ALTERING BEHAVIOR FOR ANTHOPOGENIC HAZARD

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CERTIFICATE

It is certified that the work contained in the project report titled " _Altering Behavior for Anthropogenic Hazard_ " by the following student :

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has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

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Place : K. R. Mangalam University

ACKNOWLEDGEMENT

"Enthusiasm is the feet of all progress, with it there is accomplishment and Without it there are only slits alibis."

Acknowledgment is not a ritual but is certainly an important thing for the successful completion of the project. At the time when we were made to know about the project, it was really tough to proceed further as we were to develop the same on a platform, which was new to us. More so, finding the literature about the topic selected and what should be included and what not part seemed tricky that it seemed to be impossible for me to complete the work within the given duration.

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ABSTRACT

The climate system is so crucial and complicated that it can change the global climate and affect not only one street, city, or country, but when termed as "global" it surely means the whole earth. Recent climate model simulations, analyses, and methods provide multiple lines of evidence proving the human influence of various ranges of climate variables, including weather and climate extremes. But even if we are aware of humans influencing the climate, why are individuals relatively averse to take action? The objective of this study is to point out misconduct in the form of climate change but also how to modify it. Another objective is to give out most modern and ready to use techniques for adapting climate friendly lifestyles. The study will also help with how to use psychological tricks to make people turn their faulty behaviours into environmental friendly. I will summarize the lately found studies and research about the same but not only this, the paper also shows insights on the reasons why it seems distant, the ancestral measures used for climate change, and how an individual should be motivated psychologically to take climate action , not only on an individual level but also on group and consumer level. The different psychological and behavioral models of motivation are also found related to the study which helps us to understand the behavior shown by people and the psychology behind it. Howover, when we can affect the climate negatively, the good news is that we can influence it positively too, converting it into a win-win situation for both humans and the global climate shift experienced now. Adapting various pro-environmental behaviour and promoting it is the key. Recently, its also observed, countries have already adopted and developed different ways to address climate change and make people climate-friendly. The paper will be concluded with a more positive approach that can help the establishment of climate-friendly lifestyles and policies. The synthesis of current research will be helpful for further integration of mainstream environmental psychology.

Key Words: **Climate system, Pro-environmental behaviour, Climate friendly, Environmental psychology**

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INTRODUCTION

Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas.[1] Burning fossil fuels generates greenhouse gas emissions that acts like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures. The main greenhouse gases that are causing climate change include carbon dioxide and methane. These come from using gasoline for driving a car or coal for heating a building, for example. Energy, industry, transport, buildings, agriculture and land use are among the main sectors causing greenhouse gases. [1]

Climate scientists have already showed that humans are responsible for all global heating over the last 200 years. Human activities like the ones mentioned above are causing greenhouse gases that are responsible for warming the world faster than at any time in at least the last two thousand years. The average temperature of the Earth's surface is now about 1.1°C warmer than it was in the late 1800s (before the industrial revolution) and warmer than at any time in the last 100,000 years. The last decade (2011-2020) was the warmest on record, and each of the last four decades has been warmer than any previous decade since 1850.[1]

The knowledge base on observed and projected impacts and risks generated by climate hazards, exposure and vulnerability has increased with impacts attributed to climate change and key risks identified across the report. Impacts and risks are expressed in terms of their damages, harms, economic, and non-economic losses. Risks from observed vulnerabilities and responses to climate change are highlighted. Risks are projected for the near-term (2021–2040), the mid (2041–2060) and long term (2081–2100), at different global warming levels and for pathways that overshoot 1.5°C global warming level for multiple decades.[2]

If we talk about the present situation of the climate around the world, we can only say it has never been worse than this. According to IPCC Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. The rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt.[2] Widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather (high confidence). These observed impacts have been attributed to human-induced climate change particularly through increased frequency and severity of extreme events. These include increased heat-related human mortality (medium confidence), warm-water coral bleaching and mortality (high confidence), and increased drought-related tree mortality (high confidence). Observed increases in areas burned by wildfires have been attributed to human-induced climate change in some regions (medium to high confidence). Adverse impacts from tropical cyclones, with related losses and damages, have increased due to sea level rise and the increase in heavy precipitation (medium confidence). Impacts in natural and human systems from slow-onset processes such as ocean acidification, sea level rise or regional decreases in precipitation have also been attributed to human induced climate change (high confidence). [3]

PSYCHOLOGIST'S CONTRIBUTION FOR ADDRESSING CLIMATE CHANGE

There are a number of qualities associated with Psychology that position psychologists to provide meaningful contributions to addressing climate change and its impacts. These qualities can be found in other fields as well, particularly other social sciences. Yet, they point to the types of contributions that Psychological can make, the necessity for those in the social sciences, including psychology, to contribute for progress on addressing climate change, and why some have argued that psychologists have a responsibility to contribute to efforts to address climate change. [10]

First, psychologists' provide a theoretically and empirically based understanding of human behavior at the individual level. This level of analyses is relevant for understanding the human-causes of climate change because it is the collective impact of human behaviors that are contributing to climate change.

Second, psychologists, along with other social science disciplines, have long recognized the importance of the proximal (e.g., the presence of others, structures of neighborhoods) and distal (e.g., cultural and economic) contexts for determining behaviors and this is important for environmental behaviors as well.

Third, psychologists have uncovered individual, interpersonal, and social forces capable of changing human behavior that are not otherwise clearly or widely understood. Although people seem able to articulate their opinions, beliefs, and preferences accurately, they are notoriously poor at recognizing the causes of their behavior.

Fourth, there are many current and predicted intrapersonal, interpersonal, and intergroup consequences of climate change. Psychologists are well-positioned to design, implement, and assess interventions to ameliorate the psychosocial impacts of climate change. [10]

While environmental psychologists have contributed much of the work on environmental sustainability, there are opportunities for the broad field of psychology to contribute to humanity's response to climate change.

What psychology can contribute

Psychology can contribute by improving the implementation of each of the major approaches to changing environmentally significant behavior. The following typology, based on the work of Kauffman-Hayoz and Gutscher (2001) [10], suggests the possibilities:

• Command and control (e.g., environmental regulations; appliance and automotive fuel efficiency standards)

• Economic instruments (e.g., energy taxes, solar energy tax credits)

• Infrastructure instruments (e.g., new energy-efficient technology, mass transit, zero net energy building design)

• Institutional arrangements (e.g., establishing markets for emission permits, certification or labeling systems, public-private agreements)

• Communication and diffusion techniques and methods (e.g., providing information, persuasion, advertising, person-to-person contact)

Psychology is a major source of insight into the ways communication and diffusion instruments work, and it can also potentially offer insights into the ways people, especially individuals and households, respond or fail to respond to the other kinds of policy approaches. For instance, It can illuminate the sources of citizen support of or opposition to regulations; taxes, and new energy technologies; help estimate the market penetration of new consumer technologies and building designs and help in making them more useful and attractive; identify behaviors that could facilitate or frustrate new institutional arrangements.[10]

Now, obviously there are countless effects of this climate change on us and we can publish a whole book of about its impacts on but rather I will now change the focus on how we can impact our climate in positive manner. For this, I have combined various recent studies which can provide with, the government, and countries a basic framework on how our lifestyles can be made climate friendly. We will understand and examine the psychology behind climate-friendly behavior and different psychological and behavioral models which help promote the positive kind of lifestyle for us humans and climate.

A. WHY PEOPLE ARE AVERSE TO TAKING ACTION

Greta Thunberg, the young Swedish climate activist, who started the "Fridays for Future"
movement, has received both strong support and strong criticism from politicians, the press and social media, ranging from more objective criticism to hatred and verbal attacks.[4] While there is little scientific doubt that the climate is actually changing, and that the effects can be felt globally, why is climate change action so controversial? And why are many people averse to taking action? A study by Nicole S. Harth examines the role of affective and emotion in climate change action and suggests a more optimistic approach that considers climate action as a collective phenomenon.

Climate change is difficult to grasp: humans do not appear to be "well-equipped" to identify such a complex issue, which builds a psychological barrier to climate actions. People often perceive climate change as a distant threat that is irrelevant to them personally. Thus, several psychological processes can hinder or motivate actions related to climate change: first, a state of ignorance and denial about the existence of climate change; second, a state in which affective processes motivate or prevent people from climate-friendly action. The systematic investigation of affect and emotion is an emerging field that draws on emotion science to explain pro-environmental intentions and actions of individuals and social groups.[4]

(1) AFFECT AND RISK

Affective processes are a recent addition to the rational-choice-based models that

have dominated the field of environmental psychology for a long time. They focus on the
link between affect and risk perception. The majority of these studies conceptualize affect as a predictor of climate change risk perceptions. Typically, participants are confronted
with environmental hazards (e.g., floods, earthquakes, nuclear accidents) and then asked about their affective responses. These are then correlated with risk perceptions. For instance, when participants were asked to think about the Indian Ocean earthquake and tsunami in 2004, this increased negative affect and perception of risk of traveling to these areas.

However, despite the association between negative affect and risk perception, these studies show that, on average, people do not feel very personally threatened by climate change. Certainly, ignoring the risk of climate change has short term benefits, because people do not have to change their daily behaviour and routines. People see climate change as a mostly distant phenomenon that might affect other people, times, or places.

Among the relevant factors for climate change risk perception, two psychological processes stand out—perceived personal relevance and (negative) affective responses. Currently, several researchers examine whether personal relevance and perceived importance of environmental issues influence risk perception, affect and pro-environmental
behavior. In line with appraisal theories of emotion, perceived relevance of the situation is a basic cognitive requirement for affect and emotion to occur. People who are victims of natural disasters or experience extreme weather events are more concerned and perceive greater climate change risks. Compared to more industrialized countries, people in developing countries perceive a greater risk of climate change, as their livelihoods often are dependent on natural resources.[3] [4]

(2) GROUP – BASED EMOTIONS

Personal anxiety about genetically-modified food positively influences purchase behavior and concern for the environment. Discrete emotions are generally better predictors of specific pro-environmental behaviours than general affective responses. From this perspective, climate change is not only seen as a problem that should be tackled at an individual-level, but as a problem of intergroup relations. Assuming that climate change responses are group-based phenomena, it is important to examine how individuals experience the climate-relevant behaviour of their social groups—such as cities, countries, or generations. For example, opinions polls have found that younger generations are more concerned about climate change compared to older generations, and the vulnerable groups least responsible for climate change are typically more directly affected than groups with more power and privilege. Therefore, group-based emotions present a useful framework. The term group-based emotion refers to emotions that are experienced based on an individuals' membership in a social group. If individuals perceive themselves as members of a social group, they are likely to experience emotions on behalf of their group membership. To illustrate, group-based guilt has been defined as guilt that arises when individuals believe their group is responsible for a misdeed. Some studies suggested that group-based guilt can motivate people to behave in an environmentally friendly manner, but findings regarding the link between guilt and pro- environmental behaviour are actually quite mixed. As one of the first studies, Ferguson and Branscombe showed that guilt about the in-group's

role in climate change facilitated mitigating behaviour. In a series of experimental studies, Harth et al. found that guilt about the in-group's responsibility for environmental damage is specifically linked to intentions to repair corresponding harmful outcomes (e.g., reducing the in-group's carbon emissions). More pro-environmental or achievement-oriented actions, such as investment in green technologies or green product purchases, necessitates more positive emotions, such as group-based pride or optimism.

B. THE PSYCHOLOGICAL DISTANCE

Features of Human Psychology That Make Climate Change Communication Especially Challenging

- First, people are generally more responsive to personal experience than to abstract analysis. This can be a problem because climate change is typically described in very abstract, statistical terms — we see the numbers and figures, but we rarely recognize the effects of climate change it in our own, everyday experience. The authors suggest that "information about climate change risks needs to be translated into relatable and concrete personal experiences. " Fortunately, this might not be that hard: Climate change is already occurring in ways that do affect our own, everyday experience.[11]
- Second, when faced with the enormity of climate change, it's easy to lose any sense of personal efficacy. But rather than despair, we can capitalize on the fact that we're social beings who respond to social norms. Motivating individuals to act can be a challenge, but establishing and rewarding community norms can help encourage pro-environmental behavior even when individual behavior seems like a drop in the bucket.

- Third, we tend to treat the immediate and personal quite differently from the distant and uncertain. When climate change Is presented as distant in space and time, it's easier to ignore. In making decisions, for example, immediate costs (like the inconvenience of reducing one's carbon footprint) tend to loom large, while uncertain future costs (like the catastrophic consequences of warming) are underweighted. Climate change communication might be more effective by focusing more on regional impacts of warming that are close in space and time — like the effects we can see now in our own communities.

- Fourth, research has shown that people's attitude to risk can depend on whether they're thinking about potential losses or potential gains. In particular, people are more willing to tolerate risk when dealing with losses, so some probability of a loss in quality of life downstream is a gamble they're relatively willing to take.

- Finally, research suggests that motivating behavior with extrinsic rewards — such as monetary incentives for conserving energy — could be more effective

when paired with appeals to people's intrinsic motivation to improve others' wellbeing and to care for the environment. Specifically: "Appealing to people's intrinsic motivational needs can be a more effective and long-lasting driver of pro-environmental behavior." When intrinsically motivated, pro-environmental behavior is more likely to be maintained after extrinsic incentives are removed, and extrinsic rewards can actually undermine people's intrinsic motivation to change.[10] [11]

To combat climate change, individuals, com- munities, and governments must work together to reduce the psychological distance of climate change and designate the future of the planet as the prime concern. The concept of this psychological distance was well explained in the recent study of 2021 stating actions that reduce climate change
often elicit a strong sense of psychological distance, because consequences include a collective as large as a country or even a planet, because consequences extend over long periods of time, because these (long-term) consequences are often uncertain, and because consequences often involve instrumental action that is indirect and that involves other people, organizations, or institutes. Such psychological distance represents abstractness that tends to inhibit immediate action aimed at the reduction of climate change.[5]
The problem of climate change is more multifaceted. It involves not only distance in terms of time but also the distance from the self, as the collective is an abstract entity, such as a nation, a continent, or our planet. As this distance increases, abstractness also increases. For example, driving a vehicle to work every day is close in terms of time and close to the self (this is convenient for the self in the present time), but it is often difficult to imagine how destructive climate change is in one's own country, let alone other countries, the continent, or the world. But this example illustrates additional complexities beyond psychological distance in terms of time and self.[5]

(1) TRAVEL FROM ABSTARCTNES TO CONCRETENES

Shifting climate change from an abstract idea to a more concrete issue with real-world consequences would likely spur individuals to begin taking action. Seriousness and urgency are crucial for behaviour change and cooperation. The question arises how can we make climate action psychologically more concrete and urgent . Following can be the some of the ways :-

➢ Education regarding the concrete consequences of climate change would likely increase individuals' beliefs in its negative impacts and encourage them to take action, although this education must be tailored to different communities in order to be effective. For example, educating individuals about higher average temperatures would likely have an enormous impact on those living in Australia or near Death Valley, California, some of the hottest places on Earth [3] [5].

➢ Using kinship theory by Hamilton, community leaders and expert advisors in urban planning or environmentalism may also be able to reduce the psychological distance of climate change, as they are more likely to grasp the

long-term consequences of climate change in their communities and can better plan for a safer future. [5]

➢ Preliminary findings suggest that acknowledging scientists' uncertainty may actually increase their trustworthiness and 50 Psychology of Climate Change credibility, though more research is needed in this domain. In addition, combating 'fake news' must fall on the media developers, as they are contributing to this uncertainty by allowing false content and conspiracy theories to remain unregulated on their platforms. [3]

(2) ROLE OF GOVERNMENT

Governments still have a key role to play in reducing the effects of climate change. In one study, Feldman and Perez found that imposing environmental laws influenced individuals' moral perceptions and increased environmental behaviors. Furthermore, this type of extrinsic motivation can be successful in increasing environmental behaviors beyond the intended effect. The amount of pollution, population density, and economic wealth all vary per country, making it difficult to determine the countries that should or could be doing more to mitigate climate change. The same is true for communities, though on a much smaller scale. This free- riding tends to create feelings of distrust, rivalry, and potential unfairness, which makes international cooperation even more challenging. One potential solution is competitive altruism, in which individuals compete for prosocial or altruistic reputation. In this way, national leaders may be more willing to take larger steps towards reducing climate change in order to gain status or prestige over other nations.

There can be many reasons why individuals may largely ignore climate change: economics, convenience, and optimism bias, to name a few. But all of these continue to occur because the concept and consequences of climate change are difficult to grasp fully.

(3) Organizational, policy, and cultural change

Psychologists have not yet conducted much empirical research related to reducing greenhouse gas emissions resulting from organizational actions or on psychological factors affecting change at the levels of policy and culture that can mitigate climate change. However, individual attitudes, beliefs, values, and emotional reactions can affect organizational and collective actions in firms, communities, and governments and have been shown to affect acceptance of policy measures and . In the longer term, various formal and informal educational experiences may also contribute to cultural changes and increased public support for policies to limit climate change. Only a few psychological studies so far have been examined energy conservation in organizations. However, a growing body of research concerns the effects of values, attitudes, beliefs, and worldviews on public support for and activism about environmental policies. These studies show that public support for policies to limit climate change is associated with environmental values and worldviews and suggest that efforts to frame the climate problem in terms of widely held supportive values might increase policy support. A large body of psychological research on risk perception is also relevant to the public acceptance of technologies that may significantly limit climate change. Past research on perceptions of the risks of nuclear power and other technologies, can shed

light on potential public acceptance of large wind energy projects, "geoengineering" proposals, bioenergy projects, and other policy proposals for limiting climate change. Attitudes, beliefs, and values also may underlie, as well as be influenced by, cultural changes such as the development of green communities, which can create social norms that shape individual behavior.

Emotional reactions to the threat of climate change may also affect policy support, either positively or negatively. Scientists' warnings about the dire consequences expected from unchecked climate change can generate affective responses (fear, guilt, despair, self-directed and other-directed anger, hope, pride) that can in turn affect willingness to act on the information. The responses to affect may not always be as intended, for instance, when fear appeals backfire . Messages about the climate problem may also be framed in ways that activate various goals and may indirectly affect climate-relevant behaviour . Such framing effects may Influence willingness to act both to limit and to adapt to climate change.

C. EVOLUTIONARY PSYCHOLOGY OF CLIMATE CHANGE BEHAVIORS

Examining climate-related activities through an evolutionary psychology lens and zooming in on factors that motivate or discourage people to behave sustainably to mitigate climate change. There are five core ancestral psychological motivations that shape people's environmental decisions in fundamental ways, and these are self-interest, status, sensing, discounting tendencies, and social imitation which can also be used to promote pro-environmental behavior. This study aims to complement the literature by taking an evolutionary psychology perspective on environmental behavior, about the deeper motives driving people's environmental choices, and how people can be 'nudged' to behave more sustainably.[6]

Evolutionary psychology assumes that many of our psychological and behavioral tendencies have been shaped in a functional, adaptive way by the forces of evolution via natural selection. For example, our appetite for sweet and fatty foods is a psychological adaptation that has been selected because it enabled our ancestors to survive in environments that were (often) calorie-poor. An important insight from evolutionary psychology is that strategies aimed at changing behaviour might not be as effective when those strategies are mismatched with the ancestral motives driving the problematic behavior. For instance, educating people to avoid junk food because it affects their health may be less effective than making vegetables and fruits taste sweeter. Thus, by studying the relevant ancestral motivations that guide people's environmental choices, we may be able to come up with new interventions. Admittedly, using an evolutionary lens is a relatively recent approach to study environmental behavior, but it is already generating a reliable body of knowledge.[6]

(1) LIMITATION

Although each of the aforementioned ancestral motivations provides potential venues to develop interventions to increase climate action, they must be activated in the right context to be effective.[6] Designing effective interventions based on these ancestral motivations necessarily involves reflecting on which contexts these motives are activated, what kind of behaviours they aim to tackle, and at whom they will be

targeted. Failing to reflect on these issues might diminish the interventions' impact, or even be counterproductive.

D. WHAT CAN BE DONE TO MOTIVATE INDIVIDUALS TO TAKE CLIMATE ACTION

Psychological dimensions of climate change

Psychology can provide insights into the meanings of climate change to individuals and societies. For example, people do not directly experience climate change. They experience representations of climate change that are presented to them via various media and educational sources and personal interactions and, influenced by such presentations, they may interpret certain events they do experience, such as hurricanes or wildfires, as manifestations of climate change. Generally, people's understandings of climate change underlie their willingness to act, and to support public policies, in response to it. As described below, achieving an appropriate understanding is difficult for many reasons. The effects of climate are uncertain and the effects that are known are difficult for lay people to discern. Climate change is not a hazard per se, but a potential driver of many different hazards. Many impacts are place-specific due to variation in effects regionally, nationality due to geographic differences as well as differences in resources available for adaptation. We can also expect to be surprised by climate-driven events, possibly including having to experience events that science has not yet even warned about. Many of our expectations about climate may be outmoded because global temperature is moving outside the range within which it has fluctuated throughout recorded human history. Climate change is also accelerating and does not necessarily following linear trends, so recently experienced events may be bad guides as to what to expect. While many current effects are urgent and consequential, some of most serious impacts will come far in the future, beyond the planning horizons of most individuals and organizations. Finally, the world will be changing as climate changes, making confident anticipation even more difficult.

(1) VALUES

To mitigate anthropogenic climate change, it is important to know what motivates individuals to support and take climate action. Values reflect universal, general, desirable goals which guide individuals' preferences and actions. Stronger biospheric values (caring about the environment), in particular, predict stronger engagement in climate action. Although many individuals have strong biospheric values, contextual barriers can inhibit their climate actions. Notably, policies and contextual changes that reduce contextual barriers can motivate and enable individuals to act on their biospheric values. In addition, public participation may better engage public values in climate policies and actions as to increase their acceptability. Finally, correcting biases that others have weaker biospheric values than oneself may also motivate individuals to support and take climate action.[7]

Climate change is one of the most pressing issues of our times. To mitigate and adapt to the adverse consequences of climate change, urgent action is needed by different actors (e.g., citizens, companies, governments) at an unprecedented scale.

A well-established line of research shows that individuals' preferences and actions are generally rooted in their values. Values reflect general, desirable, life goals that people strive for in life. Values are considered to be largely universal, meaning that most people in the world endorse all values to some extent. Yet, people differ in how strongly they endorse and prioritise specific values, with more strongly endorsed and prioritised values being more decisive for individuals' preferences and actions.[7]

Within the context of climate action, four values appear most relevant: biospheric, altruistic, egoistic and hedonic values. Biospheric values reflect goals to care for nature and the environment. Because climate actions have clear benefits for nature and the environment, stronger endorsement of biospheric values promotes support for and engagement in climate action. Altruistic values reflect goals to care about others, social welfare and society. Stronger endorsement of altruistic values also often encourages people to support and take climate action, as many climate actions benefit the wider society. Egoistic values reflect goals to care about possessions, money and status, whereas hedonic values make people focus on pleasure and comfort. Because many climate actions are seen as financially costly (e.g., a price premium for green electricity or organic food) and/or inconvenient (e.g., taking shorter showers, lowering thermostat), stronger endorsement of egoistic and hedonic values oftentimes discourages (support for) climate action. However, exceptions occur, with some climate actions for instance being associated with financial savings (e.g., cycling instead of driving a car) or comfort gains (e.g., insulation). In such cases, stronger egoistic and hedonic values may also encourage people to support and take climate action.[7]

1.1 NEED FOR VALUE – BASED EVALUATION OF CLIMATE ACTIONS AND POLICIES

Specific climate actions typically have mixed implications for different values. In case of such "value conflicts", individuals particularly focus on, and give weight to, costs and benefits for the values they prioritise, and are likely to make choices that best support these values. Hence, someone who prioritises biospheric over hedonic values likely focuses on the environmental benefits of travelling by train, and is less influenced by the inconveniences this may cause. [7] Specifically, people are more likely to accept policies and changes that they perceive as supporting their core values, and resist policies and changes that they perceive to threaten their core values. Noteworthy, when people evaluate an action, policy or change favourably because of its positive consequences for their prioritised values (e.g., favouring renewable energy sources because of expected benefits for biospheric values), they are also likely to more favourably evaluate outcomes of this option for less endorsed values (e.g., perceive renewable energy sources as less costly and thus to benefit egoistic values).

If we try to conclude all these finding we can say that personal and group values are often at the heart of individuals' climate actions. Individuals who strongly endorse biospheric values themselves, and/or perceive fellow group members to endorse biospheric values strongly, are more likely to support and engage in climate actions. Although many individuals appear to strongly endorse biospheric values, they may face several barriers that prevent them from acting on these values. Policy and contextual changes can counter these barriers, thereby empowering people to act on their biospheric values. These policies and changes are likely more acceptable when they accommodate to the public's diverse values, which could be achieved through public

participation. Furthermore, individuals often perceive others to have weaker biospheric values than oneself, which may demotivate climate action when these others represent an ingroup. Increasing awareness about the extent to which others in particular ingroup members-dendorse biospheric values may therefore be critical to promote society-wide climate action.[5] [6] [7]

(2) MOTIVATION PEOPLE EXPERIENCE ABOUT CLIMATE CHANGE

Environmentalism is not the main cause of thoughts or behaviours about climate change. Rather, the evolved social needs for Belongingness, Understanding, Control, self-Enhancement, and Trust are more practical intervention targets than the attempt to create environmentalist beliefs or identities. The study by Cameron Brick , Anna Bosshard and Lorraine Whitmarsh made an attempt to put all the key finding in the BUCkET model which reveals some limiting assumptions of previous approaches and suggests the effectiveness of targeting existing motives rather than fostering new values or worldviews.[8]

A central paradox in human behaviour is that people value their health, relationships, and environments yet choose actions that harm them. One explanation for this value-action gap is that evolution shaped human minds to respond to problems faced by our distant ancestors [6]. Consider the disproportionate fear people experience towards spiders compared to cars, even though road injuries are a major cause of death worldwide. Climate change is an abstract [5] [8], slow, and distant problem unlike any our ancestors adapted to solve, and therefore humans are poorly equipped for environmentalism.[8]

Here, the focus is on core social motivations and needs that arise in social settings. They integrated recent climate change research into the BUCkET motives: **B**elonging, **U**nderstanding, **C**ontrolling, **S**elf-Enhancing, and **T**rusting others.

(1) Belonging
Thoughts, feelings, and behaviors are shaped by the desire to build and sustain positive social relationships. Social norms quickly emerged as one of the central predictors of pro-environmental and climate mitigation behaviours.[8]

(2) Understanding
People are motivated to feel that they understand what is real and why things happen. Crucially, this feeling does not require that knowledge is accurate nor internally consistent. The chasm between facts and wide-spread conspiracies can be partially explained through the desire to understand (and other motives like belongingness). This is particularly concerning because conspiratorial thinking predicts climate change denial.[8]

(3) Controlling
The motives to effectively control one's environment, achieve mastery, and feel competent are core behavioural drivers. Self-efficacy is the perceived ability to mobilize resources and take actions essential for behavior change and persistence [8], including pro-environmental behaviors. Self-efficacy also mediates spill-over: adopting an initial, easy pro-environmental behaviour develops individuals' confidence and skills, which motivates further, more difficult pro-environmental actions.

(4) Self-Enhancing

People are motivated to see themselves as consistent and worthy. How people describe themselves (self-identity) is influenced by personal motivations for self-esteem, self enhancement, and self-understanding, as well as social interactions and roles. People are motivated to act consistently and express their self-identity through actions and purchases. Pro-environmental identity predicts green consumption behaviors, recycling, carbon offsetting, avoiding flying, and green policy preferences. Identity can support consistency across actions and contexts, thus mediating spill-over between pro-environmental behaviours.

(5) Trusting

In addition to the desire to belong, people are motivated to trust others and believe that others are benevolent. Trust will be a crucial aspect of climate change action because the required physical changes are complex, distributed, and require cooperation spanning from small groups to international treaties. This systematic need aligns with trust in scientists and institutions emerging as a key lever for climate communication and behaviour change in the USA, and Germany, as well as in a recent meta-analysis [8].

Because of how human minds evolved, actions on climate change are explainable through social motives; even phenomena such as cognitive dissonance or ambiguity avoidance that are commonly attributed to intra- psychic processes may be explained by interpersonal processes, according to a recent review. Social motives may be a uniquely effective target for interventions since they are ubiquitous and afford many roads to action, for example by activating different identities. Other frameworks of fundamental motives could also serve as a basis for interventions. However, these frameworks do not fully explain behaviors. Major topics within environmental psychology such as social norms or identities can plausibly fit several motives, and behaviours are also driven by habits and homeostatic drives.

E. CHANGING CONSUMER BEHAVIOR TO IMPROVE CLIMATE IMPACTS : ANOTHER EFFECTIVE WAY FOR THE BETTERMENT OF THE CLIMATE

Changing consumer behavior in ways that improve climate impacts, with a special focus on those articles using experimental interventions and measuring actual behaviors. Using the SHIFT framework, the categorization of behavior change strategies was done based on five psychological factors: Social influence (e.g. communicating that others are changing to plant-based diets doubled meatless lunch orders), Habit (e.g. consumer collaboration to establish new, value-based practices helped to reduce food waste), Individual self (e.g. when women made up half of the group, 51% more trees were conserved), Feelings and cognition (e.g. anticipated guilt reduced choice of unethical attributes in made-to-order products), and Tangibility (e.g.concrete representations of the future of recycled products improved recycling behavior)[9] [3]

Many companies including Microsoft, Nike, Coca-Cola, and Walmart have committed to reducing carbon emissions or even becoming carbon negative in the next 5-20years. Although, of course, we will need action from business and government to combat climate change, consumers themselves will also be an important part of solving a

problem as complex and significant as climate change. Such commitments from businesses and governments will only be successful if they come hand in hand with behaviour change from consumers themselves. Indeed, the world's wealthiest individuals currently contribute the most to global carbon dioxide emissions, and the majority of this comes from the consumption of goods and services. Individuals can do their part by engaging in climate-friendly consumer behavior, which we define as consumer choices and actions that result in the mitigation of greenhouse gases being released into the atmosphere or the reduction in negative impacts of climate change.[9]

SHIFT framework is categorization of behaviour change strategies based on five psychological factors that have been found to successfully improve pro-environmental consumer behavior: Social influence, Habit, Individual self, Feelings and cognition, and Tangibility. Although each factor has its own specific influence on behavior, a recent meta-analysis of more than a hundred studies revealed that norms (Social influence), negative affect (Feelings and cognition), and self-efficacy (Individual self) were most strongly associated with climate-friendly behaviour change [9].

1. SOCIAL INFLUENCE

The attitudes, expectations, and actions of others play a large role in how consumers behave. When it comes to climate-friendly behaviors, social influence can stem from different sources including family, organizers or advocates, social media influencers, and others in a community. A challenge with encouraging climate-friendly behaviours using social influence is that they are often not the norm. However, policymakers, marketers, and psychologists can harness the power of social influence, even when a behaviour is non-normative. One way is to communicate how a behaviour is becoming more prevalent over time, often referred to as dynamic norms (e.g. how more people are starting to limit their meat consumption). This can be effective because people tend to conform to what they expect future norms to be. A second way is to emphasize joining others to change the norm as people are motivated to work together toward a common goal. As climate change is a collective action problem, learning that others are taking action can motivate consumers to do so as well. A third way is to involve advocates who themselves engage in the action in promoting it as they have a stronger influence on others.[9]

2. HABIT

Habits are automatic, relatively uncontrolled behaviours that are easy for people to perform, and building climate-friendly consumption habits can be instrumental in guiding people's actions. Defaults for lower meat consumption, incentives for driving less, and feedback on energy use can be particularly effective at reinforcing and solidifying climate-friendly habits, saving 51, 571, and 149 kg of CO_2, respectively, per individual or household. When existing habits are unsustainable, the goal for behavior change is to develop new, more climate-friendly habits. Although there is a lack of recent experimental research on this topic, ethnographic work reveals important insights. Consumers can also work to create new, complementary consumption practices that align more clearly with their internal values, such as food redistribution to combat food waste. [9] [2]

3. INDIVIDUAL SELF

People are motivated to maintain a positive view of themselves. This motivation to see oneself as a good, virtuous person can be partially fulfilled through consuming climate-friendly products, particularly when one plays a role in its production. When consumers feel a sense of ownership over public goods such as parks and lakes, they are more likely to put in effort to take care of their surroundings. One climate-friendly product purchase leads to other pro-social behaviors, such as donations. Individual differences are also important in climate-friendly decision-making. Those who have a communal orientation, such as those with a feminine gender identity, a greater other orientation, liberal political identity, or low power, are more likely to take climate-friendly actions. For instance, collective village groups in Indonesia, Peru, and Tanzania conserved about 51% more trees by ensuring that half of the group members were women. In contrast, having an agentic orientation and valuing status and prestige are negatively related to climate-friendly behavior. However, intergroup contact can change this; individuals from a majority group (e.g. local students or whites), who had greater positive intergroup contact (e.g. with international students or ethnic minorities), were more concerned about the environment and more likely to engage in climate-friendly actions. [9] [4]

4. FEELINGS AND COGNITION

Consumers are influenced both by feelings and intuition (sometimes called 'system 1') and by more deliberative cognitions (often called 'system 2') . When designing interventions, it is important to consider both pathways. [9]

4.1 FEELINGS

Positive emotions such as elevation and hope have positive effects on climate-friendly consumer behavior. Not only do positive emotions lead to greater purchase of climate-friendly products but also using such products results in greater positive emotions, such as warm glow and enjoyment. Moderate levels of negative emotions, such as shame, guilt, and fear, can also be highly effective in encouraging climate-friendly behaviors. Anticipated guilt is a particularly strong motivator and is part of the reason people prefer ethical production when they are directly involved. Negatively framed messages can be more effective than positively framed messages, partially because they activate anticipated shame. However, in an effort to avoid negative emotions, consumers may inadvertently act in climate-unfriendly ways such as placing items that cannot be recycled in the recycling bin. [9]

4.2 COGNITION

Consumers often rely on their cognitive system to make decisions about engaging in climate-friendly actions. A common belief about sustainable products is that they are not as strong or effective as their conventional counterparts. This belief can be implicit (i.e. based in system 1, intuitive and difficult to control) or explicit (i.e. based in system 2, slow and controlled), and both have been shown to reduce sustainable product choices. Fortunately, explicit beliefs can be improved and sustainable product choices can be increased by strengthening people's motivation to behave sustainably, providing information about benefits and associating sustainability with the company rather than its products. Marketers can highlight durability to encourage the

consumption of luxury products that tend to be more sustainable. Another reason why consumers do not purchase sustainable products is their lack of understanding of climate impacts. One way to correct consumers' erroneous perception of the climate impacts of different behaviours is to present accurate information. For example, information in the form of labels can be especially useful when people have incorrect impressions, such as when they underestimate carbon emissions from food choices. However, it is crucial to present information in a way that appeals to consumers. It is also important to ensure that small nudges do not provide consumers with a false sense of effectiveness that lowers support for other, more concrete policies such as a carbon tax.[1] [2] [9]

Consumers may also hesitate to purchase climate-friendly products because they are often wary of sustainability claims. One explanation for this is people's motivated attention to and perception of climate change information. For instance, eye-tracking research reveals that both liberals and conservatives pay attention to information that corresponds with what they already believe. In addition, greater knowledge of climate-friendly consumption can also lead to negative effects such as tension and decision paralysis.[9]

5. TANGIBILITY

A particularly striking feature of climate change is that it can feel abstract[4] [9] and psychologically distant socially, temporally, spatially, and hypothetically although it is looming closer as more people experience and observe adverse impacts. One way to increase climate-friendly behaviour is to make the outcomes of actions more concrete and tangible. Concrete representations of what products will become after recycling can generate greater interest in advertisements and lead to increased recycling at outdoor events and residences. Another way to harness tangibility in encouraging climate-friendly behavior is to target consumers who already think abstractly or change consumer mindsets, by asking them to think more abstractly [9].

F. POSITIVE APPROACH TO ESTABLISH A CLIMATE – FRIENDLY LIFESTYLE AND POLICIES

Affects and emotions are essential motivational drivers for actions related to climate change at the individual and group-level. Climate-friendly behaviour is often portrayed as strenuous, costly and difficult in everyday life. Thus, even if "eco-guilt" is adaptive in some situations, a chronic "bad conscious" might lead to depressive symptoms or to outrage driven by a need to protect one's moral identity. Thus, well-meaning attempts or campaigns to create urgency to reduce climate change through guilt, anxiety or anger can sometimes lead to denial or unproductive behavior. I believe that people can be motivated to change their lifestyle not only by the threat of negative consequences, but by the perception that they can increase their subjective well-being through sustainable and climate-friendly behavior. It is important to focus on positive and more approach-oriented emotions, such as pride, optimism, or courage in order to inspire larger societal transformations regarding climate protection. [2] [3] Positive affect and emotions stimulate broader thinking, and are more likely to activate creative and innovative processes. Oftentimes, people who feel connected to nature, or display environmental concern, report more positive emotions towards nature and report greater efficacy about adopting environmentally-friendly lifestyleS. Emerging research suggests

that anticipating the warm feeling associated with climate-friendly behavior can actually trigger a wide range of pro-environmental behaviors. Learning more about the conditions under which positive emotions work in terms of empowerment for collective actions to reduce and adapt to climate change is important. It might be helpful to emphasize the positive feelings, optimism and joy, related to climate-friendly lifestyles as well as the anticipation of future positive emotions when considering innovative investments into climate-friendly research, campaigns and technologies. Another important contribution from social psychology is the point that climate change action must be addressed in terms of group processes and intergroup relations.[4]

Responding to climate change requires coordinated processes not just on the individual-level, but also on the group-level. Group-based appraisals and emotions have been found to be important processes in collective action, with consequences for the formation of
collective norms and goals. These can be used to help establish climate-friendly lifestyles
and policies.[3] [4]

Since more extreme weather events that can be expected due to climate change in the near future, climate psychologists need to systematically consider their psychological effects on individuals and communities, particularly regarding emotional states and coping behaviors. Thinking about climate change through a psychological lens, with an emphasis on individual affects and group-based emotions can yield important insights for how to address our global climate crisis.[4]

CONLUSION

The research into the reasons why people relatively averse to take action seems a major problem to tackle, of which leading factor came out to be the psychological distance. In sum, climate change is often presented as an abstract, uncertain cost, distant in space and time, and requiring external incentives to motivate individual action. Psychological research suggests this is an especially dangerous combination, sure to make people underestimate the risk and unlikely to compel them to action. Instead, policy makers and science communicators might do well to focus on the concrete manifestations of climate change in our own experience, the consequences of warming that are affecting our communities here and now, and the ways our current actions can be tied to gains rather than losses, to social norms and to our own intrinsic motivations.
Effective climate change mitigation will undoubtedly involve insights from the natural sciences and engineering. But changing our own attitudes and behavior requires insights from psychology, as well. It's time to recognize the critical role for the social sciences in dealing with global warming, an issue that certainly ought to be a top priority for the government. It is often difficult for an individual to grasp about what is climate change, climate action, how to adopt climate friendly lifestyle etc. The pro-environmental behaviour can be individual based or group-based which means countries, government, communities, have to unite together to save the future generations from the worst and unhealthy kind of environment. To make people follow the pro-environmental behaviour, climate psychologist should try to aim them subconsciously. For instance, not saying " don't eat junk food" and replacing it with " eat healthy food/or this type of food because..." and eventually when it will become a

trend people will start following it just to feel being a part of the group. Just as climate change is caused by human behaviour so, too must human behavior be a part of the solution. Recent research in psychology, marketing, and related fields has revealed that interventions using SHIFT model are all promising routes to climate – friendly consumer behaviour.

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