UNIVERSIDADE CATÓLICA PORTUGUESA

THE EFFECTS OF MEDIA, INDIVIDUAL TRAITS AND AGE OF EXPOSURE ON ETHICAL PURCHASING RELATION TO ANIMAL PRODUCTS

Dissertation to Universidade Católica Portuguesa to obtain a

Master's Degree in Psychology in Business and Economics

By

Debra Nathan

Faculdade de Ciências Humanas

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Under the supervision of Dr. Augusta Gaspar

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Abstract

This study investigates the effects of media exposure, individual traits (empathy toward animals and belief in the animal mind), gender and age, on ethical purchasing behaviours related to products that entail animal suffering or killing. Participants were recruited via a website and emails and filled out a survey that included the Animal Empathy Scale, the Belief in the Animal Mind scales as well as questions on media exposure and demographic questions. Data from 168 respondents was analysed yielding the confirmation that the various media do not differ in their relation to actual behaviour change and behaviour change intention. There were also no significant associations for gender with regard to the variables studied. However results showed a significant association between the age of exposure to media and actual behaviour change but surprisingly not for intention to change behaviour. The Belief in Animal Mind (BAM) is strongly associated with both actual behaviour change and behaviour change intention. Further, empathy, as measured by the Animal Empathy Scale (AES) also shows a significant association between the variables. These results suggest that emotional engagement with animal welfare through media and empathy play a central role in promoting ethical consumption. Future research should explore how cultural and individual differences shape the beliefs and ethical values specifically pertaining to ethical consumption and animal welfare.

Keywords: ethical consumption, empathy, belief in animal mind, behaviour change, animal welfare, prosocial behaviour, ethical purchasing decisions, consumer behaviour

Resumo

Este estudo investiga os efeitos da exposição aos meios de comunicação social, das caraterísticas individuais (empatia para com os animais e crença na mente animal), do género e da idade nos comportamentos de compra éticos relacionados com produtos que implicam sofrimento ou morte de animais. Os participantes foram recrutados através de uma página Web e do correio eletrónico e preencheram um inquérito que incluía a Escala de Empatia pelos Animais, a Escala de Crença na Mente Animal, bem como perguntas sobre a exposição aos meios de comunicação social e questões demográficas. Os dados de 168 inquiridos foram analisados, tendo-se confirmado que os vários meios de comunicação social não diferem entre si na relação com a mudança real de comportamento intenção de mudança de comportamento. Também não houve associações significativas para o género no que diz respeito às variáveis estudadas. No entanto, os resultados mostraram uma associação significativa entre a idade de exposição aos meios de comunicação social e a mudança de comportamento real, mas surpreendentemente não para a intenção de mudar de comportamento. A Crença na Mente Animal (BAM) está fortemente associada tanto à mudança efectiva de comportamento como à intenção de mudança de comportamento. Além disso, a empatia, medida pela Escala de Empatia Animal (AES), também mostra uma associação significativa entre as variáveis. Estes resultados sugerem que o envolvimento emocional com o bem-estar dos animais através dos media e a empatia desempenham um papel central na promoção do consumo ético. A investigação futura deve explorar a forma como as diferenças culturais e individuais moldam as crenças e os valores éticos especificamente relacionados com o consumo ético e o bem-estar dos animais.

Palavras-chave: consumo ético, empatia, crença na mente animal, mudança de comportamento, bem-estar animal, comportamento procosso, decisões de compra éticas, comportamento do consumido

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The effects of Media, Individual traits, and Age of Exposure on Ethical Purchasing and Consumption Choices

The diversity of research and theoretical frameworks presented to us over the last few decades regarding the inhumane treatment of animals for our consumption is hard to ignore. In this day and age, where words like “free-range, fair trade and organic” are terms all too familiar with us, it is still perplexing as to why we love dogs, and yet we eat pigs and wear cows (Herzog, 2010).

It also then begs the question as to what degree do we actually walk the talk and incorporate these ethical choices into our shopping bags? Behavioural changes towards the information we receive on this issue is also highly dependent on our empathy, and cultural beliefs just to name a few factors.

However, be it in the form of a small collective action or mass movement, on a global stage there is a narrative that is beginning to take shape to put environmental and ethical issues on the political, media and economic front.

According to recent evidence, millennials might be the most ethical generation to date (Chatzopolou & Kiewiet, 2020). In depth interviews in the study mentioned were carried out with millennials born between 1979–1994. It looked at the phenomena surrounding participants' perceptions of CSR authenticity and dimensions. Participants relayed their opinions based on three dimensions of authenticity that looked at how honest and truthful a company was, indicators as to how transparent the company was, and external unbiased indicators of the company's ethical reputation. Chatzopolou and Kiewiet (2020) found that contrary to previous studies price was not at the top of the hierarchy for millennials. There was evidence that concerns surrounding authentic and ethical CSR and corporate practices far supersede economic value.

According to Chu and Chen (2019) this newfound emphasis is a result of the millennial generation's increased exposure to information via social media. They postulate that according to social identity theory, social media has increased their sense of belonging and connection around this issue making millennials more inclined to stand their ground concerning transparency and trust around the brands they purchase from.

With this new information in literature could it be that growing up in the age of the digital revolution has made this unique generation more aware of businesses and how they run their activities, or are there other factors involved in what compels a consumer to purchase ethically?

Literature Review

In the current study we aim to explore the role of Media, the information conveyed by it, and the emotional experiences it might trigger, specifically in the consumer choices related to meat consumption and other animal products that involve animal suffering and/or death.

In recent years, many studies have explored factors leading to behaviour change toward plant-based diets, both within the domains of health and ethical consumption, focusing on understanding the roles of capability, motivation, and opportunity in behaviour change (Michie et al., 2015). There seems to be a paradox many times as people are motivated but do not change their behaviour and many interventions target the opportunity and capability as the motivation exists, and in the realm of human consumption of animal products, entailing culling and suffering the paradox is particularly evident (e.g. Dhont, 2020). A recent systematic review provides evidence that interventions that show animals suffering related to slaughter, transportation or living conditions in meat production are effective triggers of emotions and concern for animal welfare and affect the intention for behaviour change (or behaviour change in the short term) toward reduction or suppression of

meat consumption (Fonseca & Sanchez-Sabate, 2022). But it is important to disentangle the effects of media that raise awareness and/or trigger emotions on behaviour change intentions (BCI) and on actual behaviour change (ABC). Given that empathy (and empathic responses) develop largely before adolescence (Gaspar & Esteves, 2022), in addition to media exposure, age of exposure to such media may also be an important predictor of both BCI and ABC. The current study aims to explore the relation the media might have on consumption habits that entail a more ethical consumption, specifically on animal cruelty-free purchases and plant-based diets, and whether factors such as the empathy trait, belief in the animal mind, age, age of exposure to media revealing critical information, and gender relate to these habits

Empathy

The concept of empathy frequently sparks debates over its definition, as it is often conflated with terms like sympathy and compassion. In the past, Becker (1931) provided a definition of empathy that focused solely on understanding another person's emotions through perspective-taking. However, Ickes (2011) conducted a comprehensive study that yielded a broader understanding of empathy, highlighting three dimensions that differentiate it: the extent of cognitive representation of the target or situational emotional state, the level of emotion sharing, and the degree to which a distinction is made between oneself and others.

A shared agreement in the literature as to what the definition of empathy is has been hard to pin down with scholars agreeing that it is more of an umbrella term than a one set definition. This is because of the many dimensions that empathy encompasses and how those dimensions are all influenced by different factors. Recent research in social and affective neuroscience revealed that the neural network involved in empathizing with the pain of others can be influenced by interpersonal factors, implicit attitudes, and group preferences - e.g. activity within the pain neural network is significantly heightened when individuals

witness or imagine their loved ones experiencing pain, as opposed to strangers (Cheng et al., 2010).

Affective empathy, a primary component of empathy (also known as empathic arousal or emotional contagion), plays a crucial role in generating the motivation to care for and assist individuals in distress. It is relatively independent of mindreading and perspective-taking abilities. Emotion sharing is often seen as the simplest or most basic form of empathy and can be observed across various species, including birds, rodents, and humans. Emotional empathy gradually emerges early in life: babies cry when other babies cry, around the age of 1-year children begin displaying discomfort when witnessing explicit pain in others, and at 18 months, they attempt to comfort those in distress. As the affective component of empathy develops earlier and faster than the cognitive component (Decety & Michalska, 2009), it is likely a major contributor to emotional understanding in the early years. However, this perspective is not universally accepted, as some authors argue that the perspective-taking component of empathy, may drive the ability to decipher emotional cues (Feshbach, 1982).

Empathic concern has been shown to be critical to helping behaviour, and to motivate altruism and other prosocial behaviours (Batson, 2011; Hoffman, 1981). So, this dimension of empathy has the great potential to change behaviour toward animals. Mehrabian and Epstein (1972) deduced that individuals that are highly empathetic to people will accordingly also be highly empathetic to animals and vice versa. Accordingly, a study by Paul (2000) set out to study if human-oriented and animal-oriented empathy were linked. The reasoning behind this was that if the two were highly correlated then measures of each may well be tapping the same basic mechanism or device. But if they function independently, then they are likely to have very different sources of variation. The study found that there was a small but significant degree of correlation between participants' self-reported scores on human oriented and animal-oriented empathy. Understanding empathy related literature then gives

us insight into if and whether empathy mediates the role between behaviour change and the purchasing behaviour of cruelty-free products.

Our first-hand experiences play a role in the development of cognitive empathy and the degree to which we can see through the eyes of someone else, understanding their thoughts, feelings, and actions. Every detail that makes up this experience is said to influence our cognitive empathy. This in turn is the basis that motivates us to act in pro-social ways that are considered moral (Gaspar, 2016).

According to Preston and DeWaal, (2002) the experience of emotions plays a crucial role in driving cognitive empathy which then motivates individuals to engage in morally considered prosocial actions. It is important to distinguish between emotional (or affective) empathy and cognitive empathy at this juncture. Emotional empathy encompasses automatic emotional phenomena such as emotional contagion and empathic distress, which involve minimal or no conscious cognitive processes. On the other hand, cognitive empathy is akin to the concept of taking perspective-taking, which refers to the ability to consciously put oneself in the mindset of another person and imagine their thoughts and emotions. Perspective-taking has been linked to social competence and social reasoning (Underwood & Moore, 1982) and can be employed as a strategy to mitigate group biases.

Numerous behavioural studies have documented that affective perspective-taking is an effective means of eliciting empathy and concern for others (Batson, 2011; Van Lange, 2008) as well as reducing prejudice and intergroup biases. For example, adopting the perspective of an outgroup member leads to a decrease in the utilization of explicit and implicit stereotypes for that individual and promotes more positive evaluations of the entire group (Galinsky & Moskowitz, 2000). However, it is worth noting that cognitive empathy alone does not reliably predict prosocial behaviour unless combined with emotional empathy (Bavelas et al., 1987).

Decety and Yoder (2015) examined which - affective or cognitive - empathy was more strongly associated with sensitivity to justice. This research was particularly significant given the abundance of existing literature in social neuroscience that demonstrates the connection between personal distress and the process of emotional contagion, which relates to affective empathy. The study found that individual dispositions in cognitive empathy, which involves the ability to imagine oneself in another person's mental state and understand their thoughts and feelings, were predictive of scores on the scale measuring sensitivity to justice for others. This indicates that employing the method of perspective-taking is a social competence that can enhance empathic concern and broaden the range of individuals to whom care and consideration are extended.

Empathy allows for the sharing of others' emotions, which can lead to empathic distress, an unhelpful form of emotional resonance. On the other hand, compassion involves feeling warmth and concern for others. Theory of Mind (ToM), which will be discussed later in this review, is often used alongside Cognitive Empathy. However, ToM primarily focuses on understanding someone else's thoughts or intentions. These two routes, socio-affective and socio-cognitive, for understanding others are supported by distinct and separate brain networks. Nevertheless, both are necessary in many complex social situations. A crucial aspect of both empathy and ToM is the ability to distinguish oneself from others, which is controlled by various temporoparietal brain regions. Therefore, adaptive social behaviour is the result of an interconnected interplay between socio-affective and socio-cognitive processes (Preckel et al., 2016).

Empathy and plant based diets

Plant based diets have become increasingly popular in recent years. According to (Smart Protein, 2018) about 50% of European consumers have cut down on meat

consumption in the last few years. Additionally, in 2018, google searches of vegan practices increased sevenfold and demands for meat free products increased by 987% (The Vegan Society, 2020).The term plant-based diet has been mainly used to refer to a dietary choice (e.g., Beverland, 2014) and different diet categories, such as vegetarian, vegan, semi-vegetarian, lacto-vegetarian, ovovegetarian, pescatarian, or flexitarian diets (Corrin & Papadopoulos, 2017). Absence of meat has wide varying choices on its spectrum and moves from consciously avoiding meat in the least strict sense to completely abstaining from all animal-origin products (Salehi, Díaz, & Redondo, 2020).

Previous studies have show that the most common reasons for people to convert to plant-based diets are ethical and health concerns (e.g. Hoffman et al., 2013). These ethical concerns are driven by factors such as ethical concerns for the ways in which the animals are slaughtered, animal rights, and disgust towards meat consumption (Fox & Ward, 2008; Larsson et al., 2003).

People that adopt plant-based diets consider meat avoidance as a moral imperative not to harm animals for food or other reasons. Their dietary choice is a personal statement or a symbol for their ethical beliefs on animal welfare, environmental issues and philosophical and religious beliefs (Salehi, Díaz, & Redondo, 2020). Further they consider that their own practices are fundamentally altruistic because though it involves personal sacrifice, their actions are just in preventing cruelty to animals. (Fessler, Arguello, Mekdara, & Macias, 2003).

Empathy and Ethical Consumerism

A wealth of literature shows that empathy has both affective and cognitive components. Even Adam Smith in his Theory of Moral Sentiments postulated both the elements of empathy when he noted that the emotion which we feel for the misery of others, when we either see it, or are made to conceive it in a very lively manner. That we often

derive sorrow from the sorrow of others is a matter of fact too obvious to require any instances to prove it (Smith, 2010). In the realm of business literature, Cohen (2010) showed that empathy often leads to an increase in ethical consumption and more principle based moral evaluations (Mencl & May, 2008).

Research shows that empathy is negatively related to cheating and other antisocial actions (Miller & Eisenberg, 1988) whereas Chowdhruy and Fernando (2014) hypothesize that empathic concern and perspective taking should be negatively related to perceptions of consumer actions that are unjust, unfair or harmful to others. Further, these actions include passively benefitting from the wrongdoings of the seller when they harm or mistreat animals to reap profit. And as empathy increases altruism, it can be expected to be positively related to beliefs regarding doing-good/recycling actions. Their study not only proved this hypothesis, but also found that moral disengagement mediates this relationship, showing that there are varied factors for the range of different consumers.

Recent studies suggest that the knowledge of a product affects a consumer's preference for that product. Suárez-Cáceres et al. (2021) showed that consumers were more likely to pay a premium when the benefits or sustainability of this product was highlighted. Similarly in China, although over 60% of respondents had never heard of the concept of animal welfare, consumers were willing to pay 16.2% more if that meant the products would be more animal friendly. This study further proved that empathy moderated the indirect effect between animal-friendly products and the behaviour intention of consumers (Liang et al., 2022).

Belief in Animal Mind

A major factor that may play a role in ethical purchasing behaviour is the Belief in Animal Mind. According to Hills (1995) BAM has been found to be a predictor of attitudes towards animal use. BAM is defined as the way we attribute an animal's capacity in terms of intellect, ability to reason, feeling and emotions (e.g., Hills 1995; Herzog & Galvin 1997). Further this is measured in a variety of different ways and not a single constant measure. To better understand BAM, we can borrow from another social psychology central theory – the attribution theory. This theory describes how people make sense of each other by attributing characteristics of that person or their behaviour to an external (situation) or internal (personality) attributions. (Heider, 1944; Kemdal & Montgomery, 2001).

Eddy, Gallup and Povinelli (1993) suggest that BAM is a natural extension of Attribution Theory. BAM in this context refers only to internal attributions (such as reasoning and intellect capabilities) that people believe animals have. Therefore, if a person were to believe that animals are incapable of reasoning or feeling, they are more inclined to support animal use and in the context of this study less likely to support ethical purchasing because they do not believe animals even though being harmed are capable of thought or feeling. (Herzog & Galvin 1997).

Another factor that influences the Belief in Animal Mind comes from the experience one has had with an animal. A 1992 study by Driscoll found that pet owners were more likely to rate animal research as less acceptable than non-pet owners. The theoretical reasoning for this suggests the contact hypothesis plays a part in this (Allport, 1954). This hypothesis states that contact typically reduces prejudice (Pettigrew & Tropp, 2006). To explain this, when contact is established with members of an outgroup or animals in this contact that can lead to identifying positive characteristics and creating positive experiences. This in turn leads to a decreased prejudice towards that group and can even go so far to create an

emotional attachment. This is seen with pet owners and their decreased inclination towards animal use due to an increase in the belief of animal mind.

Age

A variable that has often been investigated in relation to meat consumption and ethical consumption is age. According to US statistics in 2018 meat avoidance was most prevalent among people between the ages of 18-29 and 30-49. This marks a big change from two decades ago when meat avoidance was only prevalent in young people (Freeland–Graves, Greninger, & Young, 1986).

The availability of information could be one possible explanation for the increase in meat avoidance having grown up in the digital age; this could be a big influencing factor in their purchasing decisions (Stewart, 2017). Other research also suggests that an inclination towards ethical purchasing and specifically a reduction in meat in young adults are often facilitated by life course transitions. Transitions such as changes in employment, housing, relationship status and functional status. And the most frequently provided reasons for the decrease in meat consumption after their life course transition was due to the influence of their social environment, saving the environment and animal welfare (Mortimer & Shahnahan, 2007).

Along with having more information to make informed decisions, research shows that millennials evaluate companies and their business activities through a lens of idealism. They are more inclined to support companies that are authentic and originate from unselfish motives. Therefore, it is a natural progression that they make more ethical purchasing decisions (Chatzopoulou & Kiewiet, 2020).

According to the literature, different cohorts of age groups including children are all more inclined to purchase ethically for various reasons, except for the baby boomers. Baby boomers were born between the years 1946 and 1964 and are a generation with tremendous

purchasing power compared to the younger generations. However, their actualization of ethical interest into ethical purchasing decisions is more complex (Benson & Connell, 2014).

In a study conducted by Benson and Connell (2014), 58 % of baby boomers evidenced that they find it difficult and challenging to purchase ethically. Respondents cited the incompatibility of fair-trade products with their lifestyle to be a main barrier to consumption, wherein they valued the convenience of being able to meet multiple shopping needs in one location, which is often not possible when acquiring fair trade products. Additionally, their unwillingness to compromise on quality and comfort to purchase fair trade was also one of the main factors. These findings showed that whilst Baby boomers are supporting the principles of fair trade, they will not go out of their way to engage in fair trade purchasing behaviours if it inconveniences them.

A growing number of children however are choosing to become vegetarians despite growing up in meat eating families. A study done by Husaar & Harris (2010) showed that preschoolers choose to become vegetarians for moral reasons. The preschoolers in this study displayed some understanding that moral transgressions are wrong even in the absence of rules or sanctions imposed by an authority figure. Therefore, hitting would be wrong even in a school without rules or punishment and that these moral transgressions cause hurt to the victim. By way of this reasoning, they also deduced that the suffering of animals to produce food and other products would cause distress to the animals and therefore was deemed unacceptable. The participants in this study also rarely referenced personal factors such as taste and health to explain why they avoid meat (Hussar & Harris, 2010).

Gender

Research shows that empathy varies significantly based on gender in relation to consumer choices. In a study by Moosmayer and Fuljahn (2010), consumer perception of

firm behaviour, cause related marketing campaigns and consumer attitude towards product varied significantly based on gender. For example, the impact of the donation size in a cause related marketing campaign was moderated by gender. Research has found that these differences are not biologically rooted but are based more in socially attributed roles.

Women and men differ in their values, attitudes and responses to cause related marketing and prosocial behaviour has been attributed as a suitable explanation for this. Further, citing a link between empathy and prosocial behaviour, women tend to behave more prosocial tendencies and are likely to respond more positively towards cause related marketing campaigns than men.

Another well documented connection in the literature that shows the difference in choices based on gender is the adoption of plant-based diets. Women are more likely than men to adopt plant-based diets (Stahler, 2005). Whilst other studies have also suggested that this can be explained in part because consumers with low levels of involvement in their dietary choices may be more attached to meat. Therefore, considering traditional gender roles, if men rarely prepare their own meals, they would be less likely to shift toward a plant based diet (Elzerman, van Boekel, & Luning, 2013)

Besides the factors above, Rosenfeld and Tomiyama (2021) showed that there is a strong correlation between food choices and social and gender identity. The role of masculinity and femininity have its varied degrees of influence when it comes to the concerns of animal welfare and meat consumption. Further Rothgerber (2013) found that females are more likely to experience disgust and negative sentiments towards meat consumption more so than males and that females have higher degrees of empathy when exposed to human and animal suffering.

Masculinity and its link to meat-eating have its roots in the historical dominance of patriarchy. Meat consumption has often been associated with traditional masculinity as well

as an emotional detachment to the suffering of animals (Sumpter, 2015). Men are also more inclined to endorse social hierarchies and characterise men who eat more meat as masculine and more desirable than men who do not eat meat. The researcher also suggested that this plays a major influence on why men are less likely to adopt a plant-based diet (Rotherberger, 2013).

Rotherberger (2013) also suggests that vegetarians are strongly associated with higher levels of empathy in comparison to non-vegetarians. And since empathy is often interchanged with words such as compassion, kindness and prosocial behaviours, they all have the common ability for perspective taking that allows an individual to imagine and emotionally react to another's situation in an understanding and kind manner (Falconer, et al., 2019).Therefore, since vegetarians have a higher level of empathy, they are more inclined to connect with an animal's suffering and relate that suffering back to their own experiences leading them to make choices that abstain from meat.

Media

Documentaries - Multi-sensory experiences presented by audio-visual media are thought to be more likely to elicit concern about environmental issues and the uptake of environmental behaviour (Pearson, Dorrian & Litchfield, 2011), as traditionally, documentaries almost always take a moral, advocacy stance when highlighting the plight of an issues being portrayed.

Notwithstanding, a few recent studies provide evidence that certain documentaries have driven important changes in environment related ethical behaviour and attitudes.

Nash and Corner (2016) studied the impact documentaries have that in turn produced social change. Their study is one of the few examples available in literature that substantiate research and the general belief that documentaries have the power to create social change. In

their study they defined social impact as multidimensional ranging from awareness, attitudes, behaviour, and lastly structural or policy changes. Briciu (2019) also notes that awareness is the precondition for behavioural and social impact and that is achieved by emotionally engaging spectators with compelling stories through documentaries.

An experimental study by Hoffman and Hughes (2017) set out to study if the screening of documentaries was an effective strategy to prompt the adoption of conservation behaviours. The documentary explored the marine parks of the Great Barrier Reef along with interviews of people who rely on the ocean for their livelihood and the fragility of the marine environment. Questionnaires post viewing revealed that conservation behaviours increased immediately after viewing the documentary. Ten weeks afterwards these levels had maintained or decreased slightly for those who received post-viewing support or material (help sheet).

Similarly, ‘An Inconvenient Truth’ when released in 2008 was the fifth highest grossing movie of the year. Adopted by educators all around the world, it became a required viewing in countries like Ireland, Spain and Columbia. With the widespread popularity of the documentary, Nolan (2017) wanted to evaluate the effectiveness of this documentary in terms of how much it achieved its goal to increase knowledge, concern and influence global warming related behaviour change. The study surveyed movie-goers and students that would not otherwise choose to watch the documentary. The participants were surveyed before and after they screened the documentary and results showed that there was increased knowledge, concern and willingness to reduce greenhouse gasses. As predicted, the documentary influenced their behaviour and participants who already had concern for environmental issues showed an increase in concern which was a new addition to the literature, as past research had shown that people tend to be apathetic over time. (Nolan, 2017)

In the same vein as Nolan (2017), Pabian and collaborators (2020) wanted to evaluate if watching the popular Netflix documentary Cowspiracy: The Sustainability Secret would have the same effect as past research. Specifically, if watching the documentary would lead to an attitude change toward actually eating less meat, and the intention to eat less meat. The experimental group was tasked to watch Cowspiracy, whilst the control group watched Planet Earth. The main findings showed that there was a significant change in knowledge and behaviour among participants who watched Cowspiracy but not among participants who watched Planet Earth. The former reported a significant change in attitude toward eating less meat, and in the intention to reduce meat consumption. The present study measured changes regarding environmental consequences of meat consumption therefore no justifiable reasoning can be drawn with regard to the knowledge and attitudes of participants towards other environmental problems and the difference of results between the two documentaries.

Literature

Social experience theory postulates that the primary function of narrative fiction is to allow the reader to gain an understanding of the complexities and nuances of our world (Mar & Oatley, 2008). Reading therefore serves to foster fundamental human capacities like moral and empathic development. Social cognitive theory emphasizes this point by suggesting that consumers learn morally relevant behaviour through the observation of characters they read about (Bandura, 2001). This learned behaviour is said to be particularly strong when readers identify with the character. These perceived similarities subsequently encourage good behaviours. Mar and Oatley (2008) states that to engage with a narrative, one must see, hear, and experience what the character experiences. Further, the reader needs to experience the events in the stories, make inferences about the relationships the characters are having and

draw conclusions about the plot. By doing this exercise, the reader adopts the ability to feel for another, which is termed as affective empathy (Mar & Oatley, 2008).

The literature has also demonstrated that this kind of focused perspective taking leads to increased empathy and other pro-social behaviours. Therefore, exposure to prosocial behaviour through narrative fiction may also promote this same behaviour in the reader in real life (Miller & Eisenberg, 1988).

As noted above, there is vast literature on the effects of fiction on consumers. Kidd and Castanos (2013) study with children explored the hypothesis that literary fiction could prime the Theory of Mind (ToM). Theory of Mind is the capacity to identify and understand others' subjective states. Literature shows that familiarity with literary fiction, self- reported empathy and advanced affective Theory of Mind are all correlated. Therefore, engaging ToM through literary fiction requires that readers draw on flexible interpretive resources to infer the feelings and thoughts of characters. Similar to cognitive empathy, literary fiction engages the psychological processes needed to gain access to characters9 experiences and draw identical traits to the reader in an effort to fill in gaps and search for possible meanings. The results of the study provided evidence that reading literary fiction does in fact hone adults Theory of Mind, a complex and social capacity crucial for understanding the mental states of others.

Cordts, Nitzko and Spiller (2014) wanted to investigate if media coverage on the negative effects of meat consumption could affect behaviour change or the demand for meat in Germany the same way literary fiction does. The focus of the study surveyed participants reading fiction newspaper articles on four different adverse effects meat have namely on human health, climate change, animal welfare and personal image. Results showed that participants that read the newspaper article about animal welfare aspects had the highest motivation for behaviour change. This can be because animal welfare issues are able to elicit

high levels of empathic concern in consumers due to the emotional nature it ascribes. The study also observed that the percentage of respondents willing to reduce meat consumption increased after having read any of the four articles presented (Cordts, Nitzko & Spiller, 2014). The study then deduced that similarly designed newspaper articles could function as a non- invasive but effective tool in raising awareness aimed at reducing meat consumption.

Social Media

As social media becomes a crucial part of our lifestyle, activists as well as marketers look to social media to promote their pro-ethical stances and behaviour. Social media serves as an influential platform as users are exposed to a wide range of content from videos to advocacy messages and can easily interact with these posts or reels (Facebook, Instagram & TikTok), which has the potential to influence users9 beliefs and behaviours (Ji, Meiro & Huang, 2021).

A study by Alsaad, Alam and Lutfi (2023) researched the association between social media engagement and pro-environment behavioural intention. The primary method used to deliver environmental messages on social media is through the activation of campaigns. These campaigns are designed to interact with online communities and encourage users to share, interact, comment and like pro-environmental content. In addition, they are encouraged to participate in events or activities that are advocated by environmental activities. According to their research, user engagement plays a major role in raising awareness, coordinating mobilisation and organising action. Further this degree of involvement, albeit online, engages the user to invest a certain degree of cognitive, emotional and behavioural aspects which are intended to create a strong emotional connection and foster active adoption of pro-environmental behaviours.

Another example cited by Hynes and Wilson (2016) found that increasing peoples' normative cognition, social media may successfully trigger an individual's social comparison

psychology, which activates the perception of pre-environmental norms and encourages pro-environmental behaviour. Another study in the same vein by Chi (2021) showed that social media induces green consumption intention by developing users motivation to consume pro-environmentally. Therefore, the overarching theme in the literature supports the notion that social media plays a crucial role and has the ability to encourage sustainable practices and lifestyles.

Virtual Reality

Virtual reality is fast becoming a powerful storytelling tool. It is also being used in research because it affords participants the ability to transport into another realm and go beyond the physical boundaries of what they feel or experience. Therefore, it also stands to reason that this is a viable tool for inducing empathy, the experience of what others or in this context what animals might experience.

A study done by Herrewijn, Groeve, Cauberghe, and Hudders (2021) set out to change or decrease the cognitive dissonance that happens between our environment and that of an animal. Using Virtual Reality, the researchers wanted to expose participants to an interactive, virtual environment that would elicit feelings as if they were actually present in a slaughterhouse. To do this they screened the documentary iAnimal: Pig Farms in 360 degrees that was produced in 2019 for participants to watch. The results of this study showed that there was an increased sense of presence in these slaughterhouses. This heightened feeling then led participants to increase their intentions to reduce their animal food intake.

If each of these mediums in their forms yield the influence to elicit empathy and other pro-social responses, there is a high likelihood that using these mediums to inform, educate and create awareness among consumers about ethical purchasing relating to animal products could elicit the same responses and be a conduit for behaviour change.

The aforementioned studies produced evidence that diverse media can bolster empathy to specific targets and change behaviour or behaviour intentions mediated by either affective or cognitive empathy. But it is not established if one medium or another has an advantage over the others, or if a given medium could trigger the most dramatic behaviour change. To our knowledge no previous study has established such a comparison.

The current work aims to inspect from a large international survey if there is a prevalence of one media over another in the **behaviour change / and intention to change** to ethical purchasing, namely avoiding purchasing goods that involve animal suffering or death.

Aims and Hypotheses

The focus of the following research is to study the relationship between exposure to media and behaviour changes (ABC) or intentions (BCI) with regard to ethical purchasing and/or consumption intentions. The research will also investigate other factors that are thought to mediate the relationship, such as age, age of exposure, gender and individual traits such as empathy to animals and belief in the animal mind that in view of the literature above are likely to play a role in the relation between media and ABC or BCI.

For the purpose of this study, we have defined key terms used in the hypotheses. They are as follows:

Ethical Consumption: Ethical consumption is an umbrella term for consumers who are influenced by environmental or ethical considerations when choosing products and services. Ethical is used to cover matters of conscience, such as animal welfare and fair trade, social aspects such as labour standards, as well as more self-interested health concerns.

Visual media: Visual Media is information in the form of visual representations, examples are movies, documentaries, short reels on Instagram/ TikTok and even virtual reality.

Cruelty free products: A product that is created from top-to-bottom, without harming or killing an animal.

Empathy: Empathy is the understanding another person's emotions but has various dimensions such as affective and cognitive empathy to it. For a detailed definition of those dimensions please refer to the review on empathy in the literature review section.

Belief in Animal Mind: Referencing internal attributions (such as reasoning and intellect capabilities) that people believe animals have.

Millennials: Anyone born between 1981 and 1996 is considered a Millennial. They are currently 25 and 40 years old.

Baby boomers: They are currently between 57-75 years old

This study will test four hypothesis, H1 and H2 are broken down into two parts for the clarity and objective of studying each variable and its relationship. The hypotheses being tested are as follows:

H1a: Research suggests that exposure to visual media in this case is information in the form of visual representations, examples are movies, documentaries, short reels on Instagram/ TikTok and even virtual reality can influence a shift in attitudes (e.g. Pearson et al., 2011). Therefore, exposure to visual media is expected to associate with the intention to change behaviour (BCI) toward the ethical consumption of cruelty free products defined as a product that is created from top-to-bottom, without harming or killing an animal.

H1b: In the same vein, exposure to visual media defined as information in the form of visual representations, examples are movies, documentaries, short reels on Instagram/ TikTok and even virtual reality is expected to have an association with actual behaviour change (ABC) toward the ethical consumption of cruelty free products defined as a product that is created from top-to-bottom, without harming or killing an animal.

H2a: Empathy defined as the understanding of another person's emotions can promote prosocial behaviour (e.g. Eisenberg & Morris, 2001).

So empathy toward animals (AES) is expected to predict an increase in actual behaviour change (ABC) in the ethical consumption of cruelty free products (created from top to bottom without harming or killing an animal).

The same relation is expected for the Belief in Animal Mind (References the internal attributions that people believe animals have) as a predictor.

H2b: For the same reason as in H2a, empathy toward animals (AES) is expected to predict an increase in behavioural change intentions (BCI) in the ethical consumption of cruelty free products, defined as a product created from top to bottom without harming or killing an animal. The same relation is expected for the Belief in Animal Mind (H2c and H2d).

H3: Since the vast majority of literature indicates that gender has been a predictor of differences in attitudes towards animal use, in the current study gender is hypothesized to moderate the relationship between empathy (AES) and actual behaviour change (ABC).

H4a: Given that millennials defined as anyone born between 1981 and 1996 are reported to engage in more ethical behaviour, in this study, an association between age group and both BCI and ABC is hypothesized, with significant differences expected particularly between millennials and Baby boomers (born between 1946 and 1964).

H4b: A positive association between age of exposure to Media reported to affect BCI or ABC, and AES and BAM is also predicted, with earlier age of exposure expected to yield the most ABC.

Methods

Participants

In April 2024, a survey was developed using Qualtrics to assess all the variables examined in this study (see instruments section), along with demographic information. To recruit participants, the survey was distributed through multiple channels, including WhatsApp, Survey Circle, Facebook groups dedicated to survey exchanges, and a website specifically created for this study, where participants could learn more about the study if they wished [link]. So this was a convenience sampling method, and because the survey link was shared with friends, family, and colleagues of the author of this dissertation, there is a large contribution of Malayan participants (see limitations)

After 3 months, a total of 191 participants were recorded on Qualtrics, out of which 168 participants had successfully completed the survey and fulfilled the inclusion criteria of being above the age of 18 or more. The final sample (N=168) included respondents from 38 different countries, and distribution was as follows with Malaysians being the biggest respondents in this survey; Asia N = 78 (Malaysia, India, Iran, Malaysia, Korea, Singapore, Oman, Sri Lanka, China, Taiwan, Philippines- 46.42%); Europe N = 54 (Austria, Belgium, Croatia, Czechia, Estonia, France, Germany, Greece, Ireland, Italy, Spain, Lithuania, Netherlands, Norway, Ukraine, Poland, Portugal and Russia - 32.14%); Africa N = 10 (Morocco, Angola, Nigeria, South Africa - 5.95%); North America N = 14 (United States and Canada - 8.33%); Oceania N = 8 (Australia & New Zeeland - 4.76%); South America N = 4 (Brazil – 2.38%).

Of the participants, N = 116 (69%) were female and N =52 (31%) was male. The Sample's mean age was 40 years old with a standard deviation of 17.68 and a range from 18

to 74 years old. The sample's age distribution was as follows: 18 – 24; N = 41 (24.4%); 25 – 40 years old; N = 62 (37%); 41 – 56 years old; N= 23 (13.7%); 57 – 75 years old; N = 42 (25%).

Variables

For Hypothesis 1a, the first independent variable tested exposure to visual media. This was tested by asking a series of open-ended questions such as *"At what age do you remember being first exposed to advertisements or media content on cruelty free products?* And *"What form of media was this?* The Dependent Variable for H1a is behaviour change intention. To test the DV a yes or no answer question was asked: *After being exposed to this form of media, did you have any inclination to alter your behaviour?* For Hypothesis 1b the same independent variable was used which is exposure to visual media, but this time we wanted to test whether participants changed their behaviour, so the dependent variable was actual behaviour change. This was asked with a yes or no question:

Following your exposure to this media form, did you subsequently adjust your behaviour or purchasing habits to align with more cruelty free consumption practices?

For the second research question empathy towards animals was measured as the independent variable using the AES questionnaire. The dependent variable for H2a was actual behaviour change and for H2b it was behaviour change intention. The same questions as H1 were asked to ascertain information for BCI and ABC. In the same vein as H2a & b we also wanted to test the relationship (if any) between BAM and BCI and ABC so H2c test the relationship between BAM against BCI and H2d test the relationship between BAM and ABC.

For Hypothesis 3, gender was used as the moderator between the AES and actual behaviour change interaction. The tests used to determine this was the **The Animal Empathy Scale – AES** (Paul, 2000) and the same ABC question asked in H1 and H2.

For the fourth hypothesis, we examined age as a moderator in the relationship between BAM and BCI and ABC. There were two aspects of age measured, one the current age of respondents and the age of their exposure to media and its effects on ABC and BCI. The tool to ascertain BAM was the Belief in Animal Mind questionnaire as the independent variable, and BCI and ABC was measured with the same single item question as in the hypotheses above

Instruments

To test the belief in animal mind we used The Belief in Animal Mind (BAM) questionnaire (Knight, Vrij, Cherryman, & Nunkoosing, 2004). The questionnaire tests how individuals attribute mental capacities such as intellect, reasoning ability, and feelings towards animals. The BAM questionnaire assesses participants' familiarity with animals and their beliefs about the capacity of various species to experience a range of emotions. Attitudes toward different ways animals are used, whether lethal (e.g., experimentation) or non-lethal (e.g., entertainment), can vary among individuals (Wells & Hepper, 1997). The Belief in Animal Mind questionnaire addresses six different types of animal use: "Using animals for experiments, using animals in classrooms, using animals for personal decoration, using animals for entertainment, animal management, and using animals for entertainment and Belief in Animal Mind." The BAM evaluates statements such as (e.g., I support university research that is done with animals if it does not cause distress, zoos provide an acceptable environment for wild animals, foxes have a right to be protected from farmers, even if they damage their crops) on a 7-point scale ranging from 1 (strongly agree) to 7 (strongly disagree). Once answers were collected the following items in the following categories were inversely scored; Using animals for experimentation; items 2 and 3, Using animals in the classroom; items 2, 3 and 4, using animals for personal decoration; items 1, 3, 4, and 5, using

animals for entertainment; items 1 , ,3 and 4, animal management; items 4, 5, and 6, Using animals for financial gain; items 3 and 6, Belief in animal Mind; items 1, 2, 3, and 4. This was calculated in that way because a higher BAM score corresponded to a higher level of belief in the animal mind.

To test the reliability of the BAM questionnaire Cronbach's alpha was calculated to measure the internal consistency of each category. Internal consistency was high for all the animal use categories: experimentation (Cronbach's alpha = .88), classroom use (Cronbach's alpha = .74), personal decoration (Cronbach's alpha = .85), entertainment (Cronbach's alpha = .70), animal management (Cronbach's alpha = .77), and financial gain (Cronbach's alpha = .67), whilst reliability for BAM was lower (Cronbach9s alpha = .62). To ascertain actual behaviour change the same single item question as Hypothesis 1 and 2 was asked.

The Animal Empathy Scale – AES (Paul, 2000) which is a 22-item questionnaire designed to explore empathic and non-empathic emotions by measuring the intensity of emotional responses to animals in distressing situations. Participants indicated their level of agreement with 22 statements (e.g., " Witnessing animals in distress disturbs me, animals deserve to be told off when they're not behaving properly.") on a nine-point Likert type scale, ranging from 1 (Strongly disagree) to 9 (Strongly agree). There were 11 items in the questionnaire that contained feelings opposite to empathy (Items 1, 2, 4 ,6, 8, 11, 12, 14, 16, 19 and 20) which were inversely rated, this was calculated in that way because a higher EEA score corresponded to a higher level of empathy. The total Animal Empathy Scale score is calculated as the sum of the 22 responses: thus, the total score can range from a minimum of 22 to a maximum of 198, with higher scores indicating stronger levels of self-reported empathy (Paul 2000).

The same reliability test was calculated for AES and results showed a high internal consistency for the AES is as well (Cronbach9s alpha = .84). To ascertain actual behaviour

change and behaviour change intention the same single item question as Hypothesis 1 2 and 3 was asked.

Procedure

At the beginning of the survey, respondents were informed of the study's general objectives and notified that the survey was part of a final dissertation for the M.Sc. in Psychology in Business and Economics at the Faculty of Human Sciences of Católica University of Lisbon. Participants were also assured that their responses would remain anonymous, and both my email address and that of my thesis supervisor were provided for any questions or concerns. Consent was required to begin the survey, which comprised 79 questions and took approximately seven minutes to complete. No further details regarding the specific goals or hypotheses of the study were disclosed.

Data analysis Procedures

The data was analyzed using IBM SPSS Statistics version 29. Data from Qualtrics was imported, and cases that did not meet the inclusion criteria were excluded. Relevant variables were recoded, and final scale scores were computed.

To address the first research question (H1a), a cross-tabulation analysis was conducted with visual media as the independent variable and behaviour change intentions (BCI) as the dependent variable. For H1b, the independent variable remained visual media, while the dependent variable was actual behaviour change (ABC). This allowed for an examination of the relationship between media exposure and behavioural outcomes.

For the second research question, four separate logistic regression analyses were conducted to assess the influence of empathy toward animals (AES) and Belief in the Animal Mind on both BCI and ABC. The Omnibus Test of Model Coefficients was utilized to

determine whether the inclusion of AES and BAM significantly improved the model's predictive ability compared to the baseline model (step 0). For the third hypothesis, a binary logistic regression was performed to determine whether gender had a significant interaction between ABC and BCI, the study then investigated the relationship between AES and ABC when moderated by gender using the same stats test. For the fourth hypothesis, we examined if age moderated the relationship between BAM as well as its relation to BCI and ABC. There were two aspects of age measured, one the current age of respondents and the age of their exposure to media and its effects on ABC and BCI. An ANOVA test was run for the quantitative variables (AES and BAM) and a Crosstabulation Chi-square test was run for the categorical variables (BCI and ABC)

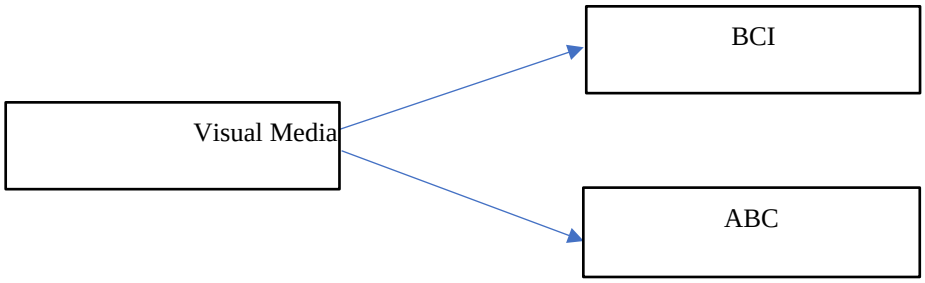

Figure 1: A crosstabulation and Chi-square conceptual model of visual media x BCI and ABC

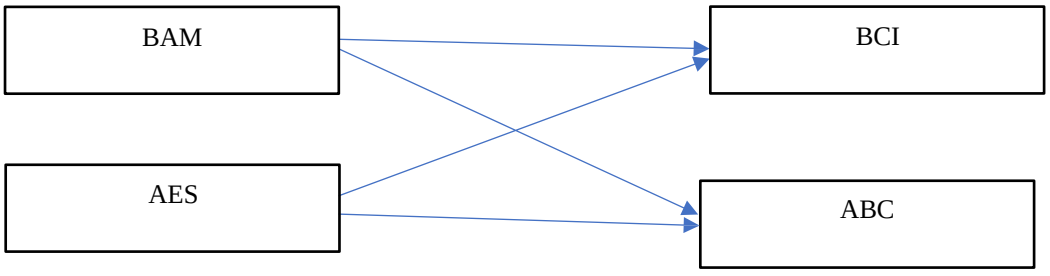

Figure 2: H2 conceptual logistic regression model of AES and BAM x BCI and ABC

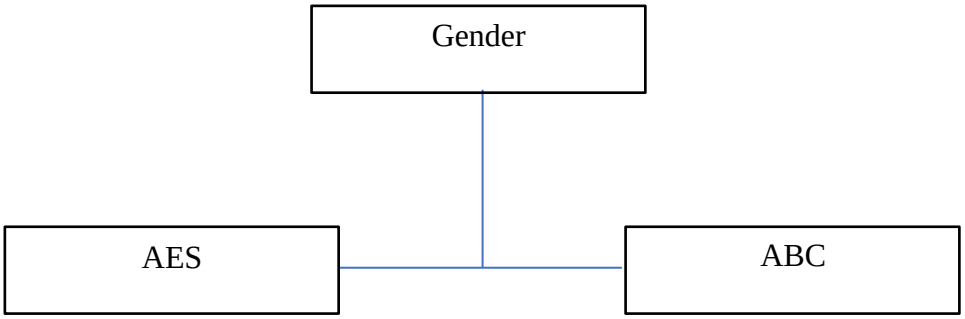

Figure 3: Conceptual moderation model of AES x ABC, moderator gender

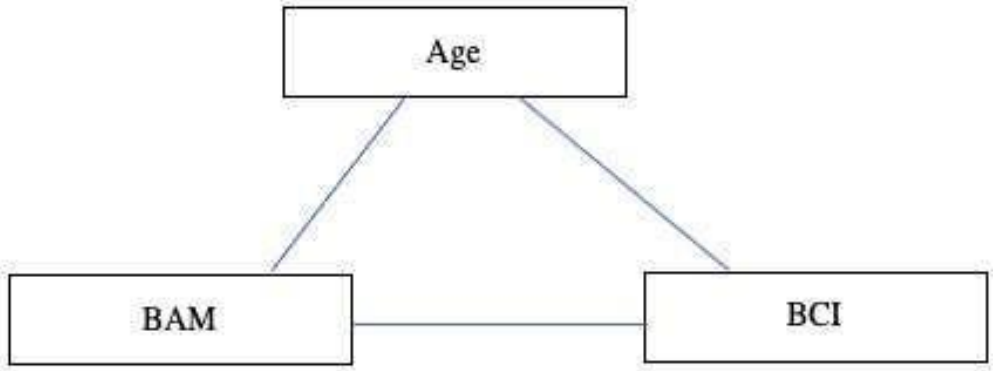

Figure 4: Conceptual mediation model of BAM x BCI, mediator age

Results

Media Association to Behaviour Change Intentions and Actual Behaviour Change

Hypothesis 1a aimed to examine whether exposure to different types of media (visual, adverts, social media, reading) influences Behaviour Change Intention (BCI). A cross-tabulation analysis was conducted between the media types and BCI (1 = intention to change, 0 = no intention). Visual media was associated with the highest level of BCI at 37 and 24 that did not. This was followed by reading with a count of 31 positive towards BCI and 9 showing no BCI. Social media followed closely with a count of 28 with BCI and 16 without. The study showed the least effective form of media was adverts and others with a count of 14 that showed BCI, while 9 did not (Refer to Table 1 and Figure 5 in the appendix).

A Chi-Square test showed no significant association between media type and BCI, $\chi^2(3) = 3.467$, $\boldsymbol{p} = 0.32$. This suggests that the relationship between media type and BCI may not be robust or consistent across the sample. However, the data do indicate that visual media, compared to other types, might have a closer association with influencing behaviour change intentions.

H1b explored whether different media types also influence Actual Behaviour Change (ABC), continuing the trend observed in H1a. A cross-tabulation analysis showed that visual media was again associated with the highest levels of ABC with a count of 38 favourable towards ABC and 23 not. This was followed by social media with a count of 30 with ABC and 14 without ABC. In the ABC category reading came in third (second in BCI) with an ABC count of 27 and 13 without ABC. And lastly similar to BCI adverts and others came in last with a count of 13 for ABC and 10 without (Refer to table 2 and Figure 6 in the appendix).

A Chi-Square test found no significant association between media type and ABC, $\chi^2(3) = 1.18$, $p = 0.75$, indicating that there was no strong association between media type and actual behaviour change in this sample.

Empathy (AES) and Belief in the animal Mind – Do they predict Behaviour Change Intentions and Actual Behaviour Change?

In **H2a** the study examined whether empathy toward animals, measured using the Animal Empathy Scale (AES), is a significant predictor of Behaviour Change Intention (BCI) in the context of ethical consumption. A logistic regression analysis was conducted to examine the relationship between AES and BCI. The Omnibus Tests of Model Coefficients indicated that adding AES to the model significantly improved its ability to predict BCI, $\chi^2(1, N = 168) = 16.332$, $\boldsymbol{p} < 0.001$, suggesting that empathy plays an important role in shaping individuals9 intentions to change their behaviour. Each one-unit increase in AES was associated with a 53% increase in the odds of BCI (B = 0.425, SE = 0.112, Wald = 14.502, $\boldsymbol{p} < 0.001$, Exp(B) = 1.529) (Refer to Table 3 in the appendix). This finding supports prior research suggesting that empathy fosters prosocial behaviour, including ethical consumption (Eisenberg & Morris, 2001).

The model summary further illustrated the predictive power of AES. The -2 Log Likelihood value of 200.203, combined with a Cox & Snell R^2 of 0.093 and Nagelkerke R^2 of 0.128, indicated that AES accounted for approximately 9.3% to 12.8% of the variance in BCI. These findings suggest that increasing empathy toward animals could promote behaviour change intentions related to more ethical consumption practices.

H2b aimed to assess whether empathy toward animals (AES) predicts Actual Behaviour Change (ABC), building on the results of H2a. A logistic regression was performed, and the Omnibus Tests of Model Coefficients showed that adding AES significantly improved the model's predictive power for ABC, $\chi^2(1, N = 168) = 7.72$, $\boldsymbol{p} < 0.005$. Each one-unit increase in AES was associated with a 32.4% increase in the odds of ABC (B = 0.281, SE = 0.104, Wald = 7.325, $p < 0.005$, Exp(B) = 1.324), supporting the hypothesis that higher empathy toward animals is linked to actual behaviour change in the context of ethical consumption (Refer to Table 4 in the appendix).

The model summary for ABC showed a Cox & Snell R^2 of 0.045 and a Nagelkerke R^2 of 0.062, indicating that AES explained 4.5% to 6.2% of the variance in ABC.

For **H2c** the study wanted to assess whether the Belief in Animal Mind (BAM) predicts Behaviour Change Intention (BCI). A logistic regression was conducted for BCI, yielding significant results, $\chi^2(1, N = 168) = 15.851$, $\boldsymbol{p} < 0.001$. BAM explained 9.0% to 12.4% of the variance in BCI (Cox & Snell $R^2 = 0.090$; Nagelkerke $R^2 = 0.124$). The odds ratio for BAM (Exp(B) = 2.319) indicated that each one-unit increase in BAM increased the odds of BCI by 131.9% (Refer to Table 5 in the appendix).

H2d A similar logistic regression was conducted for ABC, the Omnibus Tests of Model Coefficients indicated that BAM was a significant predictor, $\chi^2(1, N = 168) = 19.39$, $\boldsymbol{p} < 0.001$, with BAM accounting for 10.9% to 15.0% of the variance in ABC (Cox & Snell $R^2 = 0.109$; Nagelkerke $R^2 = 0.150$). The odds ratio (Exp(B) = 2.547) indicated that each one-unit increase in BAM raised the odds of ABC by 154.7% (Refer to Table 6 in the appendix).

Gender and Behaviour Change Intentions and Actual Behaviour Change

H3 looked at the relationship between AES and ABC, moderated by gender. Prior to running the regression test, we also tested the direct relationship between Gender on BCI and ABC. Results found that the relationship between Gender and BCI was significant. Omnibus Tests of Model Coefficients showed that adding gender significantly improved the model's predictive power for BCI, $\chi^2(1, N = 168) = 7.8$, $\boldsymbol{p} < 0.005$. With females being 162.5% more likely to report BCI ((B = 0.965, SE = 0.347, Wald = 7.756, $\boldsymbol{p} < 0.005$, Exp(B) = 2.625)

The model summary for BCI showed a Cox & Snell R^2 of 0.045 and a Nagelkerke R^2 of 0.063, indicating that gender explained 4.5% to 6.2% of the variance in BCI.

However there was no significant relationship between Gender and ABC. An Omnibus Tests of Model Coefficients showed that adding gender did not significantly improve the ABC model, $\chi^2(1, N = 168) = 6.6$, $\boldsymbol{p} > 0.05$. The Coefficients table reported (B = 0.880, SE = 0.344, Wald = 6.539, $\boldsymbol{p} > 0.05$, Exp(B) = 2.412) The model summary for ABC showed a Cox & Snell R^2 of 0.038 and a Nagelkerke R^2 of 0.053, indicating that gender explained 3.8% to 5.3% of the variance in ABC.

The logistic regression model examining the relationship between empathy (AES), gender, and actual behaviour change, as well as the interaction between empathy and gender, did not yield statistically significant individual predictors. The coefficient for empathy (AES) was negative, $\beta = -0.1375$, SE = 0.3277, z = -0.4196, $\boldsymbol{p} = 0.6748$, indicating that empathy alone did not significantly predict behaviour change (ABC). The confidence interval for empathy (-0.7799, 0.5049) crossed zero, further confirming that the effect of empathy on behaviour change was not statistically significant in this model (refer to Table 7 in the appendix).

Similar to the test done earlier, gender, though approaching significance, was not a statistically significant predictor of ABC, (β = -2.5005, SE = 1.5412, z = -1.6225, ***p*** = 0.1047). The negative coefficient suggests that, on average, males were less likely to exhibit behaviour change than females, but this effect was not strong enough to reach conventional levels of statistical significance (95% CI = -5.5211, 0.5202).

Most critically, the interaction term between empathy and gender, which was central to the hypothesis that gender moderates the relationship between empathy and behaviour change, was also not statistically significant, (β = 0.2873, SE = 0.2406, z = 1.1939, ***p*** = 0.2325). The confidence interval for the interaction effect (-0.1843, 0.7590) included zero, indicating that the moderating effect of gender on the relationship between empathy and behaviour change was not supported by the data**.**

Age Group and Age of Exposure in Behaviour Change Intentions and Actual Behaviour Change

In H4 the study wanted to investigate the association of age on the dependent variables ABC and BCI. To do this we examine age in two ways. Respondents' current age, as well as age when they were first exposed to the media.

Results of a Crosstabulation Chi-Square test indicated that the association between age group and behaviour change intention (BCI) was not statistically significant, $\chi^2(3, N = 168) = 2.73$, ***p*** = .435.

A one-way ANOVA was conducted to compare the effect of age group on AES in four categories: Young Adults, Millennials, Middle-Aged, and Baby Boomers. The analysis revealed that the difference in mean AES scores between the age groups was not statistically significant, F(3, 164) = 2.46, ***p*** = .064. The between-groups sum of squares was 19.25, with a

mean square of 6.42, while the within-groups sum of squares was 427.10, yielding a mean square of 2.60.

A separate one-way ANOVA was conducted to evaluate the effect of age group on BAM (Belief in Animal Mind) scores. The results indicated no statistically significant difference in BAM scores between Young Adults, Millennials, Middle-Aged, and Baby Boomers, $F(3, 164) = 1.81$, $\boldsymbol{p} = .148$. The between-groups sum of squares was 3.40, with a mean square of 1.13, while the within-groups sum of squares was 102.85, yielding a mean square of 0.63.

To test age of exposure on BCI a Chi-Square test of independence was conducted to with the results not being statistically significant, $\chi^2(4, N = 168) = 0.007$, $\boldsymbol{p} = .933$.Then, a Chi-Square test was performed to analyse the relationship between age of exposure and ABC. The results indicated a statistically significant association, $\chi^2(4, N = 168) = 18.59$, $\boldsymbol{p} < .001$.

Discussion

In this dissertation, we examined the influence of media, empathy, and demographic factors on individuals' intentions to engage in ethical consumption behaviours, particularly regarding cruelty free consumption. The study aimed to explore the extent to which these factors impact both behaviour change intention (BCI) and actual behaviour change (ABC). Based on the results, several conclusions can be drawn.

First, the results indicated that visual media was associated with the highest levels of both behaviour change intention and actual behaviour change in the cross-tabulation analysis. This aligns with existing literature suggesting that visual media, such as documentaries or graphic images, elicits stronger emotional responses compared to other forms of media (Pearson, Dorrian, & Litchfield, 2011). Vivid imagery can evoke empathy or shock, making ethical issues more immediate and emotionally impactful, thus fostering behaviour change and intentions. However, while the descriptive trends supported this, the chi-square analysis revealed that the results were not statistically significant. This could be due to the sample size, which may have lacked the power to detect significant differences. Another plausible explanation lies in the individual differences within the sample, which was composed of individuals from 38 nationalities. Variations in cultural backgrounds, personal attitudes, and empathy levels could have diluted the overall effect of visual media, contributing to the non-significant statistical results despite the observed trends.

Through the study we also learnt that The Animal Empathy Scale (AES) emerged as a significant predictor of both behaviour change intention and actual behaviour change. This is consistent with prior research, which highlights that affective empathy plays a key role in motivating concern for others and influencing prosocial behaviour (Batson, 2011; Van Lange,

2008). Individuals with higher AES scores are likely to experience greater emotional responses to the suffering of animals, which in turn motivates them to align their consumption habits with ethical concerns. These findings support the notion that empathy is a central driver of ethical behaviour. Another reason for this significant relationship may be that individuals scoring higher on AES might have a pre-existing disposition toward ethical welfare. Literature suggests that vegetarians and other individuals who refrain from consuming animal products tend to score higher in empathy (Rothgerber, 2013), suggesting that empathy may lead to consistent ethical purchasing behaviours even before exposure to media content. Results also showed that AES explained more of the variance in BCI than in ABC. This may reflect the complexity of translating intentions into actual behaviour. While intentions are often influenced by emotional factors such as empathy, actual behaviour may be more dependent on other external factors such as convenience, lifestyle and economic conditions for example.

The study also examined the association BAM has on BCI and ABC. Results showed that there was a significant relationship between Belief in Animal Mind (BAM) and both behaviour change intention and actual behaviour change. Individuals who believe that animals possess emotions and intelligence are more likely to feel morally obligated to align their behaviours with their ethical beliefs. This cognitive recognition of animals' mental capacities strengthens the connection between ethical reasoning and action. As individuals internalize these beliefs, they may feel a stronger duty to alter their consumption patterns to avoid causing harm to animals, reinforcing the link between BAM and both behaviour change intention and actual behaviour change. This cognitive-emotional connection may help explain why BAM was a significant predictor of ethical behaviour in this study. This supports the

notion that individuals who hold strong belief in the animal mind and report higher levels of empathy are more likely to engage in ethical consumption behaviours.

Gender was a significant predictor of behaviour change intention (BCI) but not actual behaviour change (ABC). This could be attributed to the intention-behaviour gap. Intentions are often conceptualized as self-directed goals, but without a concrete plan, individuals may encounter various obstacles that prevent them from translating those intentions into actual behaviour. Another reason could be explained with the Social Desirability Bias**.** Gender roles or expectations may influence how people report their intentions. For example, individuals might feel pressured to express a desire to change behaviour in socially acceptable ways but the actual behaviour change, occurs in a more private or real-world context where the pressure to conform to social expectations may be lower.

In the overall relationship between gender, empathy and ABC, gender did not significantly moderate the relationship. One possible explanation is that while gender differences in empathy may exist, the effect sizes in this study were too small to detect significant interactions between gender and behaviour change. Another reason could be conforming to traditional gender roles, results suggest that males were less likely to exhibit ABC. This aligns with literature that suggests that meat consumption is often tied to traditional masculine norms, with men being more emotionally detached from animal suffering (Sumpter, 2015). This detachment could weaken the influence of empathy on actual behaviour change for males.

We uncovered some interesting findings of age on AES, BAM, BCI and ABC. Age was not a significant predictor of behaviour change intention or actual behaviour change. This finding contradicts some studies that suggest millennials are more ethically conscious

than older generations. However, our ANOVA results also showed that the between-groups sum of squares was much smaller than the within-groups sum of squares for both AES and BAM scores, which meant that the majority of the variability in the data came from the within-group differences indicating that scores were mostly differences observed are at the individual level within each group. A valid explanation could be that ethical purchasing behaviours in the sample were driven by personal values, moral beliefs, and empathy toward animals rather than by age. These underlying factors may transcend generational boundaries, meaning that individuals who hold strong ethical beliefs are equally likely to engage in behaviour change, regardless of their age and vice versa.

Testing age of exposure to the media showed that there was no significance between age of exposure and BCI. However, there was a significant association between age of exposure and Actual Behaviour Change. Further research could be done on whether a particular age group performed higher than another, but a possible explanation could be that they were exposed to this form of media during a pivotal time in their life. Be it when they were younger and when habits were more easily formed or on the contrary when they were older and mature enough to develop a deeper understanding of healthy and ethical choices they are making.

Conclusion

In conclusion, this study highlights the significant influence of visual media and empathy on individuals' intentions to engage in ethical consumption behaviours regarding animal products. Visual media emerged as a powerful tool in fostering behaviour change intentions, aligning with existing literature, but the statistical significance of these results was limited, likely due to sample size and individual differences. Empathy, as measured by the Animal Empathy Scale (AES), was a robust predictor of both behaviour change intention and actual behaviour change, reaffirming the central role of affective responses in promoting ethical behaviour. Additionally, the Belief in Animal Mind (BAM) was strongly associated with both BCI and ABC, further emphasizing that cognitive recognition of animals' emotional capacities influences ethical consumption patterns.

However, this study has several limitations. The sample size may have been insufficient to detect statistically significant differences in some analyses, particularly the chi-square test of visual media. Furthermore, the diversity of the sample, while valuable, may have introduced variability in individual responses, affecting the generalizability of results. Conversely, the largest sample size were from Malaysian participants and this could have skewed the results from a cultural perspective. Future research should aim to include larger and more homogenous samples to improve statistical power and explore potential cross-cultural differences in media effects. Additionally, further investigation into other demographic factors, such as education or socioeconomic status, and their role in ethical purchasing behaviours would offer deeper insights into the motivations behind ethical consumption.

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Appendices

Appendix A

Table 1

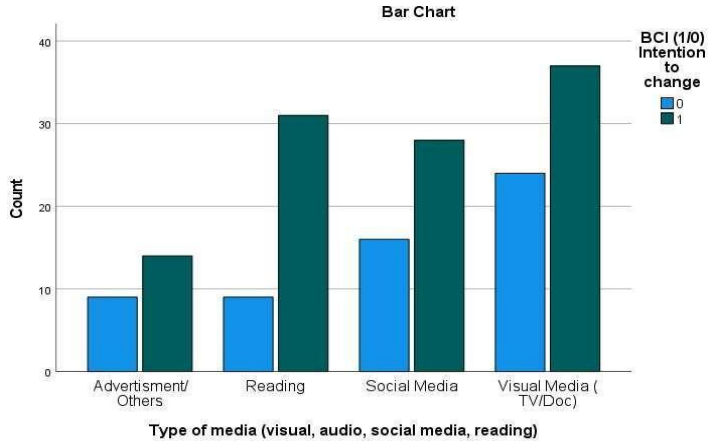
Crosstabulation Results of Type of Media on Behaviour Change Intention

			BCI (1/0) Intention to change	
			0	1
Type of media (visual, advert, social media, reading)	Advertisement/ Others	Count	9	14
	Reading	Count	9	31
	Social Media	Count	16	28
	Visual Media	Count	24	37
Total		Count	58	110

Chi-Square: 3.46 =0.325, df =3. P >0.05

Appendix B

Figure 5: Bar graph of Type of media on Behaviour Intention Change



Appendix C

Table 2

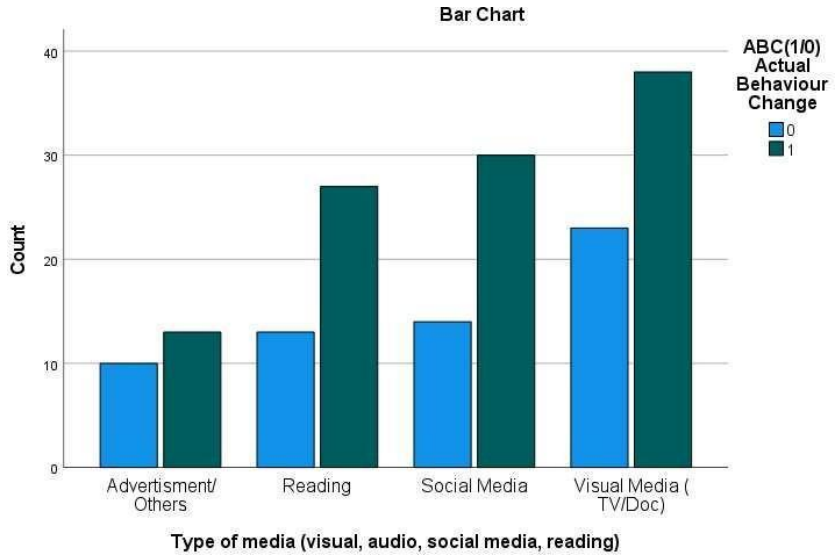
Crosstabulation results of Type of Media on Actual Behaviour Change

			ABC (1/0) Intention to change	
			0	1
Type of media (visual, advert, social media, reading)	Advertisement/ Others	Count	10	13
	Reading	Count	13	27
	Social Media	Count	14	30
	Visual Media	Count	23	38
Total		Count	60	108

Chi-square: 1.18 = 0.758, df = 3. P >0.05

Appendix D

Figure 6:Bar graph of Type of media on Actual behaviour Change



Appendix E

Table 3

Results of logistic regression model between AES and BCI

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	AES Average Scores	.425	.112	14.502	1	.000	1.529
	Constant	-2.095	.723	8.391	1	.004	.123

Appendix F

Table 4

Results of logistic regression model between AES and ABC

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	AES Average Scores	.281	.104	7.325	1	.007	1.324
	Constant	-1.236	.684	3.262	1	.071	.290

Appendix G

Table 5

Logistic Regression of BAM and BCI

		Variables in the Equation	95% C.I.for EXP(B)	
			Lower	Upper
		Exp(B)		
Step 1[a]	Overall BAM Average Scores	2.319	1.502	3.580
	Constant	.028		

Appendix H

Table 6

Logistic Regression of BAM and ABC

		Variables in the Equation	95% C.I.for EXP(B)	
			Lower	Upper
		Exp(B)		
Step 1[a]	Overall BAM Average Scores	2.547	1.638	3.962

Constant	.017

Appendix I

Table 7

Logistic Regression model of AES and ABC with gender as the moderator

Model

	coeff	se	z	p	LLCI	ULCI
Constant	2.3658	2.1735	1.0885	.2764	-1.8941	6.6258
AES	-.1375	.3277	-.4196	.6748	-.7799	.5049
Gender	-2.5005	1.5412	-1.6225	.1047	-5.5211	.5202
Int_1	.2873	.2406	1.1939	.2325	-.1843	.7590

Appendix J

Media and Consumption of Products Linked to Animal Cruelty, Suffering and/or Killing

We appreciate your involvement in this study. Please note that your participation is entirely voluntary, and any data collected is treated with confidentiality and used solely for the purposes of this study.

The provided questionnaire gathers information on media that you find inspiring or decisive toward your consumer decisions related to products that involve animal cruelty suffering and/or death. We are also interested in knowing a little more about your related emotions and thoughts when viewing this type of media.

For further details regarding this topic and the study, we kindly invite you to refer to the information sheet available on the website LINK

Age :

Gender :

Country of Origin :

At what age do you remember being first exposed to advertisements or media content on cruelty free products?

* For the purpose of this study cruelty-free in this context is defined as "A product that is

created from top-to-bottom, without harming or killing an animal."

What form of media was this?

After being exposed to this form of media, did you have any inclination to alter your behaviour?

Yes No

Following your exposure to this media form, did you subsequently adjust your behaviour or purchasing habits to align with more cruelty free consumption practices?

Yes No

If you answered yes to the previous question please check all the boxes bellow that apply:

Action check	**Action description**
	Shifted to a plant based diet (vegetarian or vegan)
	Reduced meat and/or dairy consumption
	Shifted or increased consumption of organic products
	Began to purchase household and beauty products that are non-tested on animals
	others

We would like to know more about your media consumption habits. Please check all that you watch or have watched in the last 6 months

Netflix			
HBO			
Amazon Prime			
Apple TV			
National Channels			
other			

I am on these social networks (check all that apply)

	More than 3 hours	About 2 hours	Less than 2 hours
Facebook			
Instagram			
Youtube			
Whatsapp			
Twitter			
TikTok			
Twitch			
Others			

Appendix K

The Animal Empathy Scale (Paul 2000)

Please indicate how strongly you agree or disagree with the following statements, checking in the appropriate box the appropriate number on the agreement – disagreement scale. For example, if you think you agree with a statement fairly strongly, you might check the 2 on the left hand side of the scale:

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

1. So long as they9re warm and well fed, I don9t think zoo animals mind being kept in cages.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

2. Often cats will meow and pester for food even when they are not really hungry.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

3. It upsets me to see animals being chased and killed by

lions in wildlife programs on TV.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

4. I get annoyed by dogs that howl and bark when they are left alone.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

5. Sad films about animals often leave me with a lump in my throat.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

6. Animals deserve to be told off when they9re not behaving properly.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

7. It makes me sad to see an animal on its own in a cage.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

8. People who cuddle and kiss their pets in public annoy me.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

9. A friendly purring cat almost always cheers me up.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

10. It upsets me when I see helpless old animals.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

11. Dogs sometimes whine and whimper for no real reason.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

12. Many people are over-affectionate towards their pets.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

13. I get very angry when I see animals being ill treated.

Not at all Likely	Neutral	Extremely Likely

0	1	2	3	4	5	6	7	8	9	10

14. It is silly to become too attached to one9s pets.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

15. Pets have a great influence on my moods.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

16. Sometimes I am amazed how upset people get when an old pets dies.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

17. I enjoy feeding scraps of food to the birds.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

18. Seeing animals in pain upsets me.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

19. People often make too much of the feelings and sensitivities of animals.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

20. I find it irritating when dogs try to greet me by jumping up and licking me.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

21. I would always try to help if I saw a dog or puppy that seemed to be lost.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

22. I hate to see birds in cages where there is no room for them to fly about.

Not at all Likely				Neutral			Extremely Likely			
0	1	2	3	4	5	6	7	8	9	10

Appendix L

Belief in Animal Mind Attitudes towards Animals and Belief in the animal mind scales (Knight, 2004)

Please indicate how strongly you agree or disagree with the following statements, checking in the appropriate box the appropriate number on the agreement – disagreement scale.

For example, if you think you agree with a statement fairly strongly, you might check the 2 on the left hand side of the scale:

Using Animals for Experimentation

1. New medical procedures should be tried on animals before they are tried on humans

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Much of scientific research done with animals is unnecessary and cruel

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. Experimentation with animals is cruel, even if it saves human lives

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. Continued research with animals will be necessary if we are to ever conquer diseases such as cancer, heart disease and AIDS

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

5. It is acceptable to cause injury, distress or death to animals in research even if humans do not benefit from this

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Using Animals in the Classroom

1. I support university research that is done with animals if it does not cause distress, pain or death to the animal

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Students should be given alternatives to using real animals for dissection

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. It is cruel to use and dispose of live microscopic animals for classroom purposes

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. It is morally wrong to use animals in classrooms if the animal is harmed, distressed or injured

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

5. It is alright to use dead animals in class laboratories if the animals were raised and killed humanely

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Using Animals for Personal Decoration

1. In a Western society where man-made alternatives are available, it is wrong to kill animals for their fur

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Stores should sell more items such as jewellery and purses made with animal by-products

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. Consumers should boycott companies that routinely use animals for testing their products

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. Animals should be used to test personal products, such as soap, before they are marketed for people

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

5. Breeding animals for their skins is a legitimate use of animals

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Using animals for Entertainment

1. The use of animals for human entertainment such as rodeos, bull-fighting and circuses is cruel

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Zoos provide an acceptable environment for wild animals

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. It is morally wrong to hunt wild animals just for sport

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. There should be extremely harsh penalties including jail sentences for people who participate in dog-fighting and badger-baiting

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Animal Management

1. Hunting is an acceptable means for controlling overpopulation in wild animals

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Any bird that is a nuisance should be destroyed

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. Household invaders such as mice and rats should be destroyed when in the house

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. Wildlife in urban areas should be protected, even if it becomes a nuisance

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

5. Animal management should focus research on non-lethal ways to manage groups of animals

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

6. Farmers should use scarecrows/ bird-scarers rather than kill birds that damage their crops

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Using Animals for Financial Gain

1. Animal shelters should destroy stray animals because it costs money to keep them

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. In general, I think that human economic gain is more important than setting aside more land for wildlife

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. The slaughter of whales and dolphins should be immediately stopped even if it means some people will be out of work

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. The production of inexpensive meat justifies maintaining animals under crowded and often painful conditions

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

5. Battery farming chickens and hens is okay if it makes the price of their eggs lower (researchers own)

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

6. Foxes have a right to be protected from farmers, even if they damage their crops

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Belief in Animal Mind (BAM)

1. Most animals are unaware of what is happening to them

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

2. Most animals are capable of experiencing a range of feelings and emotions (e.g. pain, fear, contentment, maternal affection)

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

3. Most animals are able to think to some extent to solve problems and make decisions about what to do

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

4. Most animals are more like computer programs, i.e. mechanically responding to instinctive urges without awareness of what they are doing

Strongly Agree						Strongly Disagree
1	2	3	4	5	6	7

Thank you for your participation in this study.

We would like to assure you that this study is anonymous and that the data collected will only be used for the purpose of this study.

If you would like to contact the researcher you can do so by emailing debrasharmaine@gmail.com. If you would like to get in touch with the supervisor of this study

kindly email Prof Dr. Augusta at augusta.gaspar@ucp.pt

Appeendix M

Screenshot of website built for survey