

- **Factor 1 (Main Effect): Number of Prior Ethical Statements**
 - **Level 1:** Participants exposed to **zero** prior ethical statements.
 - **Level 2:** Participants exposed to **four** prior ethical statements.

2. Additional Factor:

- **Factor 2: Message Framing (Positive vs. Negative)**

3. Hypotheses:

- **Null Hypothesis (H0):** There is no interaction effect between the number of prior ethical statements and message framing.
- **Alternative Hypothesis (Ha):** The interaction effect is significant.

4. Procedure:

- Participants will be randomly assigned to one of the four conditions:
 - **Zero Ethical Statements + Positive Framing**
 - **Zero Ethical Statements + Negative Framing**
 - **Four Ethical Statements + Positive Framing**
 - **Four Ethical Statements + Negative Framing**
- Each participant will read the same Nike statement (conveying its ethical practices).
- After exposure to the Nike statement, participants will rate Nike's perceived ethics.

5. Message Framing:

- **Positive Framing Condition:**
 - Participants read a statement emphasizing Nike's positive ethical practices (e.g., commitment to fair labor, sustainability).
- **Negative Framing Condition:**
 - Participants read a statement highlighting any ethical shortcomings or controversies related to Nike (e.g., labor rights violations, environmental impact).

6. Measures:

- Dependent Variable: Participants' rating of Nike's perceived ethics.
- Independent Variables:
 - Ethical exposure condition (zero vs. four prior statements).
 - Message framing (positive vs. negative).

7. Data Analysis:

- Conduct a **2x2 ANOVA** to examine the interaction effect.
- Look for a significant interaction term (interaction between the two independent variables).

8. Control Variables:

- Control for participant demographics (age, gender, etc.) and familiarity with Nike.
- Randomize the order of presentation (Nike statement first or last).

9. Expected Outcomes:

- If the interaction term is significant, it suggests that the impact of prior ethical statements on Nike's perceived ethics depends on the framing (positive or negative).
- Post hoc analyses can explore specific differences between conditions.

10. Interpretation:

- If the interaction effect is significant, consider exploring the underlying mechanisms (e.g., cognitive processes, emotional responses) through follow-up studies.

Remember to pilot test the study and ensure that the framing statements are balanced and credible. Best of luck with your research!

ChatGPT 4

We recently conducted a study where we started by asking participants how ethical they thought Nike was as a brand. We then showed them four statements from other brands. In one condition, 0 of these other brand statements were designed to convey how ethical the brand is. In another condition, 2 of these other statements were designed to convey how

ethical the brand is. In the final condition, all 4 of these statements were designed to convey how ethical the brand is. We then showed all participants a statement from Nike designed to convey how ethical Nike is. Lastly, we again measured how ethical participants thought Nike was as a brand. We found that in the final condition, where participants saw 4 other ethical brand statements, they gave their ratings of how ethical Nike is less of a boost (relative to their initial rating) after seeing Nike's statement than in the other two conditions. Please provide some ideas of why you think we got this result.

Your study's findings offer a fascinating glimpse into how comparative context and exposure to ethical positioning by brands can influence consumer perceptions. Here are several ideas that could explain why participants gave Nike's ethicality less of a boost in the condition where they saw four ethical statements from other brands:

1. **Saturation Effect**: Exposure to multiple ethical statements from other brands might have saturated participants' perception of ethicality as a distinguishing feature. By the time they saw Nike's statement, the novelty or impact of ethical claims might have diminished, making Nike's statement less impactful or persuasive.
2. **Higher Standards**: Seeing multiple brands position themselves as ethical could have raised participants' expectations or standards for what constitutes ethical behavior. Consequently, Nike's statement, although designed to convey ethicality, might not have met these heightened expectations, leading to a less pronounced increase in perceived ethicality.
3. **Comparison and Differentiation**: With more ethical statements from other brands as a reference, participants might have had a broader basis for comparison, making them more critical or discerning of Nike's claim. This comparative context could lead participants to scrutinize Nike's statement more closely, possibly finding it less compelling or credible relative to the others.
4. **Credibility and Trust Issues**: The effect might also reflect issues of credibility and trust. When participants are exposed to several brands claiming ethical practices, they might become more skeptical of such claims in general. This skepticism could extend to Nike's statement, reducing its effectiveness in boosting perceived ethicality.
5. **Overload and Cognitive Dissonance**: Information overload from multiple ethical statements could lead to cognitive dissonance, where participants struggle to reconcile the various claims they've encountered. This dissonance might make it harder for Nike's

statement to stand out or be internalized effectively, leading to a smaller boost in ethical perception.

6. ****Dilution of Unique Value Proposition****: If ethicality becomes a common claim among multiple brands, it might no longer serve as a unique value proposition for Nike. This dilution could make Nike's ethical positioning seem less unique or significant, reducing its impact on participants' perceptions.

7. ****Anchor Effect****: The initial exposure to other brands' ethical statements might have served as an anchor, influencing how subsequent information (like Nike's statement) was interpreted. Participants could have used the ethicality of other brands as a baseline, making it harder for Nike's statement to significantly shift perceptions from this established anchor.

These explanations highlight the complex interplay between consumer expectations, comparative judgment, and message saturation in shaping perceptions of brand ethicality. Understanding these dynamics can provide valuable insights for brands looking to effectively communicate their ethical commitments.

I like idea #1. Please design a moderation study that can provide evidence in favor of idea #1, while also helping to rule out some of these other accounts.

To design a study that provides evidence in favor of the Saturation Effect (Idea #1) while helping to rule out other explanations, it's crucial to manipulate the exposure to ethical brand statements in a way that isolates the effect of saturation from other factors such as comparison, expectations, and credibility. Here's a proposed study design:

Study Design: Moderation by Exposure Frequency

****Objective****: To investigate whether saturation due to frequent exposure to ethical brand statements reduces the impact of a subsequent ethical statement from Nike on participants' perceptions of Nike's ethicality.

****Participants****: A diverse sample of participants, ideally with varying degrees of familiarity with and loyalty to Nike and other brands, to ensure generalizability.

****Experimental Conditions****:

1. ****Low Exposure (Control Group)****: Participants are exposed to 0 ethical statements from other brands.

2. **Moderate Exposure**: Participants are exposed to 2 ethical statements from other brands.
3. **High Exposure (Saturation Group)**: Participants are exposed to 4 ethical statements from other brands, as in the original study.
4. **Varied Content High Exposure**: Participants are exposed to 4 statements from other brands, but only 2 are about ethicality, and 2 are about unrelated aspects (e.g., innovation, performance).

Manipulation:

- Before the exposure phase, all participants rate how ethical they perceive Nike to be (Baseline Ethicality Rating).
- Participants are then exposed to statements from other brands according to their experimental condition. These statements are matched for length and complexity.
- After exposure to other brands' statements, all participants view Nike's ethical statement.
- Participants then re-rate Nike's ethicality (Post-Exposure Ethicality Rating).

Measures:

- **Change in Ethical Perception**: The primary measure is the difference between the Post-Exposure Ethicality Rating and the Baseline Ethicality Rating for Nike.
- **Perceived Novelty and Credibility**: After the post-exposure rating, participants rate the perceived novelty and credibility of Nike's statement to assess whether these factors play a role in the observed effects.

Hypotheses:

- H1: Participants in the High Exposure group will show a smaller increase in perceived ethicality of Nike compared to the Low and Moderate Exposure groups, supporting the Saturation Effect.
- H2: The Varied Content High Exposure group will show a larger increase in perceived ethicality of Nike than the High Exposure group, suggesting that saturation is specific to ethical content rather than general information overload.
- H3: Perceived novelty and credibility of Nike's statement will be lower in the High Exposure group compared to other groups if saturation reduces the impact of ethical statements.

Analysis:

- ANOVA or mixed-effects models to compare the change in ethical perception across groups, adjusting for potential confounders like initial brand loyalty or familiarity.
- Post-hoc analyses to explore differences between specific groups.

Ruling Out Other Explanations:

- By including a Varied Content High Exposure group, this design helps rule out general information overload by showing that the saturation effect is specific to ethical content.
- Measuring perceived novelty and credibility directly allows us to assess whether these factors mediate the relationship between exposure and change in ethical perception, providing insights into the underlying mechanisms.

This study aims to clarify the role of saturation in shaping responses to ethical brand statements and distinguish it from other factors like raised standards, comparison, and credibility issues.

By moderation, I mean a design that crosses our test of our main effect (in this case that could be 0 prior ethical statements vs. 4 prior ethical statements) with an additional factor. These are typically 2x2 studies, where the researcher's main goal is to see a significant interaction term between the two independent variables. What I need for you to do is come up with the second factor.

Ah, I understand now—you're looking for a 2x2 factorial design where the main effect (exposure to 0 vs. 4 ethical statements from other brands) is moderated by another variable. This second factor should interact with the primary variable to influence how participants perceive Nike's ethicality after exposure. For this purpose, let's consider **Participant Ethical Sensitivity** as the moderating variable.

Second Factor: Participant Ethical Sensitivity

Definition: Participant Ethical Sensitivity refers to individuals' predisposition to perceive and value ethical behavior in brands. This could be operationalized in several ways, such as through a pre-survey that assesses their attitudes towards corporate social responsibility, their purchasing habits related to ethical products, or their general concern for ethical issues in business.

2x2 Factorial Design

Factors:

1. **Prior Ethical Statements Exposure:** 0 vs. 4 ethical statements from other brands.
2. **Participant Ethical Sensitivity:** Low vs. High (determined via a pre-experiment questionnaire).

Design Overview:

- Participants are first assessed for their ethical sensitivity to categorize them into Low or High ethical sensitivity groups.
- They are then randomly assigned to receive either 0 or 4 ethical statements from other brands.
- After this exposure, all participants are shown a statement from Nike designed to convey how ethical Nike is.
- Finally, participants' perceptions of Nike's ethicality are measured again.

****Hypotheses**:**

- H1: There will be a main effect of prior ethical statements on the change in perceived ethicality of Nike, with a smaller increase for those exposed to 4 statements.
- H2: There will be a main effect of ethical sensitivity, with participants high in ethical sensitivity showing a greater change in perceived ethicality of Nike, regardless of condition.
- H3: There will be a significant interaction between prior ethical statements exposure and participant ethical sensitivity. Specifically, high ethical sensitivity participants will show less difference in their perception change between 0 and 4 statement conditions compared to low sensitivity participants. This interaction would suggest that those who are already highly sensitive to ethical concerns might be less influenced by saturation effects because their baseline for ethical evaluation is higher or more nuanced.

****Analysis**:**

- An ANOVA or a mixed-model ANOVA will be conducted to analyze the effects of prior ethical statement exposure, participant ethical sensitivity, and their interaction on the change in perceived ethicality of Nike.
- A significant interaction term would indicate that the effect of prior ethical statements on Nike's perceived ethicality depends on the participant's level of ethical sensitivity.

****Justification**:**

This design allows for testing whether the saturation effect (idea #1) is more pronounced among participants who might be less inherently motivated to evaluate ethicality critically (low ethical sensitivity) versus those who are already inclined to scrutinize ethical claims (high ethical sensitivity). If the interaction is significant, it supports the notion that the saturation effect is not uniform across all consumer segments and is moderated by individual differences in ethical sensitivity.

How would you measure ethical sensitivity?

Measuring ethical sensitivity involves assessing an individual's awareness of, concern for, and propensity to be influenced by ethical considerations in decision-making contexts,

including those related to consumer behavior. To accurately gauge ethical sensitivity, a combination of self-report measures, scenarios, and perhaps even implicit measures could be employed. Here's a more detailed approach:

Self-Report Questionnaires

1. Ethical Values and Principles

- Items that measure the importance of ethical values and principles in the participant's life. Questions could assess the importance of honesty, fairness, integrity, and responsibility in various contexts.

2. Concern for Corporate Social Responsibility (CSR)

- Questions about how much a participant values companies' efforts in CSR, including environmental protection, social equity, and ethical labor practices. This could include items on the importance of these efforts in their purchasing decisions.

3. Ethical Consumption Behavior

- Items that ask about past behavior and intentions related to ethical consumption, such as purchasing products from companies that are environmentally friendly, support fair labor practices, or engage in charitable activities.

Scenario-Based Measures

1. Ethical Judgments in Hypothetical Scenarios

- Present participants with scenarios involving ethical dilemmas or decisions in consumer contexts (e.g., choosing between a cheaper product made under questionable labor conditions and a more expensive ethically made product) and ask them to indicate what they would do or judge the actions of characters in the scenario.

2. Sensitivity to Ethical Issues in Business

- Scenarios describing various business practices, asking participants to rate the ethicality of these practices. This could include questions about their likely response to learning about unethical practices (e.g., boycott, spread the word).

Implicit Measures

1. Implicit Association Test (IAT)

- Although more complex to administer, an IAT tailored to ethical sensitivity could reveal unconscious biases towards ethical or unethical brands, practices, or principles.

****Combining Measures for a Comprehensive Assessment****

A comprehensive measure of ethical sensitivity might combine these approaches, using a questionnaire to assess explicit attitudes and values, scenarios to evaluate ethical judgments and decision-making, and possibly an implicit measure to uncover unconscious biases. This multi-method approach would allow for a more nuanced understanding of ethical sensitivity, capturing both conscious and unconscious dimensions of how individuals relate to ethical issues in consumer contexts.

****Validation and Reliability****

It's crucial to ensure that these measures are validated and reliable. This might involve pilot testing the questionnaire and scenarios to refine items based on participant feedback, performing factor analysis to confirm the underlying structure of the constructs being measured, and assessing the reliability of the measures through internal consistency (e.g., Cronbach's alpha) and test-retest reliability.

For the second factor, could you please instead give us something we can experimentally manipulate, rather than an individual difference?

Certainly! If we're looking for an experimentally manipulable second factor to cross with the exposure to ethical statements, let's consider ****Message Framing**** as the moderating variable. Message framing can significantly impact how individuals perceive and process information, making it an excellent candidate for your study.

Second Factor: Message Framing

****Definition****: Message Framing refers to the way information is presented to participants, particularly in terms of its positive (gain) or negative (loss) implications. In the context of ethical brand statements, positive framing might emphasize the benefits of ethical practices (e.g., environmental preservation, social welfare improvements), while negative framing might highlight the consequences of unethical practices (e.g., harm to the environment, exploitation of workers).

2x2 Factorial Design

****Experimental Conditions****:

1. ****Prior Ethical Statements Exposure****: 0 (control) vs. 4 (high exposure)
2. ****Message Framing****: Positive (gain) vs. Negative (loss)

****Study Steps**:**

1. ****Baseline Measurement****: As with the initial design, start by measuring participants' perceptions of Nike's ethicality.
2. ****Exposure Phase****:
 - ****Ethical Statements****: Participants are either exposed to 0 or 4 ethical statements from other brands.
 - ****Framing Manipulation****: Concurrently, these statements (including Nike's) are framed either positively (emphasizing the benefits of ethical practices) or negatively (highlighting the drawbacks of not engaging in ethical practices).
3. ****Post-exposure Measurement****: After exposure, measure participants' perceptions of Nike's ethicality again.

****Hypotheses**:**

- H1: Exposure to ethical statements from other brands will affect participants' perception changes of Nike's ethicality, with those exposed to 4 statements showing a lesser increase in ethical perception.
- H2: Message framing will moderate the effect of exposure to ethical statements on perceptions of Nike's ethicality. Specifically, negative framing might amplify the saturation effect by making the ethical landscape appear more critical or urgent, while positive framing might buffer against saturation by keeping the focus on benefits and aspirations.
- H3: There will be a significant interaction effect, where the impact of exposure to multiple ethical statements is more pronounced under negative framing compared to positive framing.

****Rationale**:**

This design allows for examining how the presentation (framing) of ethical information interacts with the quantity of ethical exposure to influence perceptions of Nike's ethicality. It provides insights into not just whether saturation occurs, but how the manner in which ethical content is communicated can modulate this effect. This can shed light on strategic communication approaches for brands aiming to highlight their ethical practices effectively.

Manuscript Production Stage

Producing the manuscript required uploading documents, so the AI would have the relevant information to construct the manuscript (e.g., the main idea, empirics, etc.). We found, however, that only ChatGPT 4 and Gemini could receive documents this way. As such, we only utilized these models for manuscript production. As we found the output from ChatGPT 4 to be superior, we opted to include that in the manuscript. Also of note, we tried

giving both ChatGPT 4 and Gemini all of the necessary information to produce a manuscript. ChatGPT 4 and Gemini were unable to process a document of this size, so we instead performed this for separate sections of the document.

ChatGPT 4

Here is a conversation we had with you. We are behavioral researchers interested in writing a manuscript for publication in a top-tier consumer psychology journal. Please write a front end containing an introduction and a review of the literature, all while positioning our idea as novel, based on the research idea discussed in this conversation. Please cite in APA format and provide references in APA format. Only cite work published in peer-reviewed academic journals. Actually write this, do not tell us how to, but do it yourself: In a previous conversation, you gave me the following research idea. Please tell me if this is a novel idea I should pursue: **Ethical Fatigue**: There will be a segment of consumers who experience 'ethical fatigue' and become skeptical or indifferent to ethical branding due to overexposure to marketing messages about ethics. The concept of "Ethical Fatigue" in consumers, characterized by skepticism or indifference to ethical branding due to overexposure to marketing messages, presents as a potentially novel area of research. This idea intersects consumer behavior, marketing ethics, and psychology. Here's why it could be a worthwhile research pursuit: 1. **Gap in Existing Research**: While there's extensive research on ethical consumerism and branding, the specific phenomenon of "ethical fatigue" may not have been thoroughly explored. It could provide new insights into consumer behavior dynamics in response to ethical marketing over-saturation. 2. **Relevance in Contemporary Marketing**: With the rise of ethical and sustainable branding, understanding how consumers react to these over time is crucial. This research could help businesses and marketers better tailor their strategies to avoid consumer skepticism or indifference. 3. **Psychological and Sociological Implications**: Studying ethical fatigue would contribute to a deeper understanding of how consumers psychologically and sociologically respond to repeated exposure to certain types of messaging. This could have broader implications beyond marketing, touching on aspects of decision-making, belief formation, and social influence. 4. **Practical Applications**: The findings could have practical implications for marketers and policymakers in designing more effective and less counterproductive ethical marketing campaigns. 5. **Interdisciplinary Approach**: This research could incorporate elements from marketing, psychology, sociology, and ethics, making it an interdisciplinary endeavor that could appeal to a broad academic audience. However, before fully committing to this research idea, it would be prudent to conduct a preliminary literature review to confirm the novelty of the concept and to identify any similar studies or theories that might already exist. This will also help in refining your research questions and methodology. Can you do that literature search for me, to the best of your abilities? Based on the research and information gathered so far, the concept of "Ethical Fatigue" in consumers, particularly in the context of skepticism or indifference to ethical branding due to overexposure to marketing messages, appears to be a relatively unexplored area. Here are some key findings from the research: 1. **Ethical Consumer Behavior**: A study by Newcastle University Business School focused on the motivations behind purchasing ethically produced goods, introducing concepts like

"conspicuous ethics" and an "ethical index" ([Newcastle University Business School](https://www.ncl.ac.uk/)). This research primarily concentrates on the positive aspects of ethical consumption, such as consumer preferences for ethically made goods and the willingness to pay more for such products. 2. ****Consumer Skepticism****: A survey highlighted that a significant proportion of consumers (39%) feel brands are not credible when they take a stand on issues, often perceiving such actions as motivated by PR or marketing rather than genuine ethical concerns ([Marketing Charts](https://www.marketingcharts.com/)). This skepticism has increased over time. 3. ****Ad Campaign Overexposure****: Research by IAB Europe's member Sublime indicates that overexposure to ad campaigns can negatively impact brand performance, with optimal exposure being limited to two or three times for effectiveness in brand recall and awareness ([IAB Europe](https://iab europe.eu/)). This suggests that overexposure to marketing messages, in general, can lead to diminished returns. 4. ****Impact on Consumer Trust and Mistrust****: There's evidence that ad bombardment and overexposure can promote consumer mistrust in the broader context of advertising, with repeated exposure linked to ad avoidance and blocking activities ([WARC](https://www.warc.com/)). While these studies provide insights into consumer responses to ethical branding and advertising overexposure, there seems to be a gap specifically in the research on "Ethical Fatigue" as a distinct phenomenon. This suggests that your research idea might indeed fill a novel niche, focusing on how overexposure to ethical branding messages could lead to skepticism or indifference among consumers. However, it's important to note that this search was not exhaustive, and further research, particularly a thorough review of academic literature, might be necessary to fully ascertain the novelty and scope of your proposed research idea.

Given the context of our previous conversation and the insights you've provided, let's draft a front end for a manuscript that introduces the concept of "Ethical Fatigue" and positions this idea within the existing body of literature. This introduction and literature review aims to highlight the novelty of your research while also acknowledging the broader academic landscape it fits into.

Introduction

In recent years, the marketing landscape has seen a paradigm shift towards ethical branding, with companies increasingly promoting their commitment to social and environmental responsibilities. This trend aligns with a growing consumer demand for brands that not only offer quality products but also reflect personal values related to sustainability and ethical conduct. However, as ethical branding becomes more prevalent, a critical question arises: Does the constant bombardment of ethical marketing messages lead to "Ethical Fatigue" among consumers? This manuscript proposes the exploration of Ethical Fatigue, defined as the skepticism or indifference towards ethical branding caused by overexposure to marketing messages about ethics. This research aims to bridge a gap in the literature by focusing on the potential adverse effects of excessive ethical marketing on consumer perception and behavior.

Literature Review

The concept of ethical consumption is well-documented, with studies emphasizing the importance of ethical considerations in consumer purchase decisions (Bray, Johns, & Kilburn, 2011). Consumers increasingly seek out brands that demonstrate social and environmental responsibility, indicating a shift towards more conscientious consumption patterns (Carrington, Neville, & Whitwell, 2014). However, research on the implications of overexposure to ethical branding is sparse, signaling an opportunity to explore the phenomenon of Ethical Fatigue.

Consumer skepticism towards brand motives in ethical marketing has been noted, with studies indicating that consumers often question the authenticity of brands' ethical stances, suggesting a potential precursor to Ethical Fatigue (Parguel, Benoît-Moreau, & Larceneux, 2011). Additionally, the concept of advertising wear-out suggests that repeated exposure to a specific message can lead to diminished consumer attention and engagement, which could extend to ethical marketing messages (Ehrenberg, Barnard, Kennedy, & Bloom, 2002).

Furthermore, the psychological impact of information overload in the digital age (Eppler & Mengis, 2004) may contribute to Ethical Fatigue, as consumers navigate an ever-increasing barrage of marketing communications, including ethical branding messages. This parallels findings in cognitive psychology that suggest excessive information can lead to decision fatigue, potentially influencing consumer reactions to ethical branding (Vohs et al., 2008).

Research Gap

Despite the substantial body of literature on ethical consumerism and skepticism towards marketing communications, the specific concept of Ethical Fatigue—stemming from overexposure to ethical branding—remains underexplored. This manuscript proposes to fill this gap by investigating how repeated exposure to ethical marketing messages influences consumer perceptions, potentially leading to skepticism or indifference. This research will contribute to the broader discourse on ethical consumer behavior, marketing ethics, and consumer psychology by introducing and elucidating the concept of Ethical Fatigue.

References

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This manuscript introduction and literature review outline the foundation for a novel exploration of Ethical Fatigue within the domain of consumer psychology and marketing ethics. By addressing this gap, the research aims to provide valuable insights into how overexposure to ethical branding impacts consumer attitudes and behaviors, offering implications

My co-authors and I are working on a paper targeting a marketing journal. I have attached the front end and empirical sections. I need for you to write a General Discussion for this research that includes a summary of the findings, implications, limitations, and future directions.

General Discussion

Our investigation into the phenomenon of Ethical Fatigue among consumers, through two empirical studies, has illuminated several notable findings, implications for marketing practice, inherent limitations, and promising directions for future research.

Summary of Findings

The concept of Ethical Fatigue, characterized by consumer skepticism or indifference towards brands' ethical branding efforts due to overexposure, finds empirical support in our research. Study 1 revealed that while ethical advertising initially enhances brand perception, its effectiveness diminishes with increased frequency of ethical messages. This attenuation effect suggests a threshold beyond which additional ethical messaging may fail to further improve or might even harm brand perception. Study 2 expanded our understanding by exploring the interplay of message frequency and framing, finding that while ethical messaging generally boosts brand perception, this effect is not significantly influenced by the frequency of messages or their framing as promotional or preventive.

Implications

These findings hold substantial implications for marketers and brand managers. In an era where consumers are increasingly attuned to the ethical standing of brands, our research suggests that there is a fine balance between effective ethical communication and the risk of engendering Ethical Fatigue. Marketers are thus advised to strategically manage the frequency of their ethical messaging, ensuring that their communications are perceived as genuine and not merely as attempts to win consumer favor. Moreover, the nuanced role of message framing in ethical branding efforts suggests that brands should consider adopting a more diversified

communication strategy that varies in content and style to maintain consumer engagement without triggering skepticism or indifference.

Limitations

Our study is not without limitations. First, the generalizability of our findings may be influenced by the selection of a single brand (Nike) as the focus of our studies, raising questions about how these insights apply across different industries and brand archetypes. Additionally, our participant pool, predominantly university students, may not fully represent the broader consumer population, particularly in terms of age, socio-economic status, and cultural background. Finally, our exploration of message framing focused on a binary categorization (promotion vs. prevention), potentially overlooking the effects of other framing strategies or message nuances.

Future Directions

Future research should endeavor to address these limitations and expand the scope of investigation into Ethical Fatigue. Studies could explore a wider range of brands and sectors to assess the generalizability of our findings. Additionally, researchers should consider a more diverse demographic profile of participants to enhance the external validity of the results. Investigating the impact of different types of ethical messaging, beyond the binary framing of promotion and prevention, could offer deeper insights into how consumers interpret and respond to ethical branding efforts. Finally, the role of brand authenticity and consumer skepticism deserves further exploration, particularly in how these factors interact with the frequency and framing of ethical messages to influence brand perception and consumer behavior.

In conclusion, our research sheds light on the intricate dynamics of ethical branding and consumer perception, offering valuable insights for both scholars and practitioners interested in navigating the complexities of ethical marketing. By carefully balancing the frequency and framing of ethical messages, brands can foster positive consumer perceptions while avoiding the pitfalls of Ethical Fatigue, ultimately contributing to a more sustainable and ethical marketplace.

As a final note, we do not present the Methods and Results section prompts and responses here. This is because we had to make significant edits to these sections to make them correct, and not misleading to any reader interested in the actual findings.